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THE DEVELOPMENT OF TEACHER EFFICACY AND  
KNOWLEDGE OF FORMATIVE ASSESSMENT  
DURING COLLABORATIVE LESSON DESIGN

by

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## **Dedication**

I would like to dedicate this study to the entire Marshall and Hill Family. My maternal grandparents, Mancel Marshall, Jr. and Lillian Marshall, believed in God, family, and hard work. They made sure that their children understood these values as well. My paternal grandparents, Luthaniel Hill and Mardesia Shanks Hill, also held these same values. All of these values were passed on from my parents to my siblings and me. I was Blessed to have the opportunity to experience growing up with my maternal grandparents. They showed me many lessons along the way. My parents, Luther Hill, Sr. and Ruby M. Hill, understood the value of Faith, education, and hard work. My parents encouraged me to do my best as a student in school. Although my father passed away fourteen years ago, I know that he would be so proud of what I have been able to accomplish with regards to my education. My mother has been the backbone of our family for many years. I have watched her go without so that we can have so many opportunities. I watched the contributions that she made as a teacher for many years. Twenty years ago, she battled cancer, ultimately leading to her retirement after nearly thirty-five years of service. Just recently, she discovered that she is battling cancer for the second time. She is strong in her Faith and determined to beat cancer once again. I find strength in watching her fight each day. She is my hero. Finally, I want to dedicate this journey to my wife and son, Lowanda and Brent Hill. To my wife, I love you for believing in me and always pushing me to be all that I can be. You have seen my pursuit of a Master's degree and now obtaining my Doctoral degree in education. We did it! To my son, I love you very much. You were in the fifth grade when I decided to pursue my Doctoral Degree. I always wanted to be the best role model that I could be for you. You have seen the long nights, my failures, and successes. You can do anything that you put your mind to. Live your Dreams! We did it!

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ABSTRACT

THE DEVELOPMENT OF TEACHER EFFICACY AND  
KNOWLEDGE OF FORMATIVE ASSESSMENT  
DURING COLLABORATIVE LESSON DESIGN

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University of Houston-Clear Lake, 2018

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The purpose of this study was to analyze how a team of four middle school social studies teachers collaborated during lesson design to formative assessments. The results of this study also explained when, why, and how these teachers implemented formative assessment during instruction. The ability of teachers to utilize formative assessments effectively was contingent upon teachers' knowledge of the formative assessment process, teachers' belief in the effectiveness of the process, and teachers' perceptions of their ability to implement the process of formative assessment. The researcher analyzed how teacher collaboration during lesson design influenced teachers' efficacy and ability to create formative assessments and explained when, why, and how these teachers implemented formative assessment during instruction. The researcher interviewed a team of teachers concerning the factors they took into consideration when planning implementation of formative assessments and examined post-implementation teacher reflections on their efficacy of these strategies.

This qualitative study utilized individual audiotaped interviews of four eighth-grade social studies teachers, as well as the same four teachers participating in a focus group interview. The findings of this study contributed to current literature on teacher efficacy and pedagogical strategies using formative assessments. This study explored the formative assessment process, teacher efficacy, and collaborative planning.

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## CHAPTER I

### INTRODUCTION

Historically, assessments have been used to identify differences in students' learning abilities and then rank those students accordingly. Traditionally, grading has encouraged a classroom climate focused on point collecting and finding right answers, as opposed to authentic learning (Stiggins, 2007). Most activities are graded and thus used as summative measures to determine students' knowledge after a unit or lesson has been taught (Filsecker & Kerres, 2012). At this point, students are not encouraged to continue to learn after the assessment because the grade has already been received. Research suggests making significant changes to grading policies to encourage a climate focused on learning, instead of point collecting (Marzano, 2006; O'Connor, 2009; Reeves, 2009). Unintentionally, many teachers replicate standardized tests with their teacher created assessments, often lacking sufficient information that will lead to improvement in students' performance (Black & Wiliam, 2009). In general, most tests created by the classroom teacher encourage rote and superficial learning rather than a deep approach to learning (Black & Wiliam, 2009). In addition, many teachers frequently emphasize the quantity of work over the quality of work that is expected from students. These teachers neglect determining the depth of learning taking place with rubrics or established criteria as the basis for a concept being taught (Black & Wiliam, 2009). Often times, teachers fail to let students know if they are on target in relation to the learning goal, allowing students to make the necessary adjustments (Heritage, 2010; Schomoker, 2012). Marking and grading papers are overemphasized by many teachers while giving useful feedback is underemphasized.

Formative assessments (FA) can have a positive impact on student learning when implemented with consistency and commitment (Bennett, 2011). Yet, high quality FA is

rare in many classrooms, and many teachers lack the ability or training to utilize such assessments effectively (Black & Wiliam, 2009). Several definitions of FA exist. According to Heritage and Chang (2012), FA is a process where student performance is assessed in an ongoing manner: teachers articulate a clear objective, collect and analyze student learning data throughout a lesson, and provide feedback. FA guides instruction and allows teachers to make instructional changes on a regular basis. If utilized correctly, FAs give the teacher the opportunity to adjust the lesson for the purposes of reteaching or reviewing concepts that students struggle to retain (Hattie, 2009). Bonner (2009) conducted a quasi-experimental study on how practice tests affected student outcomes. The students in this study that were given short quizzes as part of the FA practice, with feedback, scored significantly better than those students where no quizzes were given (Bonner, 2009).

In order for teachers to successfully implement FA within their classroom instruction, they must first feel comfortable and confident in their ability to plan for FA and effectively implement the practice. Bandura (1997) explained that an individual will engage in a task in which he or she feels competent and confident and will avoid those in which he or she does not. If a teacher does not feel comfortable implementing FA, they will not utilize these strategies in their classrooms. With a lack of confidence and knowledge, teachers may abandon FA before their skill in creating and implementing FAs have a chance to develop (Van Den Bergh, Ros, & Beijaard, 2013; Volante & Beckett, 2011). Havnes, Smith, Dysthe, and Ludvigsen (2012) shared that a problem exists in that teachers may not be fully aware of their classroom practice and may not be consistent in their implementation of the full FA process. Efficacy influences teachers' behavior in terms of motivation, enthusiasm, planning, organization, and effort (Tschannen-Moran & Woolfolk Hoy, 2001).

Hollingsworth (2012) concluded that FA was most effective when implementation occurred at a school level where best practices were initiated, supported, and promoted by building leadership. Teachers must also be knowledgeable of the meaning of and uses for FAs in order to plan and implement FAs. Yet, the necessary training on FA implementation typically has not been provided for pre-service/in-service teachers and administrators (Mansell & James, 2009). Moss, Brookhart, and Long (2013) offered that this may be due to a lack of knowledgeable educational leaders to help teachers implement the best practices of FAs, ultimately resulting in teachers developing ineffective practices. Ultimately, teachers must believe in the process of formative assessment if they are to plan and implement formative assessment.

Good (2011) recognized that teachers may misinterpret how the FA process can be utilized in their classrooms. Some teachers may view FAs as formal, graded assessments, like a quiz or exam, rather than a process or culture that is built to enhance student learning through informal data collection and feedback (Good, 2011; Heritage, 2010; Popham, 2009). This perception aligns with the idea that teachers may hold outdated yet deeply held beliefs, assumptions and convictions about teaching and learning, including the FA process (Good, 2011; Lysaght & O'Leary, 2013). According to Guskey (2002), teachers' FA practices are influenced by their beliefs about student learning and their assessment literacy. These beliefs in turn may relate to their experiences with student success due to FA practices. Black and Wiliam (1998) explained that if prior experiences have formed a teacher's opinion, such as using a transmission model of disseminating information with the belief that student will understand it later, then FA may not be utilized by these teachers. Young and Jackman (2014) compared the practices of teachers who were trained in effective FA to the teachers who were not trained in FA practices. The results of this study concluded that

the barrier of teachers' traditional practice beliefs may be hindering successful implementation of FA (Young & Jackman, 2014). Teachers may be confused about the FA process because of the lack of agreement on what constitutes as FA in the field of education (Heritage, 2011). Some teachers do not understand the FA process nor do they implement it with consistency. The strategies these teachers utilize to implement FA are not fully understood (Bennett, 2011; Dorn 2010)

### **Need for the Study**

According to Tschannen-Moran and McMaster (2009), teacher efficacy describes teachers' ability to impart knowledge and influence behavior of students, particularly those students who are unmotivated and are challenging with regards to academics and behavior. Teacher efficacy is important in the field of education because teachers' beliefs in their own abilities affect student achievement and success. Therefore, teacher efficacy when using FA practices can impact a teacher's motivation to implement such practices as a way to improve student learning. Many researchers believe that teachers' reluctance to implement FA may stem from the continued debate of teachers' efficacy of the practice (Burns & Foo, 2013; Crossouard & Pryor, 2012; Dunn & Mulvenon, 2009; Torrance, 2012).

A barrier to the implementation of FA is the teachers' lack of knowledge concerning the process, such as how to develop FAs in the classroom and how to use data to progress. The various definitions of formative assessment add to teachers' confusion concerning the topic. Additionally, the lack of professional development opportunities or even lack of belief in the formative assessment process can negatively affect the use of FAs (Black & Wiliam, 2009; Clark, 2012; Young & Kim, 2010). The lack of teachers' knowledge and belief of the process of FA result in the bigger issue of teacher efficacy of FA practices.

Kingston and Nash (2011) pointed out that a consistent approach to implementation of FA has not existed since the term has been applied in the field of education. During the 1960s, Scriven's terms of formative and summative evaluation became popular as methods of examining student learning (Eisner, 2002). Education evaluation became focused on the quality of curriculum, the character of those activities, and the ease in which teachers could gain access to curriculum materials, not just on the measurement of student achievement. Education evaluation shifted from seeking knowledge to becoming an effective tool in instructional decision making (Eisner, 2002). This inconsistency of FA practices leads to further ambiguity about the necessary steps to take to ensure that formative assessment is effective. The effectiveness of the FA process on learning is dependent on how that process is implemented; however, research has not yet determined the specifics of how, when, and why teachers attempt to implement FA in their respective classrooms (Hattie & Timperly, 2007). Teacher efficacy of the process has not been fully realized due to the inconsistent implementation of the formative assessment process within classrooms.

### **Purpose of the Study**

The purpose of this study was to analyze how a team of four middle school social studies teachers collaborated during lesson design to create FAs and explain when, why, and how these teachers implemented formative assessment during instruction. The ability of these teachers to utilize FA effectively was contingent upon teacher knowledge of formative assessment process, teacher belief in the process, and teacher efficacy. The researcher analyzed how teacher collaboration influenced teachers' ability to create FAs during lesson design. In addition, the researcher explained when, why, and how these teachers implemented FA during instruction. This study consisted of data analysis from

individual teacher interviews and focus group interviews to determine the factors that teachers took into consideration when planning to implement FA.

This qualitative study utilized individual audiotaped interviews of four social studies teachers, as well as one focus group interview of four teachers. The findings of this study contributed to current literature on teacher efficacy and pedagogical strategies using FAs. This study explored the FA process, teacher efficacy and collaborative planning that led to effective lesson design. For this study, the researcher took into consideration participants' experience in education, their years in their current position, and their pedagogical beliefs, particularly when embracing FA within their practice.

### **Research Questions**

Since this study utilized qualitative data comprised of individual and focus-group interviews exclusively, very broad overarching questions framed the study. The overarching questions that were investigated in this study were:

1. How do middle school social studies teachers plan for FA during lesson design?
2. How do middle school social studies teachers use FA strategies during instruction?
3. How does planning for FA influence teacher efficacy during instruction?

### **Definitions of Key Terms**

*Feedback* is information provided about how students are progressing to reach a goal or objective (Wiggins, 2012).

*Formative Assessment (FA)* is an interactive dynamic process that includes articulating goals, assessing students' knowledge and understanding, providing immediate descriptive feedback, and modifying instruction based on the data collected (Duckor, 2014).



*Learning Progressions* are a sequence set of subskills or bodies of enabling knowledge that students must master prior to mastering a more remote target curricular aim (Popham, 2008).

*Professional Development* is an essential mechanism for deepening teachers' content knowledge and developing their teaching practices. It is a cornerstone of systemic reform efforts designed to increase teachers' capacity to teach to high standards (Desimone, Porter, Garet, Suk Yoon, & Birman, 2002).

*Professional Learning Communities (PLCs)* are organizational structures in which teachers work collaboratively to reflect on their practices and student outcomes and make changes that improve teaching and learning for the particular students in their classes (McLaughlin & Talbert, 2006).

*Self-Efficacy* is the judgment people hold about their capabilities to organize and affect courses of action to attain given goals (Bandura, 1986).

*Summative Assessment* is information or data used to summarize student performance and may be reported in the form of grades or end-of-course exam scores (Chan, Konrad, Gonzalez, Peters, & Ressa, 2014).

*Teacher Efficacy* is a teacher's perception of his/her ability to be effective in a classroom. It is the belief that student learning can be obtained, even with difficult and unmotivated students (Tschannen-Moran & Wollfolk Hoy, 2001).

## CHAPTER II

### LITERATURE REVIEW

The purpose of this study was to analyze and explain how a team of four middle school social studies teachers plan and implement FA practices during lesson design and instruction. The study analyzed how teacher collaboration influenced their ability to create FA during lesson design and explained when, why, and how these teachers implemented formative assessment during instruction. To address these areas, the literature review focused on: (a) the process of FA; (b) teacher efficacy; (c) collaborative planning; and (d) reflective pedagogy.

#### **The Process of Formative Assessment**

FA is an interactive dynamic process that includes articulating goals, assessing students' knowledge and understanding, providing immediate descriptive feedback and modifying instruction based on the data collected (Duckor, 2014). During this planned process, assessment-elicited student's status is used by teachers to adjust their ongoing instructional procedures or by students to adjust their current learning. First, the process of FA begins with the teacher sharing learning targets with students and the conditions for success (Brookhart, 2013; Marzano, 2013; Schmoker, 2012). In order for FA to effectively enhance student achievement, the learning objectives must be understood by the students, not just the teacher. Hattie (2009) explained that students must know how to proceed to make gains throughout the progression to meet their learning goals. The teacher should let students know if they are on target or not on target to help make adjustments according to the learning goals (Heritage 2010; Schmoker, 2012). As teachers become more skilled at utilizing FA, they should be able to articulate different learning objectives and targets for students based on need (Marzano, 2013; Young & Kim, 2010). Marzano (2010) and Ruiz-Primo (2011) explained that communicating the

learning goals to students should include describing what students will be learning and an explanation about how they will be learning the material. Providing clear learning objectives has been shown to bring clarity to students about the criteria needed to achieve the learning goal (Marzano, 2011; Marzano, 2013).

Second, during the process of FA, the teacher must be able to collect student data in order to assess students' knowledge and understanding. Within the FA process, teachers must be able to collect and analyze evidence about students' learning in a variety of ways (Burns & Foo, 2013; Supovitz, 2012). Teachers must analyze the collected data to determine the students' knowledge and skills on a particular topic (Hoover & Abrams, 2013). Sometimes teachers collect and analyze evidence of learning on a moment by moment basis during the lesson, or teachers may decide to collect and analyze data after the lesson has been taught (Heritage, Kim, Vendlinski, & Herman, 2009; Marzano, 2012). Teachers can collect data at the end of a lesson through the use of exit tickets, which are written responses to questions posed at the end of class or lesson (Marzano, 2012). The collection of student data is needed to facilitate adjustments in instruction by the teachers and the modifications made in small steps within immediate and attainable contexts (Black & Wiliam, 2009; Hattie & Timperley, 2007).

### **The Data Collection Process**

Heritage (2010) explained that the ability to collect assessment data about student learning and make necessary adjustments based on that information is a process that is new to some teachers. The FA process is compromised if the quality of the data collected is not closely aligned to the learning objective (Wiliam, 2013). Heritage et al.'s (2009) quantitative study of 118 mathematics teachers revealed that teachers were proficient in collecting and analyzing data; however, very few of these teachers were able to make meaningful adjustments to instruction based on the student data. If adjustments are not

made to individualize and improve the learning process, then collecting information for the FA process lacks meaning (Heritage et al., 2009). Wiliam (2011) concludes that the data collection process should be frequent, succinct, manageable and meaningful for students and teachers.

Teachers can utilize many different practices to collect student data. Student response systems (SRS) or clickers can serve as a means for collecting data efficiently (Stull, Varnum, Ducette, Schiller, & Bernaki, 2011). SRS is an electronic system that can be used in a classroom setting to poll students and gather immediate feedback in response to questions asked by the teacher. Bartsch and Murphy (2011) shared that this type of assessment can be saved and tracked easily over time to demonstrate student gains in learning. SRS is used by teachers as they create a question based on the learning objective, and poll students to determine the learning needs for the classroom and individual students (Conderman & Hedin, 2012). With the immediate feedback given to both the teacher and student, the teacher is able to determine what instructional adjustments are needed.

If a teacher does not have the resources to obtain SRS, they can simply utilize multiple choice questions on a smart board or projector to replicate the same process. The teacher can create follow-up discussions in the classroom for students to articulate why they chose the answer they did, defend their answer, or construct new knowledge based on their social interactions with other peers (Black & Wiliam, 2009). A teacher can utilize this method as an exit slip to determine if students understood a concept at the end of the class or period.

Teachers can also collect data through student observations. Observations give teachers the opportunity to analyze students' learning needs to determine if remediation or enrichment is needed (Dunphy, 2010). Dunphy's research review revealed that

teachers, who observed student engaged in the learning objective, were able to assess students' strengths and areas for improvement and were then able to plan remedial or enrichment learning experiences as part of the FA process. Clark (2012) explained that observations can be conducted as students engage in everyday experiences, classroom discussions and explanations during class.

Interactive lecture combined with discussion is a FA strategy that teachers could use to collect data (Schmoker, 2009). Discussions can take the form of one-on-one, small group, or whole class. Interactive lecture combined with discussion involves instructional dialogue as a whole class or as individuals with two-way conversations about the topic, giving the teacher an opportunity to provide feedback (Duckor, 2014; Ruiz-Primo, 2011). In order to be effective, teachers must pre-plan for specific discussions or use the students' ideas for small group discussion. One well-known discussion strategy is called turn and talk (Duckor, 2014). During this strategy, students are given a question and simply turn to someone near them and discuss the topic at hand. This strategy does not waste time for setup. Students hear the prompt, turn to the nearest student, and discuss. Think-pair-share technique is another FA strategy utilized to collect student data (Akpan, Notar, & Padgett, 2012; Duckor, 2014). During this strategy, the teacher or another student poses a question or topic for thought and a student can write about his/her thoughts or simply ponder them, then share their thoughts with a partner. Azlina (2010) shared that think-pair share allows students to consider new ideas and, if necessary, clarify them before presenting thoughts or answers to the classroom as a whole.

The third step of the process of FA is feedback. Providing immediate descriptive feedback is crucial to the process of FA. Feedback is defined as information about how students are progressing to reach a goal or objective (Wiggins, 2012). Heritage (2013)

explained that teachers should take pedagogical action based on the evidence revealed and provide their students with descriptive feedback. A study of 23 mathematics teachers revealed that when teachers provided specific and meaningful feedback to students in a timely manner, they saw students improve in their learning (Schneider & Gowan, 2013).

Providing students with feedback has proven to be effective; however, teachers do not always know how to provide corrective feedback (Heritage, 2010). Specific written feedback has been proven to help students improve more than a numeric score (Wiliam, 2011). However, if written feedback was provided in addition to a numeric score, students focused on the numeric score and did not read the written feedback (Schneider & Andrade, 2013; Wiliam, 2010). Marzano, Pickering, and Pollock (2001) explained that the most effective means of providing feedback is specific written feedback about the learning task. Feedback is more effective when it is aligned with the learning objective. Tailoring clear learning objectives for individual students along with providing feedback that will help students attain the goal is extremely important in order for teachers to successfully implement the FA process.

The extent to which students perceive feedback as useful depends on the way in which it was given, in addition to the classroom atmosphere (Havnes, Smith, Dysthe, & Ludvigsen, 2012). Teachers should build relationships and know their students. According to Wiliam (2013), the same feedback that makes one student work harder might cause another student to feel defeated. For this reason, teachers should provide feedback that is useful for students in a nonjudgmental manner (Havnes et al., 2012). Teachers must know their students, know when to push them, and know when to back off, in order for the students to grow to trust the teacher's feedback and respond accordingly to make the necessary changes (Wiliam, 2013).

In order for assessment to have an impact on student learning, the results should provide immediate, specific feedback to the learner and the teacher thereby informing instructional decisions by the teacher and learning decisions by the student (Stiggins & Chappuis, 2005). Teachers waiting a few days or a matter of weeks to provide feedback will not provide students with the support they need to make the necessary changes to their learning progression. The same can be true if feedback is too immediate. Feedback that is too immediate in many cases may cause students to begin to rely on teachers for answers. Overreliance on the teachers for answers could lead to students not persevering on problems on their own (Goodwin & Miller, 2012). Brookhart (2013) explained that the lack of feedback is a limitation to the FA process. Part of the FA process is to provide ongoing, specific feedback for students to use to adjust their learning. Feedback is a critical piece of the learning cycle with regards to FA (Black & Wiliam, 2009). Students need to know where they are with regards to the learning objective and where they are going to be able to make the necessary adjustments. Without feedback, the collection of student data is irrelevant.

Finally, the FA process is about modifying instruction based on the student data that is collected. When the teaching methods in a classroom are adjusted after collecting student data, students have a better chance of mastering the learning objectives (Popham, 2010). If this is done effectively, assessment is no longer just about measuring the learning of students but includes individualizing learning opportunities for all students (Keeley, 2012). Sass-Henke (2013) explained that remediation and enrichment are two types of instructional adjustments within the FA process. Remediation can be defined as a set of corrective activities, such as peer tutoring, review games, and additional assistance from the teacher (Sass-Henke, 2013). More practice may be required if students do not meet the learning objective that was established by the teacher. Teachers

can remediate by making simple modifications to break apart information or decrease the time between lessons. Teachers can also allow more frequent adjustments to be made and gain more time to deliver feedback to students (Marzano, 2009). Enrichment activities can be incorporated if students meet or exceed the learning goal that has been established by the teacher. Missett, Brunner, Callahan, Moon, and Azano (2014) explained that enrichment is the expansion of the curriculum beyond what is typically covered and increasing the depth of the content for that specific learning objective. Students that exceed the learning target should be provided differentiated instruction as much as the students that need remediation (Lucariello, Tine, & Ganley, 2013). The FA process helps to identify the objectives where students are struggling or excelling and make adjustments as necessary (Heritage & Chang, 2012).

### **Benefits of Formative Assessment**

Besides the potential for improved test scores, there are several benefits to FA (Sass-Henke, 2013). FA can also improve students' self-esteem and zone of proximal development (ZPD). According to Vygotsky (1978), ZPD is the difference between what a learner can do without help and what he or she can do with help. Weurlander, Soderberg, Scheja, Hult, and Wernerson (2012) further explained that FA methods can affect students' motivation by students making their own adjustments and connection to close the ZPD gap.

Another benefit of the FA process is the descriptive feedback provided to students and teachers about the learning process (Van Den Bergh et al., 2013). Because motivation is unique for each student, feedback does not always translate the same for every one of them. Brookhart (2013) explained that feedback is communication between the teacher and student, or student-to-student, so the result of that feedback depends on the message being conveyed in addition to the people that are sending and receiving the



information. Balter, Enstrom, and Klingenberg (2013) found that when students accepted even the simplest feedback, they began to make the necessary adjustments and construct new knowledge. As teachers better articulate clear goals with the students, the students are able to understand the objective and can figure out how close they are to their goal, and plan what they need to do to improve (Clark, 2011b).

Teachers can use feedback provided by the students in a multitude of ways to adjust future lesson plans, ranging from individual students to the entire class (Bennett, 2011). During the FA process, instructional adjustments are made to support student success (Heritage, 2011). Water (2012) explained that instructional adjustments allow changes to be made in the process for each student or class to ensure learning is met before moving on to the next concept. If teachers are going to collect and use student data in the FA process to benefit student learning, being able to make instructional adjustments is critical. However, most teachers know how to collect data and determine a student's level, but lack knowledge of how to make instructional adjustments (Heritage, 2010; Heritage et al., 2009).

As mentioned earlier in the review of the literature of FA, FA is an interactive process that includes articulating goals, assessing students' knowledge and understanding, providing immediate descriptive feedback and modifying instruction based on the data collected (Duckor, 2014). The benefits of FA include improved student test scores, improved students' self-esteem and zone of proximal development, and the descriptive feedback provided for students and teachers (Sass-Henke, 2013; Vygotsky, 1978; Van Den Bergh et al., 2013). Prior research determined that teachers lack the knowledge to fully implement the FA process (Black & Wiliam, 2009). Teachers struggle to develop FA in the classroom and are uncertain about how to use student data to progress with FA implementation. The various definitions of FA add to teachers'

confusion concerning the topic. Ultimately, the lack of professional development opportunities or even the lack of belief in the FA process can negatively affect the use of FAs (Black & Wiliam, 2009; Clark, 2012; Young & Kim, 2010). FAs entail multiple steps that many teachers may not realize. Many teachers may be confused about the process of FA, believing that their traditional practices are FAs (Good, 2011; Lysaght & O’Leary, 2013). Because teachers lack training in the area of FA, there may be a greater issue of reluctance to utilize the practice. Teachers may also be reluctant to implement FA simply because they lack efficacy of the FA process (Burns & Foo, 2013; Crossouard & Pryor, 2012; Dunn & Mulvenon, 2009; Torrance, 2012). Professional development may help to increase teacher knowledge of this process, in addition to equipping teachers with a greater sense of confidence in implementing FA.

### **Teacher Efficacy**

The ability of teachers to utilize FA is dependent on factors such as knowledge of the FA process. A barrier to the implementation of FA is that teachers lack knowledge of the process and/ or their lack of belief in the FA process (Black & Wiliam, 2009; Clark, 2012; Young & Kim, 2010). Tschannen-Moran and McMaster (2009) explained that one of the most interesting and important reason for scholars and school leaders to pay attention to teachers’ efficacy is the role it plays in teachers’ implementation of new instructional practices. Although FA is not a new strategy, there is still much confusion about what strategies constitute as FA in the field of education (Heritage, 2011). According to Bennett (2011) and Dorn (2010), some teachers do not understand the FA process nor do they implement this process with consistency. Teacher efficacy relates to a teacher’s feelings of confidence regarding his teaching ability (Hoy, 2000). Teacher efficacy refers to the belief of teachers related to their capabilities to affect the learning outcomes of students that may be difficult, have low ability, or are unmotivated to learn

(Henson, 2001; Tschannen-Moran, Hoy, & Hoy, 1998). This lack of belief or reluctance to implement FA may stem from the continued debate of teachers' efficacy of FA, further resulting the lack of implementation of FA (Burns & Foo, 2013; Crossouard & Pryor, 2012; Dunn & Mulvenon, 2009; Torrance, 2012).

Bandura (1997) explained that self-efficacy beliefs are formed through four primary sources: verbal persuasion, vicarious experiences, mastery experiences, and physiological or affective state. Teachers make judgments of efficacy based on the verbal encouragement of important others such as colleagues, supervisors, and administrators (verbal persuasion), the success or failure of other teachers who serve as models (vicarious experiences), perceptions of past experiences of teaching (mastery experiences), and the level of emotional and physiological arousal experienced as they anticipate and practice teaching (Bandura, 1997).

Verbal persuasion involves verbal input from others, such as colleagues, supervisors, and administrators that serve to strengthen a person's belief that he or she possesses the capability to achieve a desired level of performance (Tschannen-Moran & McMaster, 2009). Verbal persuasion has the greatest impact when the persuader is viewed as competent to provide feedback in the area of interest. Tschannen-Moran and McMaster (2009) shared that verbal persuasion may be limited in its power to create enduring increases in self-efficacy, but it can bolster self-change if the positive appraisal promotes greater effort in the development of skills that eventually lead to a stronger sense of efficacy. In schools, teachers frequently receive verbal persuasion in the form of professional development that provides knowledge of a new strategy as well as claims about its effectiveness. Teachers may also receive verbal persuasion in the form of specific feedback or encouragement from a supervisor or colleague designed to convince them that they can successfully implement an instructional strategy (Tschannen-Moran &

McMaster, 2009). Verbal persuasion alone may not be a powerful source of efficacy, but it becomes more effective when combined with other sources.

The next source of efficacy is that of observing another person successfully perform the action that one is contemplating (Tschannen-Moran & McMaster, 2009). Bandura (1997) emphasized that because teaching lacks absolute measures of adequacy, teachers must appraise their capabilities in relation to the performance of others. The observer has the opportunity to appraise his or her own capabilities because the model provides a standard, and this can help the observer set goals for his or her own teaching (Tschannen-Moran & McMaster, 2009). Based on this, having an opportunity to observe a colleague utilizing FA practices during a lesson would provide a vicarious experience from which to judge one's own confidence to perform a similar task. Tschannen-Moran and McMaster (2009) postulated that when an observer watches a successful teaching exchange, he or she is more likely to see the teaching task as manageable. Likewise, the same holds true if an observer watches an unsuccessful teaching exchange, the observer may feel that the teaching task is impossible to achieve. Vicarious experience and verbal persuasion through modeling or peer coaching have been identified as useful in enhancing the efficacy of those seeking alternate practices to work with student behaviors (Hagen, Gutkin, Wilson, Caryll, & Oats, 1998). Professional development models that include videos of a skill or strategy in action in combination with a presenter provide vicarious experience. Observing a proficient performance of a skill to be learned can provide valuable information and insight (Tschannen-Moran & McMaster, 2009).

According to Bandura (1997), the most influential source of efficacy information is personal mastery experiences because they provide the most authentic evidence of whether one can master what it takes to succeed in a particular field or endeavor. Successes build a robust belief in one's efficacy, especially when success is achieved

early in learning with few setbacks. Self-efficacy beliefs may be diminished when success is achieved through extensive external assistance, after considerable effort, or on a task perceived as easy or unimportant (Tschannen-Moran & McMaster, 2009). Successes build a strong belief in one's personal efficacy while failures undermine it, especially if failures occur before a sense of efficacy has been established (Bandura, 1997). Failures that cannot be attributed to a lack of effort or to external events are likely to have a detrimental effect on self-efficacy and self-efficacy beliefs. Enactive mastery can be defined as the perceptions of past experiences of teaching. These experiences can be obtained through various professional development initiatives such as classroom experience and group discussion (Liaw, 2009). Ross (1994) shared that the actual use of new knowledge presented during professional development has been shown to contribute to changes in teacher efficacy, whereas simple exposure to an instructional strategy did not. The proficiency of performance creates a new mastery experience that serves as a new source of efficacy that either confirms or disrupts existing efficacy beliefs (Tschannen-Moran & McMaster, 2009).

Bandura (1997) explained that physiological and affective states such as teachers' anxiety, stress, fatigue, and mood are acknowledged as a source of efficacy. A person's level of arousal can influence his or her efficacy beliefs. Gregoire (2003) suggested that arousal, such as elevated heart and respiratory rate, increased perspiration, or trembling hands may have enabling or debilitating effects, depending upon whether the situation is perceived as a challenge or threat. Moderate levels of arousal when perceived as a challenge can improve performance by focusing attention and energy on the task, whereas high levels of arousal perceived as a threat might interfere with making the best use of one's skills and capabilities (Tschannen-Moran & McMaster, 2009).

## **The Benefits of Efficacy**

Bamburg (1994) stressed that low teacher efficacy has been linked to teacher expectations of students, an important factor in student achievement. Teachers with higher efficacy set higher goals for themselves in terms of student performance than those with low efficacy. These teachers believe that they can have a positive effect on students that struggle academically (Tschannen-Moran & Woolfolk Hoy, 2007). Highly efficacious teachers are involved in greater in-depth planning in addition to creating lessons that increase student engagement. These teachers also adopted more innovative practices and made modifications during their instruction due to FAs (Puchner & Taylor, 2006). Bruce, Esmonde, Ross, Dookie, and Beatty (2010) shared that teachers with high efficacy are more likely to persevere in their attempts to achieve student learning goals when they encounter obstacles. Second, highly efficacious teachers tend to experiment with effective instructional strategies and implement positive classroom management strategies. Finally, teachers with high efficacy are more willing to take risks in their classrooms by trying new ideas to meet their students' needs (Bruce et al., 2010). These teachers demonstrate the ability to persevere under difficult circumstances. Teacher efficacy influences teachers' instructional decisions, which ultimately shape students' educational experiences, and in turn affect academic outcomes. Teachers with higher self-efficacy are more willing to experiment with new methods in order to better serve their students' needs (Romi & Leyser, 2006; Ross & Bruce, 2001). Therefore, these teachers are more likely to create and follow through with effective FA instructional processes. Based on the research, teachers with high self-efficacy will be willing to implement FA practices with the intention of improving student learning (Tschannen-Moran & Woolfolk Hoy, 2007). These teachers are also willing to make the necessary instructional adjustments whenever they see that students are struggling to understand

concepts. Teachers with high self-efficacy are not afraid to encounter risks, such as failure and struggles with implementation, when utilizing FA practices to meet their students' needs (Tschannen-Moran & Woolfolk Hoy, 2007).

Teachers need a strong sense of efficacy while implementing FA practices if they are going to affect change with students that struggle behaviorally and academically. Campus leadership must understand issues that compromise teacher efficacy, along with gaining a better understanding of the sources that contribute to efficacy so that they can create an environment where classroom teachers can develop efficacy of FA practices. Campus leadership must also take into consideration that successful implementation of FA practices will require the appropriate structures and necessary professional development.

### **Collaborative Planning that Leads to Reflection**

Hollingsworth (2011) concluded that FA was most effective when implementation occurred at a school level where best practices were initiated, supported, and promoted by building leadership. Collaborative planning can serve as a means to provide the appropriate duration of professional learning for FA practices, provide the necessary teacher support, provide active ways for teachers to learn, afford opportunities for teachers to observe one another, and allow for teachers to learn specifically about their content areas. Black and Wiliam (2009) identified that teachers lack the knowledge concerning the FA process. Multiple definitions of FA lead to further ambiguity concerning implementation. Additionally, the lack of professional development opportunities or lack of belief in the FA process can negatively affect the use of FA (Clark, 2012; Young & Kim, 2010). The review of the literature of FA has pointed out that FA is a dynamic process that includes articulating goals, assessing students' knowledge and understanding, providing immediate descriptive feedback, and modifying

instruction based on student data collected (Duckor, 2014). Because FA involves multiple steps, professional learning is needed to ensure that teachers are effective with implementation. In this regard, collaborative planning can possibly provide the structure and support that teachers will need to effectively implement FA.

Collaboration is more than teachers meeting with each other. Collaboration requires that teachers are provided the opportunity to examine, critique, and support one another's work in a safe and supportive environment (Murray, 2015). Collaboration includes activities such as: joint lesson planning, review and interpretation of student work, and development of common assessments. These collaborative activities have been identified as the primary factors in teachers' abilities to implement change in their instruction as they move toward more effective pedagogical strategies (Gajda & Koliba, 2008). When teachers focus on student learning needs during collaboration, they may boost their own confidence as well as increase student achievement (Saunders, Goldenberg, & Gallimore, 2009).

Collaborative lesson planning is a process in which teachers work together to design lessons. Collaborative lesson development is a promising approach that can make planning more effective (Bauml, 2016). Collaborative lesson plans are developed by more than one teacher, taking place among pairs or groups of teachers on a grade-level or content team. Collaborative planning may involve instructional specialists, para professionals, school administrators, and special education teachers (Bauml, 2016). These educators will not only produce lesson plans, but also jointly evaluate the outcomes of those lessons and plan further instruction as necessary. Effective collaboration is characterized by shared goals, good communication, and equitable contributions by all participants (Bauml, 2016). In order for teachers to reap the benefits of collaborative planning, they must follow the principles of effective lesson design by



using assessment data to inform lesson plans (Bauml, 2016). Collaborative lesson planning provides teachers with new ways of thinking about pedagogy, materials, standards, assessments, and classroom management. Regardless of a teacher's level of experience, many of them attend professional development, read professional articles, attend graduate classes or use instructional technology on a daily basis within the classroom. Collaborative planning provides these teachers with the opportunity to share with colleagues what they have learned from these experiences (Bauml, 2016).

Collaborative planning can contribute to teacher retention by helping novice teachers feel more confident and fulfilled in their careers (Bauml, 2016). According to MetLife Survey of the American Teacher (2010), teachers who worked at schools with high levels of collaboration reported higher levels of job satisfaction. As teachers work together in teams and collaboratively plan, feelings of stress and isolation can be reduced. (Johnson, Reinhorn, & Simon, 2015). As teachers plan lessons together, they can help one another refine their ideas and draw on one another's strengths (Bauml, 2016). When teachers have opportunities to work collaboratively to plan common formative assessments and subsequently plan rich units on the basis of student progress on assessments, students make gains in achievement and the achievement gaps between groups begin to close (Parker, 2014). Teachers who engage in collaborative work are able to learn from one another. These collaborative networks create momentum for creating action plans geared toward school improvement (Tschannen-Moran, Uline, Hoy, & Mackley, 2000; DuFour, DuFour, Eacker, & Karhanek, 2004). Teacher collaboration may improve a school's ability to foster student achievement (Goddard, Goddard, and Tschannen-Moran, 2007). During collaborative planning, teachers can share their knowledge about teaching strategies that they have found to be successful in past lessons, enrich their thinking processes on an ongoing basis, and transform their knowledge for

the future (Putnam & Borko, 2000). Teachers can also assist one another in solving problems that arise on a daily basis (Murawski, 2009). Collaborative planning is a potential source of teacher learning that opens up discussions around pedagogical knowledge and provides opportunities for reflection and share critique of practice (Eisenman, Pleet, Wandry, & McGinley, 2011). It is through collaborative planning that teachers can raise issues that team members may not have thought of independently (Kotelawala, 2010). In this case, collaborative planning may increase teacher efficacy of FA practices. These collaborative discussions can lead to teachers increasing their confidence levels. Collaborative planning will lead to reflective pedagogical practice. It is through reflective pedagogical practice that teacher will unpack content standards, develop learning targets, utilize backwards design, and implement differentiated instruction.

### **Collaborative Planning begins with Unpacking Standards**

Ainsworth and Viegut (2006) explained that the term “academic content standards” reflects the broad learning goals of what students need to know and be able to perform in any given content area. The content standards are designated by the state, leaving teachers to unpack them and go deeper with what students need to know. For the purpose of this study, content standards describe the content that goes into the eighth-grade social studies curriculum. Current standards and curricula tend to define learning horizontally rather than vertically. Content standards do not embrace the vertical conceptualization of learning: whereas, teachers conceptualize learning as a process of increasing sophistication, as opposed to just a body of content to be covered with specific grade levels (Heritage, 2008). Content standards for each subject area provide teachers with a long list of what should be covered for each grade level. This often leads to disconnected curriculum that centers on coverage of material rather than truly

understanding core ideas of the domain from the least to most important ideas over the kindergarten through grade 12 period of schooling (Heritage, 2008). If standards were re-centered on the key ideas and topics, curriculum would be more manageable for teachers. Re-centering standards could also lead to a clear progression of how central ideas building on each other could be developed and provide the sequence of building blocks to guide curriculum planning and formative assessment (Heritage, 2008).

Heritage (2008) shared that within the content of history, strands of chronological understanding, knowledge and understanding of events, people and change in the past, historical interpretation, historical inquiry, and organization and communication are all inter-related. Social studies consist of a rich array of facts, concepts, and generalizations; thus, it is important that teachers develop questions and planning inquiries. The eighth-grade social studies curriculum within the state of Texas focuses on five strands: history; geography and culture; government and citizenship; economics, science, technology, and society; and overall social studies skills (Texas Education Agency, 2016). Each of these major strands focuses on the Texas Essential Knowledge and Skills (TEKS). These TEKS present the specific content and skills that students are expected to know in order to be successful on the State of Texas Assessments of Academic Readiness (STAAR).

Popham (2011) explained that FA is a planned process, and the key component of the planning is the learning progression. The content standards provide the teacher with the knowledge that students are expected to gain upon completion of a unit of study or grade level, whereas the learning progression is a sequence set of subskills or bodies of enabling knowledge that students must master prior to mastering a more remote target curricular aim (Popham, 2008). Learning progressions that clearly articulate what students are expected to learn in a given subject area, can provide the big picture of what

is to be learned, support instructional planning, and act as a touchstone for FA (Heritage, 2008). This also suggests that applying disciplinary concepts and tools allows students to access disciplinary knowledge both to develop questions and to pursue those questions (The National Council for the Social Studies, 2017). Sound instructional delivery affords students opportunities to investigate questions more thoroughly through disciplinary and multi-disciplinary means. Applying disciplinary concepts and tool sets forth the conceptual content that defines civic, economic, geographical, and historical strands (NCSS, 2017). Explicit learning progressions can provide teachers with clarity, along with knowing what to do to close the gap between current learning and desired goals. Learning progressions describe a pathway of learning that can assist teachers to plan instruction. Teachers can utilize FA practices to connect to learning goals which elicit evidence that determine students understanding and skill at any given point (Heritage, 2008).

Konrad, Keesey, Ressa, Alexeeff, Chan, and Peters (2014) explained that state standards are intentionally broad and do not represent the detail required for lesson planning. For this reason, standards must be deconstructed or unpacked by teachers before instruction is planned. Some standards are explicit enough that they do not need as much deconstruction; however, many others are much more complex (Konrad et al., 2014). There are two things that must be taken into consideration when deconstructing standards. First, teachers must analyze what their students need to know and be able to perform to master the standard. Second, teachers must classify standards into lower-level and higher-level thinking skills (Konrad et al., 2014). Teachers can determine what students need to know by looking at the nouns within the standard. For example, what is the key vocabulary or terms stated within the standard? Similarly, the verbs will help teachers determine the level of reasoning expected as well as what students need to do to

demonstrate mastery. Teachers will then further divide these standards into lower-order and higher-order thinking skills based on Bloom's Taxonomy (Anderson & Krathwohl, 2001) or Webb's Four-Level Depth of Knowledge (2002).

Teachers must take into consideration the level of reasoning or depth of knowledge needed to demonstrate mastery of a standard (Konrad et al., 2014). There are two models to take into consideration to differentiate between the levels of knowledge: Bloom's Taxonomy (Anderson & Krathwohl, 2001) or Webb's (2002) Four-Level Depth of Knowledge (DOK). Bloom's shares six levels of knowledge or questioning that teachers should incorporate into planning and instruction. The lower-order skills include remembering, understanding, and applying, whereas the higher-order skills include analyzing, evaluating, and creating. According to Anderson and Krathwohl (2001), applying should occur within every standard taught. Webb's (2002) Depth of Knowledge (DOK) provides another model for questioning. Level 1 includes recall and reproduction of knowledge and can be identified with verbs, such as list, define, and recall. Level 2 includes basic application of skills and concepts with key words, such as summarize, explain, estimate, and classify (Webb, 2002). Level 3 focuses on strategic thinking and requires students to analyze, generalize, create, and explain through the use of supporting evidence. Level 4, extended thinking, is the highest level of Webb's DOK. Extended thinking focuses on higher-order skills that encourage students to synthesize, conduct, and reflect (Webb, 2002). Teachers' knowledge of the type of learning expected of students helps them effectively design assessments that are appropriate to student learning. Formative instructional practices emphasize this important alignment. When a standard call for knowledge-based learning, a selected-response or multiple-choice assessment may be appropriate (Konrad et al., 2014). Classification of figures requires more complex thinking and may be better assessed through an open-ended item or verbal

questioning. As teachers plan for instruction and assessment, they must consider the type of learning when selecting the type of assessment (Konrad et al., 2014). Regardless of how teachers determine the level of reasoning or depth of knowledge students need to demonstrate mastery of a standard, teachers must unpack or deconstruct standards to provide a clear path toward mastery (Konrad et al., 2014).

Konrad et al. (2014) shared that once a standard has been deconstructed into its component knowledge and skills, teachers can formulate learning targets. Establishing clear learning targets, and communicating them to the students, is an essential starting point for effective instruction (Marzano, 2007). Clear learning targets help the teacher to know what to teach, along with what needs to be assessed during instruction. Learning targets ensure that teachers are better prepared to plan appropriate instructional activities. Lastly, learning targets can help teachers to develop well aligned assessment systems for monitoring student progress and communicating with other teachers (Chappuis, Stiggins, Chappuis, and Arter, 2012). Clear learning targets also help students understand what they need to know and do, which helps them respond to feedback, self-monitor and reflect on their progress, and develop a sense of responsibility (Konrad et al., 2014). According to Hattie (2009), the most important reason for establishing clear learning targets is that students in classrooms where learning goals have been set outperform students in classrooms where no such learning targets are present.

Unpacking standards will result in learning targets that range from simple recall to more complex analysis and synthesis (Konrad et al., 2014). Teachers must be able to differentiate between the different types of knowledge, declarative and procedural. According to Marzano (2013), declarative knowledge is informational, whereas procedural knowledge is related to processes and reasoning. These types of knowledge can be distinguished from one another by determining what students need to know or

understand (declarative knowledge) versus what students need to be able to do (procedural knowledge). Being able to differentiate between these two types of knowledge allows both the teacher and students to better understand how to reach the learning target by demonstrating understanding or completing an appropriately aligned learning activity (Konrad et al., 2014).

Teachers must not only be able to differentiate between declarative and procedural knowledge, but they must also understand that learning targets can be further broken into four different types: knowledge, reasoning, skill, and product target (Konrad et al., 2014). Knowledge targets demonstrate mastery of factual information, procedural knowledge, and conceptual understandings that underpin the discipline (Konrad et al., 2014). Teachers should develop knowledge targets based on the knowledge of content and concepts that are essential for understanding the specific discipline (Konrad et al., 2014). Reasoning targets specify the thought process students need to do well within a range of subjects. Teachers should develop these targets on a broader level to promote problem solving (Konrad et al., 2014). This further aligns with the C3 framework (NCSS, 2017) that social studies consist of a rich array of facts, concepts, and generalizations; thus, it is important that teachers develop questions and planning inquiries. Because questioning is essential to student learning, the C3 Framework encourages the use of compelling and supporting questions as a central element of the teaching and learning process (NCSS, 2017). Skill targets are more specific and demonstrate proficiency in a particular area. Students can demonstrate mastery through a demonstration or physical skill-based performance, such as playing a musical instrument, reading aloud, or shooting a basket (Konrad et al., 2014). Product targets allow students to produce an artifact in which the creation of a product is the focus of the learning target. Product targets provide concrete evidence of academic proficiency, and demonstration of mastery of the target is

achieved by meeting specifications of quality for a specific product, such as a research paper or science project (Konrad et al., 2014).

### **The Importance and Value of Learning Targets during FA**

Once the standards have been deconstructed and the type of learning is established, learning targets can be developed (Konrad et al., 2014). The learning targets are developed from the standards and are used by the teacher to drive the lesson or series of lessons. Transforming the objectives into student-centered language that focuses on the students' points of view converts the objectives into learning targets to be used by both the teacher and the students (Moss, Brookhart, & Long, 2011). Learning targets should empower students to answer the following three questions: First, what will I be able to do when I finish this lesson? Second, what is important for me to learn and understand to do this? Lastly, how can I show I can do it and how well do I have to do it? Being able to respond to these questions will empower students to understand the purpose of the lesson and what they need to do to reach the learning target (Konrad et al., 2014).

Marzano (2013) suggested a five-step process for creating learning targets. First, there must be a consistent system and structure that uses the same vocabulary throughout the school or district. Second, teachers create objectives (and then learning targets) by determining what students should know or be able to do in a single unit of instruction. Third, teachers need to breakdown the objective into a learning progression that includes assessment and feedback so students know how they are progressing toward the targets (determine the learning progressions). The teacher must take into consideration that in order for students to achieve mastery, the learning progression may need to be more discrete and explicit and may include some targets that help students to access the intended learning more successful. If students understand the intended learning without some essential skills, teachers can advance access by pairing targets that lay a foundation



for learning with the other learning targets further along the learning progression (Konrad et al., 2014). Fourth, the teacher must construct learning targets that include differing levels of reasoning. Lastly, the teacher must transform the learning target into student-friendly language (Marzano, 2013).

Learning targets enable teachers and students to see the path ahead and focus their attention on how mastery will be attained (Konrad et al., 2014). Teachers must write learning targets that represent multiple levels of complexity to help ensure that all students are challenged without being overwhelmed. Learning targets enhance the assessment data the teacher is able to collect (Konrad et al., 2014). If the teacher is only collecting data at a low level of thinking, they will not be able to measure students' true capabilities. However, collecting data only at a high-level of thinking would likely cause frustration for many students and would not allow teachers to accurately identify students' specific gaps in knowledge and skills (Konrad et al., 2014).

Teachers can promote student involvement and ownership by sharing learning targets with students and revisiting those targets throughout the lesson through questioning at various levels. The teacher can provide students opportunities to respond to the questioning, provide rich feedback to the students in relation to the targets, and provide culturally responsive discussion that draws on previous knowledge (Konrad et al., 2014). The best way to incorporate a learning target is to create a performance of understanding where the learning target is immersed in the lesson through a learning experience that allows both the teacher and students clear understanding when mastery is reached (Moss, Brookhart, & Long, 2011). There are multiple ways that learning targets can be shared with students. Teachers can transform learning targets into student-friendly language, embedding them within a rubric, and sharing examples of strong and weak work (Chappuis et al., 2012). Konrad et al. (2014) stressed that it is critical for

teachers to present learning targets to students in language they can understand. A learning target should not be considered a learning target unless both the student and the teacher share the same target (Moss & Brookhart, 2012). Chappuis et al. (2012) suggested that using student-friendly language requires short sentences and words appropriate to the students' vocabulary. Language is critical because it allows the students to see themselves as learners using "I" or "we" language.

Learning targets not only help students become more engaged in the learning process, they help both the students and teacher more precisely assess what is required for mastery and when mastery is reached (Konrad et al., 2014). Teachers must determine how students can demonstrate mastery of the knowledge and reasoning in the learning targets, in addition to clearly conveying this to their students. Using multiple levels of learning targets allows the teacher and students to assess progress on differing levels and improve what students need to know or perform before mastery is reached. Clear understandings of what the students need to know and be able to do allows them to self-monitor progress and determine what learning is needed to reach mastery (Konrad et al., 2014).

Teachers must always be clear about the learning target. They must be able to determine at the beginning and conclusion of each lesson, students are clear about what they have learned and why (Konrad et al., 2014). Students need to understand how evidence of progress will be determined and what success looks like. When teachers share student-friendly versions of the learning target (s) at the start of every lesson, students understand what, exactly, they will be learning. During each lesson, teachers must continue to revisit the learning targets. This can be done by teachers posing questions to check for understanding at various levels in relation to the learning target, providing opportunities for all students to respond in a variety of ways. Teachers can

also give students feedback in relation to the learning target. Teachers can prompt students to self-evaluate and reflect on their own progress. By the end of the lesson, teachers and students should be aware of where students are in relation to the learning target (Konrad et al., 2014). This ongoing collection of evidence of student learning allows teachers and student to document student progress. The evidence of student learning can then be used to make formative decisions about instruction, impacting future lessons. The process of formative assessment allows student to self-assess and reflect on their learning. Learning targets help teachers and students know where they are going; however, in order for instructional practices to be truly formative, teachers must go beyond developing and planning around clear learning targets. Teachers must also collect evidence to document students' learning. Teachers must then use that evidence on a frequent basis to inform instruction and to provide feedback to students. Lastly, teachers must invest/involve students in reaching the targets and monitoring their own progress.

### **Unit Planning with Backward Design**

Wiggins and McTighe (2005) emphasized that student understanding is at the heart of effective unit planning. Therefore, unit planning must consider the educational goals to be achieved, student performance, and ways to judge the quality of student performance and understanding of the prescribed goals. Unit planning should be a collaborative process between teachers and students and responsive to students' needs. Additionally, unit planning should consider the daily lessons that students need in order to comprehend the overall unit (Henderson & Gornik, 2007). Teachers must develop units and lessons that create new complexities and raise new questions to deepen student understanding and engagement (Pinar, 2006). According to Holm and Horn (2003), unit planning is a means by which teachers can begin to develop a sophisticated

understanding of curriculum development that consider their students' needs. In order for teachers to become skillful planners, they must take into account the knowledge of their learners and their development in social contexts, knowledge of subject matter and curriculum goals, and knowledge of teaching.

Teachers must use a backward approach to curriculum design to fully assess student understanding and experience with the curriculum. Backward design assists a teacher in laying out a plan to teach content connected to specific goals (Wiggins & McTighe, 2005). High-quality backward design encompasses: content standards, considering desired real-world applications, key resource or favorite activity, an important skill, a key assessment, and an existing unit. Backward Design consists of three stages: identify desired results, determine acceptable evidence, and plan learning experiences and instruction (Wiggins & McTighe, 2005).

During the first stage, identify desired results, the teacher focuses on the essential question. At the end of this unit of instruction, what should students know and be able to do? The essential questions are provocative, ongoing, recursive inquiries that drive the study of a discipline, topic, or idea. Essential questions reflect what the learner really would wonder under optimal conditions (McTighe & Wiggins, 2013). Focusing design on the result is at the heart of backward design (Wiggins & McTighe, 2005). Identifying desired results helps the teacher focus instruction on the big ideas, or targeted content, of the unit minimizing the potential to incorporate nonessential information into the unit. Tailoring instruction to teach the big ideas of the unit also helps the teacher achieve the desired results (Wiggins & McTighe, 2005).

During the second stage, determine acceptable evidence, the teacher focuses on the question, how will I know that students have achieved the desired results of the unit? Prior to planning the daily instruction, teachers must first consider how they will assess

student learning of specific standards (Wiggins & McTighe, 2005). Teachers must be cognizant that assessments may come in various forms: authentic performance tasks, appropriate criterion-based tools, formative feedback from students, and student self-assessments (Wiggins & McTighe, 2005).

During the third stage, plan learning experiences and instruction, the teacher focuses on the question, in what way will instruction lead students to achieving the desired results of the unit? Teachers must consider how their daily instruction engages and motivates students toward achievement of the desired results of the unit (Wiggins & McTighe, 2005). According to Holm and Horn (2003), creating and implementing learning experiences is one of the greatest challenges that teachers face. Although this may pose a challenge, the most effective learning experiences are those that allow students to build on and apply their existing knowledge in their lives (Vartuli & Rohs, 2008). Consideration of planning with the end goal in mind helps the teacher plan in a focused and purposeful manner (Wiggins & McTighe, 2005).

The use of Backward design helps teachers develop curriculum with the end goal in mind and to focus instruction on specific information to teach (Wiggins & McTighe, 2005). Shumway and Berrett (2004) emphasized that beginning with the end in mind helped teachers focus on the curriculum outcomes, not activities of the unit. Backward design helps the teacher focus instruction on the content taught and provide an avenue to ensure alignment between the desired results, assessments, and instructional activities (Wiggins & McTighe, 2005). Through Backward design, teachers are more able to plan more standards-based instruction. By focusing on the standards, teachers create more purposeful instruction for students (Wiggins & McTighe, 2005).

### **Planning with Differentiated Instruction in Mind**

The overarching goal of differentiated instruction is for teachers to maximize the potential of all learners by proactively designing learning experiences in response to individual needs (Tomlinson, 2005). Hall, Strangman, and Meyer (2003) emphasized that teachers must be flexible in their approach to teaching and adjust the curriculum and presentation of information to learners, rather than expecting students to modify themselves for the curriculum. Effective differentiation is grounded in teachers' understanding of, and appreciation for, students' unique needs as well as their commonalities. Differentiation also deals with teachers' comfort level with the meaning and structure of the discipline(s) they teach. Finally, differentiation deals with teachers' proficiency with appropriately and creatively modifying important classroom elements such as curricula, instructional strategies, resources, learning activities, assessments, and the learning environment (Tomlinson, Brighton, Hertberg, Callahan, Moon, Brimijoin, & Reynolds, 2003). According to Tomilson, Brimijoin, and Narvaez (2008), when differentiated instruction is implemented with fidelity, it has significant and meaningful benefits for diverse populations of students. Differentiated instruction is a systematic way to conceptualize the process of teaching and learning such that each student's learning needs are honored and, as a result, each student's learning potential and outcomes are maximized (Tomlinson, 2005).

There are several important guiding principles associated with effective and defensible differentiation. Teachers must respect each student as an individual. Teacher must assume responsibility for the success of each student. Teachers must build a positive classroom community. Teachers must provide high-quality curriculum. Teachers must use continual and varied assessment to inform instruction. Teachers must demonstrate flexibility with classroom routines and resources. Teachers must share responsibility for teaching and learning. Teachers must ensure that all students have

equally important and engaging tasks. Finally, teachers must create varied avenues to learning (Tomlinson, 2005).

This model suggests that teachers' knowledge of students' readiness, interests, and learning profile characteristics should be used to appropriately differentiate content, process, product, and learning environment. Tomlinson (2005) suggested that teachers should focus their attention on three important student characteristics: readiness, interest and learning profile. Readiness encompasses students' knowledge, understandings, and skills during the direct instruction being planned by the teacher. Readiness is a construct that encompasses prior learning and life experiences, attitudes about school, as well as cognitive and metacognitive proficiency (Tomlinson, 2005). Students' interest entails the topics and/or process that evoke curiosity and inspire passion. Differentiating instruction in response to students' existing interests promotes engagement, facilitates motivation, and helps students forge connections between what is being taught and that which is already familiar and valued (Tomlinson, 2005). Learning profile is a term used to describe the ways in which students learn most naturally and efficiently. Elements that collectively compromise learning profile include grouping orientation, cognitive styles, and environmental factors. Students' preferences for learning are influenced by a variety of overlapping and inter-related factors such as gender and culture (Tomlinson, 2005).

By having knowledge of students' readiness, interests, and learning profile characteristics, teachers can make more informed decisions about when and how to appropriately differentiate content, process, product, and learning environment. Content focuses on what is being taught as well as how students access that information (Tomlinson, 2005). A lesson that is taught by the teacher should stay constant across all students; however, the teacher should consider how students access the content based on their individual needs. This is normally the case except if a student has already mastered

understanding and applications of that goal or a student has gaps that will hinder him or her successfully reaching the goal (Tomlinson, 2005). In all cases, teacher must take into consideration that essential or core understanding is the basis from which differentiation for all students occurs. Tomlinson (2005) described the process as the sense making activities that allow students to begin thinking about, working with, and personalizing the content. Flexible grouping is an essential part of ensuring successful process differentiation. Within a relatively short period of instructional time, students should be purposefully reordered into a variety of groups so they have the opportunity to work in a variety of configurations and with a variety of their peers (Tomlinson, 2005). Following a significant segment of instruction, product assignments are used to summatively assess content mastery. Product assignments are typically performance oriented and should facilitate students' ability to critically think about, apply, and demonstrate what they have learned. Product assignments can replace or be used in conjunction with traditional assessment strategies such as tests or quizzes (Tomlinson, 2005). The learning environment consists of routines, procedures, and physical arrangement of the classroom, as well as the overall tone or mood that exists among and between the students and teacher (s). An effectively differentiated learning environment is characterized by flexibility and is carefully constructed to support each student's need for affirmation, contribution, power, purpose, and challenge (Tomlinson, 2005).

### **The Challenge of Differentiation**

Because any classroom with more than one student presents a range of diverse learning needs, teachers often struggle to provide all their students with focused learning



activities specifically designed to what works best for them (Dixon, Yssel, McConnell, & Hardin, 2014).

Teaching a mixed ability class is a difficult and complex issue for many educators. The challenge is not only to teach the gifted as well as the struggling learners, but also the grade-level students (Dixon et al., 2014). Teachers are responsible for taking charge of modifications, and their skill in understanding the characteristics of student learning and then using this knowledge to adapt lessons. Teachers that do not recognize ways to differentiate or who do not feel capable of instructing different groups at the same time struggle with differentiated instruction (Dixon et al., 2014). According to Hall, Strangman, & Meyer (2009), the nature of differentiation requires teachers to be flexible in their approach to teaching and to adjust the curriculum and presentation of information to learners rather than expecting learners to modify themselves for the curriculum. As a teacher focuses on student readiness, they may teach a concept for those students who understand at the knowledge/comprehension level. The teacher must then adjust the same concept for those students who understand at the application/analysis level. Finally, the teacher adjusts the same concept for those who understand information at the evaluation/create level. These adjustments can occur in the content to be studied, the activities used to learn the content, or in the product completed to indicate mastery of the content (Dixon et al., 2014). Brimijoin (2005) emphasized that for novice teachers, just understanding the diversity of learning that occurs in the classroom is a difficult process. Teaching a lesson to students of diverse abilities requires practice and guidance to ensure success. It is extremely important that teacher preparation programs would help teacher candidates to understand the conceptual approach to teaching and learning that involves analysis of learning goals, continual assessment of student needs, and instructional

modifications in response to data about readiness levels, interests, and learning profiles (Brimijion, 2005).

### **Reflective Pedagogical Practice**

According to Murray (2015), reflection is a purposeful act that begins with a problem, defines/redefines the problem, seeks possible solutions, experiments with solutions, and finally evaluates the results. Reflection is much more than thinking about one's instruction. Reflective practice is a form of expertise that, in order to be acquired, education must be redesigned to combine the teaching of applied science with coaching in the artistry of reflection-in-action (Schon, 1987). There is little point reflecting on practice if nothing happens as a result. By not taking action, teachers fail to gain the valuable benefits of the reflective process. The chances of implementing improvements are increased by sharing the outcomes and taking shared responsibilities for the actions (Guskey, 2008). Dfcot (2015) emphasized that reflective practice is only effective and understood by becoming immersed and doing it. Reflective practice, along with follow-up discussion, will be more impactful than simply reading about it or being guided by instructions alone. When teachers engage others in discussions related to classroom practice, a form of reflection, they are better able to evaluate and learn about their teaching (Dfcot, 2015). Writing down stories or incidents, another form of reflection, is important and can move individuals to an explanation of a situation. Taking the time to share stories or dialogue often brings to light misconceptions in learning that can then be reviewed (Guskey, 2008). Moore-Russo and Wilsey (2014) shared that reflective practice is an essential tool for the professional development of veteran, novice, and future teachers. Reflective practitioners are better prepared to handle the challenges of teaching (Campoy, 2010). Teachers' reflective activity has been linked to student achievement and motivation. Reflective teachers have been shown to cope more capably

with classroom management and the demands of curriculum and accountability. These teachers have higher expectations of their students and are less likely to blame students for poor test scores (Cimer & Palic, 2012; Delpit, 2006; Jones, Bouffard, & Weissbourd, 2013).

Teachers must directly involve themselves in the experience of reflection and use their analytical skills. Having an analytical view allows teachers to look at overt behaviors to examine issues more deeply (Dfcot, 2015). This type of thinking develops from working with colleagues and enables a better understanding of new knowledge and allows teachers to better retain information for a longer period of time (Moon, 2004). Teachers empower each other by staying abreast with best practices, researching to improve strategies, gaining new knowledge, behaving more as a learner than teacher, and helping others to develop objective criticism for a more enlightened future (Dfcot, 2015). When teachers voice their reflections, collegially listen to each other and unearth conscious meanings, they are demonstrating integration of mind-body approaches that reflective practice makes possible (Jordi, 2011).

Pedagogical reflection consists of conversations in which teachers consider how teaching practices affect students' learning and how they can enhance learning experiences. The purpose of this type of reflection is to continuously improve practice and reach all students (Larrivee, 2008). Teachers must reflect on the type of thinking students engage in during lessons and how deeply students grappled with a concept in order to reflect on how teaching practices affect students' learning (Dfcot, 2015). Teachers must also consider what their students do and say in order to gain access to students' understanding of concepts by recalling the lesson or reviewing student work. Finally, teachers must work to deepen their own understanding by developing a broader consideration of what students' responses might reveal about their thinking, what

difficulties these tasks might present for students and how teachers might help students address misconceptions (Larrivee, 2008).

It is through collaborative planning that teachers can increase their efficacy and share ideas to better assess their use of FA practices. Collaboration can also be viewed as a form of professional development that can also lead to successful implementation of FA. Collaborative planning can lead to teachers empowering one another in addition to enhance their efficacy of FA.

### **The Value of Student Misunderstandings and Student Misconceptions during Planning**

When planning instruction and designing curriculum, teachers should anticipate the learning difficulties students are likely to have and address the difficulties directly. Experienced teachers typically know the misunderstandings students are likely to have and the kinds of errors that students are likely to make when approaching any learning goal (Guskey, 2015). Teachers must not wait for student misunderstanding to be verified through an assessment, but rather build lessons around student misunderstandings that occur on assignments or during class discussions. This would help teachers make their lessons more relevant, meaningful and far more effective (Guskey, 2015).

When teachers fail to plan instruction based on student performance, student misconceptions are reinforced, errors go unaddressed, and gaps in knowledge continue to spread (Frey & Fisher, 2011). Students bring forward their misconceptions from previous instruction and experiences. Students' misconceptions are further influenced by their development levels, their perceptions of school and learning, and even their expectations for what will be true. Misconceptions can be persistent and intractable unless they are addressed by the teachers (Frey & Fisher, 2011). Kendeou and van den Broek (2005) shared that students who held misconceptions had poorer recall of scientific

text and made more errors than those who did not have misconceptions. New understanding is needed to replace misconceptions. In order to gain new understanding, discussion, conjecture, evidence of claims, and questions are all necessary steps to change one's thinking about deeply held misconceptions (Frey & Fisher, 2011). Analysis of misconceptions and errors is essential in allowing the teacher to make purposeful decisions about which students need further instruction and what areas need to be addressed. In other words, teachers can readily identify the common errors that students are making to determine what instructional adjustments need to be made in order for students to successfully attain a particular concept (Frey & Fisher, 2011).

### **Checking for Student Understanding and Metacognition**

It is through the process of FA that two things begin to occur: checking for understanding and metacognition. Checking for understanding is a means for the teacher to determine if students understood concepts being taught, whereas metacognition is a means for the student to determine if he or she understood what was taught by the teacher. Checking for student understanding means regularly assessing the class, and whenever the teacher sees students making errors, deciding on the necessary course of action to take (Lemov, 2015). The action does not necessarily mean that the teacher has to reteach the entire concept to the full class. There may be times when the teacher observes an error and chooses to keep moving forward and check in with the struggling learners during independent work time (Lemov, 2015). Checking for understanding is a way for the teacher to determine what students learned by reacting to misunderstandings in the lesson as they emerge. Teachers that effectively implement this technique by making a habit of small intentional habits that, when applied consistently and in coordination, result in a reliable and trusty safety net for student learning (Lemov, 2015). It is important to address student misunderstanding before they leave the room and the

lesson is over, because student understanding will become more entrenched and gathering further misconceptions. The ability of the teacher to recognize and address student understanding quickly keeps them from getting worse (Lemov, 2015).

Checking for understanding consists of three broader tasks: data gathering, and the two ways teachers seek to gather data: via questioning and via observation (Lemov, 2015). Initially, the teacher teaches a concept, and then asks students questions, listening for the stream of data within their answers. Oftentimes, the teacher is engineering his/her questions so that the data stream is robust. Consequently, the teacher assigns students a task to complete independently, and monitors intentionally as students' work. The teacher then makes sense of what was observed and how to ensure that information about mastery was reliably visible (Lemov, 2015).

Metacognition refers to general assumptions that individuals hold about themselves as learners, about factors influencing learning, and about the nature of learning (Pintrich, 2012). Metacognition is an important influence on the learning process that involves awareness about learning attitudes and habits as well as awareness of styles, approaches and assumptions people make subconsciously when learning (Cundiff & Flinchbaugh, 2017). Metacognition involves higher-order processes that include defining problems, organizing and selecting representational components and subcomponents of concepts and information, self-monitoring of progress, allocation of time resources, sensitivity to external feedback, and emotional sensitivities (Cundiff & Flinchbaugh, 2017). Basically, everything that we know, have experienced and plan to incorporate into our future thinking involves metacognition. Metacognition is the awareness and understanding of one's own thought processes. It is a process we engage in on a daily basis (Cundiff & Flinchbaugh, 2017).

Students must become metacognitive thinkers in order to become self-directed learners (Ambrose, Bridges, DiPietro, Lovett, & Norman, 2010). As self-directed learners, students assess the demands of the task, evaluate their own knowledge and skills, plan their approach, monitor their progress, and adjust their strategies as needed. By teachers integrating metacognitive activities, they help students to develop qualities that are consistently viewed as valuable and necessary in any profession (Ambrose et al., 2010). The teacher's prompting of metacognition is important because students are often unaware of when and even what they have learned until they are prompted (Jarratt, Mack, Sartor, & Watson, 2008). Working to improve such knowledge can benefit learning and intellectual habits across the curriculum while also preparing learners to be more nimble thinkers within the discipline (Desautel, 2009). According to Desoete, Roeyers, and DeClercq (2003), explicit teaching of metacognitive skills can improve students' thinking skills in reading, writing, and math. Developing students' metacognitive skills can also help students select appropriate cognitive tools for certain tasks, encourage self-directed learning, and support learning overall (Desoete et al., 2003). Self-directed learning becomes more important as a student moves through higher education and into the real world. Eventually, students are expected to take on more responsibility for managing their learning and understanding independently, rather than relying on the teacher to explicitly teach the material and check for understanding (Cundiff & Flinchbaugh, 2017). Metacognition plays a crucial role in effective teaching. According to Cochran-Smith and Lytle (1999), experienced and effective teachers plan, present, and evaluate curriculum taught to their students while also reflecting metacognitively on their own thinking and teaching processes. There are many benefits to metacognition that do not neatly fit into the content area or curriculum of most courses; however, metacognition is often not addressed in classroom instruction (Pascarella & Terenzini, 2005).

As teachers become more knowledgeable of the FA process and begin to implement these practices, they will help their students become self-directed learners. When students are able to track their progress, reflect on their learning processes and growth, and share observations about achievement or about themselves as learners, it helps anchor their learning in long-term memory (Chappuis, 2009).

### **Summary**

The literature review addressed (a) the process of formative assessment; (b) teacher efficacy; (c) collaborative planning; and (d) reflective pedagogical practices. The literature review revealed that FA is not a test, but rather a process that involves deliberate planning by teachers (Popham, 2008). In order for implementation to occur, teachers must understand this process. Because teachers lack knowledge of the various levels of FA, professional development and belief in the FA process, successful implementation does not always occur (Black & Wiliam, 2009; Clark, 2012; Young & Kim, 2010). If these issues are not addressed, teachers will be reluctant to implement FA in their classrooms (Burns & Foo, 2013; Crossourd & Pryor, 2012; Dunn & Mulvenon, 2009; Torrance, 2012). Teacher efficacy of FA can be enhanced if teachers experience success with these strategies, in addition to being given opportunities for collaboration. Campus leaders must understand the significance of teacher efficacy of implementing FA, along with understanding the sources and benefits of efficacy (Bandura, 1997). Knowledge of teacher efficacy can prove to be important as campus leadership seeks to create an environment where classroom teachers can further develop efficacy of FA practices. By collaboratively designing lessons, content teams begin to understand what student should know at the end of each unit (DuFour, 2014). Teachers can begin collaborative planning by unpacking standards to focus on what students need to know and perform at the end of each lesson or unit. After standards have been unpacked,



teachers can then create learning targets for each lesson. Learning progressions or lesson goals are a key component of FA, allowing teachers to elicit evidence to determine students' understanding and skill at any given point (Heritage, 2008). It is important that teachers utilize methods or activities to assess students' knowledge and understanding of concepts, along with collecting evidence of student learning. Once teachers have meaningful student data from FA, they can modify instruction as needed.

### **Theoretical Framework**

The researcher was interested in examining how teachers plan and implement FA along with how FA influences their pedagogical practices and teaching efficacy. Efficacy beliefs predict teachers' goal selection, effort expended, and persistence (Tschannen-Moran, Woolfolk-Hoy, and Hoy, 1998). Because conditions in the school setting continually change, a teacher's level of efficacy may vary from one class to another. Bandura's (1997) Social Cognitive Theory provides the primary support for the study of teacher efficacy. According to the SCT, self-efficacy beliefs are major determinants of motivation and belief in ability. SCT also suggests that teachers' efficacy beliefs and behavior cannot be understood independently from the school environment in which they work. Therefore, individuals learn through contextually-appropriate social experiences. The theoretical framework was selected because the majority of a teacher's work life is spent within the classroom. Teachers also work within an environment that consists of students, other teachers and administration. SCT was designed to recognize the personal, environmental, and behavioral factors in teachers' relationships with others. Bandura's (1997) social cognitive theory provides the primary support for the study of teacher efficacy. Teacher efficacy is shaped by the support and influence of their environment, whether from leadership, other colleagues, or students. In this case, collaborative planning created the ideal culture to better support

the eighth-grade social studies team. However, Vygotsky's (1997) social cultural theory provides a framework for the development of teacher efficacy in the context of the collaboration between social studies teachers during lesson design. Interactions with persons in the environment stimulate development process and promote cognitive growth (Vygotsky, 1997). According to Bandura (1986), learning is a process whereby information about the structure of behavior and environmental events are transformed into symbols that serve as guide for future actions. Learning occurs either inactively when people perform actions or vicariously when they observe models of behavior (Bandura, 1986, 1997; Schunk, 2008). This study recognizes that classroom teachers can develop efficacy of FA through collaboratively designing lessons together.

Bandura (1997) also identified important sources of efficacy: mastery experiences, vicarious experiences of others, verbal persuasion, and physiological states. More specifically, the self-efficacy theory suggests that the efficacy beliefs that teachers formulate develop from the cognitive processing of their direct accomplishments within the classroom. If teachers believe that they will be successful on a given task, they are more likely to do so because they invest substantial effort, persist in their efforts, and manage negative events (Bandura, 1997). Most individuals will engage in tasks in which they feel competent and confident and avoid those in which they do not (Dweck & Leggett, 1988). Behavior changes involving greater engagement and commitment to tasks can only take place if the individual's preexisting beliefs change and are powerful enough to initiate change (Bandura, 1997). Teachers' efficacy beliefs also formulate from incidents in which they vicariously experience other teachers' successes and failures, verbally persuasive encouragement and compliments from others about their teaching ability, and positive or negative physiological states. Bandura (1986) also explains that an efficacy expectation is the conviction that one can orchestrate the

necessary actions to perform a given task. Teacher efficacy of FA can develop as teachers continuously engage in processes that involve mastery experiences, the vicarious experiences of others, verbal persuasion, in addition to a positive physiological state.

## CHAPTER III

### METHODOLOGY

#### **Purpose of the Study**

The purpose of this study was to analyze and explain how a team of four middle school social studies teachers planned and implemented FA practices during lesson design and instruction. The ability of teachers to utilize formative assessments effectively was contingent upon teachers' knowledge of the formative assessment process, teachers' belief in the effectiveness of the process, and teachers' perceptions of their abilities to implement the process of formative assessment. The researcher analyzed how teacher collaboration influenced their ability to create FA during lesson design and explained when, why, and how these teachers implemented FA during instruction. The study consisted of individual and focus group interviews of team members concerning the factors they took into consideration when planning to implement FAs and examined post-implementation teacher reflections on their efficacy of these strategies.

This qualitative study utilized individual audiotaped interviews of four social studies teachers, as well as one focus group interview of four teachers. The findings of this study contributed to current literature on teacher efficacy and pedagogical strategies using FAs. This study explored the FA process, teacher efficacy, and collaborative planning. For this study, the researcher took into consideration participants' experience in education, their years in their current position, and their pedagogical beliefs, particularly when embracing FA within their practice.

#### **Research Questions**

Since this study utilized qualitative data comprised of individual and focus-group interviews exclusively, very broad overarching questions framed the study. The overarching questions that were investigated in this study were:

1. How do middle school social studies teachers plan for FA during lesson design?
2. How do middle school social studies teachers use FA strategies during instruction?
3. How does planning for FA influence teacher efficacy during instruction?

### **Research Design**

The researcher utilized an explanatory case study approach to analyze how teacher collaboration influenced their ability to create FA during lesson design and explain when, why, and how these teachers implemented FA during instruction by utilizing individual and focus-group interviews (Creswell, 2007). The purpose of the explanatory case study approach was to analyze and explain how teacher efficacy of FA practices might be influenced during lesson design and implementation. The researcher relied on the ability of the unique strength of a case study design to deal with a variety of evidence. According to Yin (2014), a case study is an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident. The researcher utilized a qualitative, single case design. The group of teachers served as the case of this study. The major strength of the case study design was the opportunity to use different sources of evidence, such as individual teacher interviews and focus group interviews. Case study research was also a good way for the researcher to understand the context. Further analysis of case study methods found that case studies using multiple sources of evidence were rated more highly, in terms of their quality, than those that relied on only single sources of information (Yin, 2014). Using multiple sources of data allowed the researcher to more deeply understand the context and explicitly describe the phenomenon under investigation.

The study included four individual interviews with eighth-grade social studies teachers who taught on the same team, at the same school, and implemented the same curriculum. The individual interviews utilized the same interview protocol (see Appendix A). This was followed by a Focus group interview of all four social studies teachers regarding implementation of FA aligned with learning objectives (see Appendix D).

### **Participant Selection**

The researcher utilized purposeful sampling to determine the eighth-grade social studies educator participants who have experience with FA. In qualitative research, it is important to choose a sample very purposefully and include only participants with a particular type of experience in order to gain an in-depth understanding (Patton, 2001). The purposeful sampling was important because the researcher analyzed and explained how participants planning for and use of FA influenced their pedagogical practices and teaching efficacy. The participation in this study was limited to four social studies teachers from the selected campus during the 2016-2017 academic school year. The participants were a part of the eighth-grade social studies content team. This group was selected because of their diversity of years of experience working in a Title I middle school campus. This same group of teachers had diverse experiences utilizing FA practices during instruction. The teaching experience on this team ranged from one year to fourteen years of experience, along with their different perspectives; these factors impacted their use of FA practices.

**Teacher profiles.** Data were presented and discussed within the organizational form of teacher profiles, in which teaching history, experiences, and perspectives of each participant were shared. The participants consisted of four teachers on an eighth-grade social studies team. Teacher 1 was a female with zero years of experience. She started

teaching two weeks prior to participating in this study. Teacher 2 was a male with thirteen years of teaching experience. Teacher 3 was a female with fourteen years of experience. In addition to teaching eight grade social studies, she also taught AVID (Achievement Via Individual Determination) for all grade levels. Teacher 4 was a female with zero years of teaching experience. Teacher 4 was given the opportunity to start in the beginning of the school year, whereas Teacher 1 started after the school year was underway. This discussion was followed by discussion of the themes identified from the interview protocols.

*Figure 1. Teacher Profiles*

<b>Participants</b>	<b>Gender</b>	<b>Years of Teaching Experience</b>
Teacher 1	Female	0
Teacher 2	Male	13
Teacher 3	Female	14
Teacher 4	Female	0

**School demographics of teachers.** The school in this study consisted of seventy-nine teachers. Approximately 13% of the teachers were African American. About 13% of the teachers were Hispanic, while 64% of the teachers were white. One percent of the teachers were American Indian, while 4% of the staff was Asian. Finally, 5% of the teachers consisted of two or more races combined (Texas Education Agency, 2016b). The majority of the teachers were female at about 75%, while 25% of the teachers were male. Approximately 78% of the teachers attained a Bachelor’s degree, while 21% earned a Master’s degree. One percent of the teachers attained a Doctorate Degree. About 15% of the teachers were beginners while 32% of the teachers had at least one to five years of experience. Approximately 16% of the teachers had six to ten years’ experience, while 29% of the teachers had eleven to twenty years’ experience. Finally, about 9% of the

teachers had over twenty years' experience. The average years of experience of the teachers on this campus was about eight (Texas Education Agency, 2016b).

### **Context of the Study**

The school district in this study was an average size school district within the Southern United States where 100% of its campuses earned Met Standard honors in the accountability ratings. The school district had more than 56,000 students enrolled. It consisted of a total of 40 campuses: 20 elementary schools, 10 middle schools, 8 high schools, and two special program facilities. The legislature demonstrated its commitment to excellence in education by establishing regional education service centers with the purpose of helping school districts and charter schools improve student performance, operate more efficiently, and implement state initiatives. This school district was one of the top performing districts in the United States (Texas Education Agency, 2016b).

The demographics of the school district consisted of nearly 44% Hispanic students, 28% percent White students, nearly 17% African American, approximately 9% Asian, 2% percent Multi-Racial students, a little over ½% of the students were Native American, and less ½% of the students were Pacific Islander. Fifty percent of the students within the district were economically disadvantaged. Approximately 15,000 students were English Language Learners or Bilingual, along with another 7000 students in special education programs (Texas Education Agency, 2016b).

The middle school campus selected in this study consisted of about 1,300 students. The campus had an economically disadvantage sub population of nearly 68% of the students. The English Language Learner sub population consisted of 12% of the student body. The At-Risk sub population of the student body consisted of 50% of the students (Texas Education Agency, 2016b). The campus utilizes the PLC approach to



team planning, along with the use of continuous formative assessment practices to improve student achievement.

### **Data Collection**

Initially the researcher scheduled individual interviews with the teachers of the eighth-grade social studies team. The purpose of the interviews was to examine teachers' knowledge of FA, along with how it was utilized during instruction. The interviews were also designed to create new knowledge regarding how teachers planned for FA during lesson design. The researcher then scheduled a focus group interview in which the instructional coach for that social studies team conducted the interview. The interview questions further examined teacher knowledge of FA implementation during lesson design and instruction.

### **Interviews**

The researcher utilized interviews to answer the research questions. The researcher utilized two formats of interviews (individual and focus groups) with the participants. All interviews took less than thirty minutes to conduct. The interviewer posed open-ended questions with participants within a conversational manner. Participating teachers were involved in one individual interview, in addition to one focus group interview. The participating instructional specialist conducted the individual interviews and facilitated the focus group interview. The instructional specialist was chosen to conduct the individual interviews and facilitate the focus group interview because participants found his presence to be non-threatening because he was not viewed as an administrator. The researcher recognized that as an administrator in the district, teachers might feel threatened and not be willing to share their views openly.

## **Data Analysis**

Qualitative data were collected from participants in the form of individual interviews and focus group interviews. The researcher utilized constant comparative analysis. Constant comparative analysis is a form of analyzing qualitative data where the information gathered is coded into emergent themes or codes (Bryant & Charmaz, 2007). By utilizing this process, the data was constantly revisited after initial coding until it was clear that no new themes were emerging. The researcher identified that some a priori themes emerged from the questions posed and were analyzed for emergent codes that developed during data analysis. The researcher created a matrix of categories and placed the evidence into each category. The researcher began with a code category encompassing the research purpose. This study analyzed how teacher collaboration influenced the creation of FA during lesson design and explained when, why, and how these teachers will implement FA during instruction. The researcher further divided each research question into subcategories. Prior to beginning the coding process, the transcriptions and audio recordings were read through and listened to so that common themes could be determined. The researcher developed a rich and full description of the case in response to the research questions. Different colors corresponding to the subcategories were used to mark text in the interview transcripts to identify subcategories and emerging themes. Finally, thematic codes were used to further identify meaningful patterns in the data relating to the subcategories (Creswell 2007; Yin, 2014). The information discovered from the data were included to support labeling key concepts, refining the categories and eventually developing themes that emerged from continuous analysis of information (Yin, 2014). The researcher utilized the constant comparative process to increase validity. All notes from the analysis of the interview transcripts were coded. The coding process was carried out by reading each of the documents and

attributing a code to the sections. The codes represented a theme or idea with which each part of the data was associated.

### **Ethical Issues**

The researcher acquired Institutional Review Board (IRB) approval from the participating school district. A request for Committee for the Protection of Human Subjects (CPHS) approval from the university was completed after IRB approval had been given by the district. Once CPHS and IRB approval were given, the teachers involved in the study were notified and asked to consent to participate in the study. A consent form was created in the Human Subjects Application. The teachers taught their assigned classes and attended their content planning sessions as usual to show that they weren't asked to change their practices. Educators that participated in the study were not be subjected to any harmful acts by the researcher. The researcher preserved the confidentiality of all participants in the study by keeping all research data in a secure location. The research data sources will be kept for a period of five years and be shredded and properly disposed of after that period. Participants were given pseudonyms to protect their confidentiality and identities. Participants were given the opportunity to remove themselves from the study at any time, without penalty.

### **Limitations**

The purpose of this study was to analyze and explain how a team of four middle school social studies teachers planned and implemented FA practices during lesson design and instruction and how these practices influenced their pedagogical practices and teaching efficacy. The researcher recognized that as an administrator in the district, it was equally important that he did not allow unwanted or selective bias to creep into the process that would lead to an explanation which disregarded some important data. Because this study consisted of a small sample size, the data collected could be

questioned as to whether it would be generalizable to other settings and/or significant enough to show teacher efficacy of FA practices. Another limitation was that the researcher did not collect the data. Because of this, the researcher was not able to probe participants directly, leaving the instructional specialist to filter some of the data for the researcher.

### **Validity**

The researcher utilized multiple sources of evidence to address a broad range of historical and behavioral issues. Yin (2014) explained that an advantage of using multiple sources of evidence is the development of converging lines of inquiry, which supports validity of findings. Any case study finding or conclusion is likely to be more convincing and accurate if it is based on several different sources of information, following a similar convergence and saturation of data (Yin, 2014). Data triangulation consisted of collecting information from multiple sources aimed at corroborating the same finding. After the researcher triangulated the data, the case study findings were supported by more than a single source of evidence. By developing convergent evidence, data triangulation will help to strengthen the construct validity of the case study (Yin, 2014). Multiple sources of evidence would essentially provide multiple measures of the same phenomenon.

The researcher also maintained a chain of evidence that allowed the reader of this case to better understand the findings. Yin (2014) further suggested that the chain of evidence shows how findings come from the data that were collected and from the original research questions. Using the chain of evidence, the reader will be able to trace the steps from conclusions back to initial research questions or from questions to conclusions. By using the chain of evidence, construct validity was heightened; thus, increasing the overall quality of the case study.

The researcher used member checking to increase validity. Member checking can be defined as a quality control process by which a researcher seeks to improve accuracy, credibility and validity of what has been recorded during a research interview (Doyle, 2007). Rager (2005) further explained that member checking is also known as participant verification. During this study the researcher restated and summarized the responses from the participants once the interviews had been completed. The participants were given their transcripts to determine if the responses were accurate. The participants were given the opportunity to either agree or disagree if the summaries reflected their views and if accuracy was affirmed. Another type of member checking occurred near the end of the study when the analyzed data and report were given to the participants to review for authenticity of the work (Lincoln & Guba, 1985). The researcher gave all participants the opportunity to check to see whether an authentic representation was made of what he or she said during the interview. The participants were able to review all findings from the study to comment on them. Creswell (2007) shared that member checking serves to decrease the incidence of incorrect data and the incorrect interpretation of data. The overall goal of this process was to provide findings that are authentic and original. The greatest benefit of conducting member checks is that it allows the researcher the opportunity to verify the accuracy and completeness of the findings and helps to improve the validity of the study (Cohen & Crabtree, 2006).

Finally, the researcher used peer debriefing to increase validity. According to Lincoln and Guba (1985), peer debriefing is a process in which a researcher shares data with individuals with experience on the topic that do not have a stake in the outcome of a study but do have the necessary knowledge to make a contribution to the research. These individuals engaged in an analytic session to explore aspects of inquiry that might otherwise remain only implicit within the mind of the researcher (Lincoln & Guba,

1985). During this study, the researcher utilized peer debriefing with multiple doctoral candidates. These doctoral candidates did not have a stake in the study; however, they did become a source of knowledge to help the researcher. This strategy was utilized to enhance the credibility of the research. There were four important aspects to peer debriefing that were taken into consideration during this study. First, peer debriefing restricted bias in interpretation of information. Second, peer debriefing allowed the researcher to develop new ideas with a peer. Third, peer debriefing allowed the researcher to modify research practices. Fourth, peer debriefing encouraged the researcher to reflect further through discussion (Lincoln & Guba, 1985).

## CHAPTER IV

### FINDINGS

#### **Introduction**

The purpose of this qualitative case study was to analyze how teacher collaboration influenced their ability to create FA during lesson design and explain when, why, and how these teachers implemented FA during instruction. These data were collected using individual interviews and a focus group interview. This single case study design utilized four eighth-grade social studies teachers located in the Southern United States and were selected through purposeful sampling. Within this case study, teachers were the unit of analysis because they each had different experiences and influences that led to their use of FA. Four eighth-grade social studies teachers participated in this case study. The instructional specialist conducted the individual interviews and served as the facilitator of the focus group interview. The instructional specialist was chosen to conduct the individual interviews and facilitate the focus group interview because participants found his presence to be non-threatening as he was not a campus or district administrator. Triangulation of data were achieved through individual and focus group interviews, member checking was used to increase credibility, validity and trustworthiness of these data (Harper & Cole, 2012).

Data from each participant were coded and analyzed to determine themes associated with teacher planning for FA, use of FA strategies during instruction, and the influence of collaborative planning for FA on teacher efficacy. In this study, individual and focus group data from four eighth-grade social studies teachers were collected and analyzed. The teachers' years of experience ranged from two weeks to fourteen years of teaching experience. An interview was scheduled at a mutually convenient time with each teacher. A total of four individual interviews took place. The interviews ranged

from nine minutes to twenty minutes, depending on the details teachers were knowledgeable in sharing. The focus group interview lasted approximately twenty-two minutes. The interviews were transcribed as well as audio recorded.

Figure 2 provides a breakdown of the frequencies for each of the coding themes that emerged from the data. After re-examining the research questions, the findings were organized by the three research questions on teacher planning for FA, use of FA strategies during instruction, and the influence of collaborative planning for FA on teacher efficacy. Each theme was supported by evidence from both the individual and focus group interviews. First, the major theme of collaborative planning and sub-themes of unpacking standards and differentiated instruction were explained through the first research question: How do middle school social studies teachers plan for FA during lesson design? The second research question, utilizing FA strategies during instruction, identified the major theme reflective pedagogy and the sub-themes of checking for understanding and metacognition: How do middle school social studies teachers use FA strategies during instruction? The third research question focused on the influence of planning for FA on teacher efficacy further demonstrated the importance of collaborative planning and reflective pedagogy: How does planning for FA influence teacher efficacy during instruction? The sub-themes included: data collection, data analysis, and instructional adjustments.



Figure 2. Themes and Codes developed from Individual Interviews and Focus Group Interview

<b>Theme</b>	<b>Code</b>
Major Theme: Collaborative Planning	Collaborative Planning
	Verbal Persuasion
	Vicarious Experience
	Master Experience
	Professional Learning
Sub-Theme: Unpacking Standards	Unpacking Standards
	Learning Targets
	Learning Progressions
	Assessment Adjustments
	Assessment Analysis
	Curriculum and Assessment Alignment
	Backwards Design
Sub-Theme: Differentiated Instruction	Differentiated Instruction
	Relational Pedagogy
	Safe learning Environment
	Student Engagement
	Diverse Learners
	Learner Struggles
Major Theme: Reflective Pedagogy	Reflective Pedagogy
Sub-Theme: Checking for Understanding	Checking for Understanding
	Student Misconceptions
	Superficial FA
	Deep FA
	Pre-Assessment
	Summative Assessment
Sub-Theme: Metacognition	Metacognition
	Relevance
	Student Prior Knowledge
	Self-Assessment
	Student Voice
Major Theme: Reflective Pedagogy	Reflective Pedagogy
Sub-Theme: Data Analysis/Data Collection	Data Analysis
	Data Collection

Sub-Theme: Instructional Adjustments	Instructional Adjustments
	Instructional Strategies
	Feedback
Additional Findings from the Data	Voicing
	Visualizing
	Relational (Others perspectives)
	Time/Experience
	Identity Claim
	First Time Instruction

### **Research Question # 1: Teacher Planning for FA**

The first research question stated: How do middle school social studies teachers plan for FA during lesson design? This section identified the findings of how teachers collaboratively plan for FA. The findings were analyzed and assigned codes. The codes were categorized and placed into larger themes. This section further analyzed one major theme on collaborative planning as well as the two sub-themes on unpacking standards and differentiated instruction. Both sub-themes supported the larger theme of collaborative planning. The theme and sub-themes emerged through many interview exemplars.

The first sub-theme, unpacking standards, included the following codes: learning progressions, assessment adjustments, assessment analysis, curriculum and assessment alignment, and backwards design. The second sub-theme, differentiated instruction, included the following codes: diverse learners, learner struggles, relational pedagogy, safe learning environment, and student engagement. The data analysis of the first research question began with the first major theme, collaborative planning, and then further explained in the two sub-themes, unpacking standards and differentiated instruction.

## **Collaborative Planning**

The major theme that emerged through responses was collaborative planning. Collaborative planning provided the team of social studies teachers with a safe, supportive environment. Through collaboration, members of the eighth-grade social studies team listened and worked together to validate the multiple and diverse perspectives. These various voices and perspectives opened the doors for organic collaborative discourse to occur, eventually leading to the best decisions and agreements about what their students needed to learn. Collaborative planning provided the perfect opportunity for the social studies team to offer their diverse perspectives for FA and instructional strategies. Teacher 1, a female with zero years of teaching experience, explained:

I like working in a group because I get to see things from different perspectives, people's different points of view. So, I might think of something like, 'oh why don't we try this'. And someone's like 'hey, why don't we try this'. I'm like, 'you know that's a really good idea'. 'I didn't even think about that.

This participant expressed the value of receiving diverse perspectives from team members during collaborative planning. This exemplar demonstrates the verbal persuasion that occurs when making decisions regarding teaching and learning.

Teacher 2, a male with thirteen years of teaching experience, shared:

I think working together, collaborating with a team, you get to hear different voices, different opinions. If you're doing it on your own, it would be very easy to get stuck in a rut and just feel like you're doing the same thing over and over again. So, I think it helps bring, especially with our team, with different levels of experience, different ages as well, being able to just get different opinions of voices. And help use that to make the best assessment possible.

This statement reinforced the idea that teachers dwell in an environment that allows them to rely on students and other teachers rather than an environment of isolation. This exemplar further aligns with SCT to show that personal, environment, and behavioral factors in relationships with others (Bandura, 1997).

Teacher 3, a female with fourteen years of teaching experience, expressed:

I think it (collaborative planning) helps because you get to look at the different perspectives from different teachers. It allows you to, especially when you're looking at different levels, it allows you to either break it down even further or up the ante for our level one kids.

This statement emphasized how collaborative planning led to discussions regarding differentiation, in addition to ways that the team could increase rigor and student engagement during instruction.

Teacher 4, a female with zero years of teaching experience, explained:

Collaborative planning helps because you have three different people with different perspectives, different students. And maybe some of their students are struggling in the same areas so you can work with them to see, 'well, this works in your class, maybe I can try it in mine' or maybe they can offer suggestions.

This exemplar demonstrated how collaborative planning caused teachers to reflect on their individual practices while also reflecting as a team with regards to instructional strategies that were both effective, as well as ineffective. All these statements validated the importance of teachers working together to enhance lesson design and create FAs as opposed to designing lessons and FAs in isolation by individual teachers. As the social studies team came together during collaborative planning, questions were asked, ideas generated around the room, and potential challenges were further discussed. The team of teachers grew from the knowledge from each other as they pushed themselves to improve

the curriculum. Teachers' knowledge was enhanced through collaborative discourse. Collaboration amongst team members increased teacher confidence as they offered multiple perspectives during team planning. Teacher 2 stated:

Collaborative planning is actually very, very beneficial. First off, just the actual assessment. Everyone gets to take a part of it, the responsible part. Then we bring it back and as a team, we get to take a look at it. And it's just an extra set of eyes to make sure.

This type of collaboration allowed individual teachers on the social studies team to build efficacy at an individual level, eventually improving the overall efficacy of the team.

Collaborative planning created the ideal conditions to influence the sources of efficacy. Collaborative planning allowed teachers to share their expertise with one another validating verbal persuasion. Teachers on the social studies team were convinced that they could successfully implement FA. These teachers began to view each other as experts and valued the input from one another. During an individual interview, Teacher 1 shared, "I love, you know, criticism that's going to help me. You know what I mean, or feedback, you know. I like that. If it's going to help me become better, tell me, tell me." This statement confirmed that the social studies team of teachers was open to suggestions and criticism from all team members. Not only was the team open to input, it became the expectation. During collaborative planning, the team displayed an open demeanor regarding input and making decisions collectively regarding the success of their students. Teacher 2 shared, "Then we bring it (FA) back, and as a team, we get to take a look at it. And it's just an extra set of eyes to make sure." Collaborative planning also created opportunities for team members to gain vicarious experiences. Members of the social studies team were able to discuss and compare instructional practices with their colleagues. Through collaboration, team members were able to be reflective regarding

their individual instructional practices. Teacher 3 stated, “So during planning, usually a lot of times, when we’re looking at lessons, sometimes we need to breakdown the information a little bit more. Maybe come up with more questions or having more small group sessions”. Team members were able to validate their use of instructional practices that were successful, as well as opportunities to reflect on those strategies that were not as successful. Teacher 1 shared the benefits of collaborative planning to design FAs:

I think since it’s only been two weeks, talking to Teacher 2, Teacher 3, and Teacher 4. Kind of what they do. Because right now, you know, I’m just starting out. Thumbs up (Thumbs up/Thumbs down) works for me, but I want to incorporate more writing. I’ve seen a lot of different methods and styles that I do want to incorporate. I think that being a first-year teacher, I’m nervous to do it only because I feel like I have so many ideas and I’m like, where do I start? Where do I begin? You know, I want to do more, but I feel like especially starting halfway through a semester, I don’t have the time to do it because I also have you know. Trying to practice my TEKS and planning and doing all of that, I see time being difficult for me as a first-year teacher. I think the veterans know how to prioritize better.

This statement not only validates this teacher’s efficacy of FA as being enhanced due to collaborative planning, but also shapes teacher knowledge through collaborative discourse. Specifically, this is seen through the teacher’s insight about more experienced teachers’ skills in prioritizing. This teacher is lacking confidence in her ability to utilize FA during instruction and is convinced that the other teachers within her team are more skilled with FAs.

Collaborative planning also created an opportunity for teachers on the eighth-grade social studies team to gain mastery experiences. Collaborative lesson design

created a sense of direction for the team. This is significant because it demonstrated that the team's efforts were consolidated, further unionizing their goals. The teachers realized that beginning with the state standards was essential to ensuring that their students were successful during instruction. During the focus group interview, one participant shared this statement regarding the creation of FAs, "One of the ways is that we backwards map. We start from the end and then we work to the beginning. We start with the big assessment, the summative assessment in mind, and then we work that way" (Teacher 3). By focusing on what students were expected to know, teachers were able to determine the type of learning that needed to occur. The social studies team relied heavily on Backwards design to guide their collaborative planning. Teacher 2 shared, "As a team looking at the EQs, see the essential questions together. Looking at first is it matching up with the TEK, and is it that what we need them to know for that particular unit lesson"? The reiteration of the pronoun "we" emphasized the importance of collaboration in determining which standards should have more weight than others. Because these types of decisions impacted all students, it was important that it was decided through the collaboration of the entire team. This exemplar demonstrated their priority during collaborative planning. The more discourse that occurred amongst the team, the more comfortable they became with utilizing FA, in addition to discovering more ways to utilize it to assess student understanding.

Finally, although the social studies team did not mention any formal training regarding the use of FA, professional learning did occur as a result of collaborative planning. The social studies team of teachers gained knowledge from one another, in addition to building teacher efficacy of FA practices through constructive dialogue and consistent collaboration. Collaborative planning allowed the social studies team to discuss teaching strategies that have proven to be successful over time. In addition, it

supported team members to share best practices. When asked to explain how the team collaborates to create FAs during planning sessions, Teacher 1 shared:

Just talking about our different students, you know Teacher 3 has level one, I have level one, twos, so does Teacher 4. I think bouncing ideas from each other, kind of like okay and then that'll be good to try with my level ones because that for my level twos is not going to work.

Voicing, relational (others' perspectives), and identity claims were additional codes that emerged from the data. Voicing was identified as the use of first person when a participant would begin explaining the actions that took place in their classroom.

Teacher 4 shared:

Collaborative planning helps because you have three different perspectives, different students and maybe some of their students are struggling in the same areas so you can work with them to see, 'well, this works in your class, maybe I can try it in mine' or maybe they can offer suggestions.

Relational (others' perspective) referred to how the team interacted with their colleagues as they listened to each other's perspectives during collaborative planning. Identity claim involved teachers from the social studies team giving themselves credit for being a particular way. Teacher 1 explained, "So, that just the kind of person that I am. I like to get everything on time, done right, graded, get grades back." This exemplar demonstrates that the participant is confident that these tasks reflect the type of teacher she is, despite other teachers' perspectives not being taken into consideration.

**Unpacking Standards.** The first sub-themes of unpacking standards supported the larger theme of collaborative planning. Within the sub-theme, unpacking standards, several codes were identified: learning targets, learning progressions, backwards design, assessment adjustments, assessment analysis, and curriculum assessment alignment.



Unpacking standards was described by participants as a process that started with deconstructing the TEKS. The TEKS are the Texas Essential Knowledge and Skills in each content area. The eighth-grade social studies team of teachers unpacked the social studies TEKS during planning to create FAs and determine what their students needed to be able to know and perform at the conclusion of a unit of study. As the team collaborated during lesson design, they were able to unpack the TEKS to determine what their students really needed to know and understand by the end of each lesson. The social studies team agreed that certain standards required their students to demonstrate various levels of depth and knowledge. This required the team to further unpack the standards to determine the depth of the curriculum. One participant shared:

Our planning process where we've really focused on breaking down, deconstructing the TEKS. And making sure our test questions match up with the depth and level of the rigor of the TEK. The same thing with assessments and I'd say quizzes as well (Teacher 2).

The focus of the curriculum was determined by the state standards (TEKS). This focus caused the social studies team to sort through the curriculum to pick out the unnecessary items and spend the majority of their time focusing on the most important items. During collaborative planning, it became clear that in order for teachers to unpack standards, they initially had to analyze what their students needed to know and be able to perform in order for their students to master the standard. Teacher 2 explained:

If we're looking at a TEK or concept that's overarching, that kind of goes on throughout different six weeks... First off, is the TEK. Are we meeting the rigor that it's at? And second, okay, this is the question now going forward as a group we all know that this is how we need to teach it.

Unpacking standards further led the social studies team to examine the important prerequisite skills that their students needed in order to master performance of the TEKS. These prerequisite skills were known as learning progressions. The eighth-grade social studies team agreed that there were important skills that their students needed to know and be able to perform in order to move from one level to the next. With regard to learning progressions, one participant shared, “And then on top of that we always discuss vocabulary terms that we think might be difficult during that unit. And how knowing those vocabulary terms are imperative to understanding the concepts” (Teacher 4). This statement further validated that students’ knowledge of or lack thereof important vocabulary could provide a big picture of what they needed to learn. The social studies team agreed that vocabulary could be essential to students’ depth of understanding concepts that arose within each unit. The social studies team also understood that vocabulary was not the only skill that students needed to master prior to understanding important new concepts. There were additional concepts within social studies that students would continue to see throughout their school career that would increase in complexity and reinforce their previous learning. The instructional specialist elaborated while facilitating the focus group interview:

You know I like that because, in history, there are a lot of common threads. So, the spiraling of information, so in future lessons, you know from the previous concept that you know that you got to change something for this because a lot of what we do, there’s some spiraling going on. And it’s not just vocabulary. It’s spiraling of concepts. It’s spiraling of skills.

Through collaborative planning, the social studies team was able to establish clear learning targets, along with effectively communicating those learning targets to their students. The type of learning target consistently mentioned by the team was the TPO

(Three-Part Objective). The participants agreed that beginning each lesson with the TPO was essential to students understanding the purpose of each lesson. The TPO not only helped teachers effectively monitor their students' progress, but it also allowed students to understand what they need to know and be able to perform to demonstrate mastery during learning. The use of the TPO provided clarity to students regarding what they learned, in addition to why they learned the concept. One teacher shared:

For the learning objective and the learning goal, what we do is every day, we have the TPO, three-part objective. And that is we try to discuss it. I try to discuss with them (students) basically what we're going to be doing that day (Teacher 2).

Initially, collaborative planning began with the social studies team unpacking the standards to determine what would be the focus of each lesson. Eventually, collaborative planning led the social studies team to discuss the EQ (essential question), along with key vocabulary that would guide the lesson. It was through the EQ that students would ultimately be able to demonstrate a conceptual understanding of the learned concept. In addition to the social studies team using TPOs at the beginning of each lesson, they also used the EQ to guide their instruction. By focusing on the EQ, teachers believed their students were focused on what they needed to know and be able to perform at the end of each lesson. Collaborative planning consisted of the social studies team utilizing backwards design while creating lessons and FAs. During lessons, these teachers consistently used the EQ to determine the educational goals that they wanted their students to achieve. By using this process, the social studies team was able to align what students were expected to know, determine acceptable evidence of student learning, and decide what instructional activities would be performed. One participant explained:

Here we have the EQ and TPO. The essential question and what we're going to do today. So, I'll introduce each lesson with the EQ. So, I'll let them know what

question we're aiming to answer for that day, so that students sort of have in mind what they need to learn when they walk outside, out the door, or what they should get (Teacher 4).

Collaborative planning led to the social studies team reflecting on their previous assessments needing to be adjusted for each unit or chapter of study. This type of reflection ultimately led to important assessment adjustments for the upcoming years. As the team unpacked the standards, they analyzed what their students needed to know and perform, along with determining the level of rigor during instruction. This process of constant reflection between members of the social studies team provided opportunities to better align and improve their curriculum, instruction, and assessment.

**Differentiated Instruction.** The second sub-theme of differentiated instruction supported the larger theme of collaborative planning among teachers. Within the sub-theme, differentiated instruction, several codes were identified: relational pedagogy, safe learning environment, student engagement, diverse learners, and learner struggles.

Through collaborative planning, the social studies team took into consideration the needs of their learners as they designed lesson to meet the individual needs of their students. These teachers demonstrated flexibility as they approached instruction by taking into consideration their students' unique needs. Not only did the social studies team meet the needs of their diverse students, but in particular worked to meet the needs of their struggling learners. The team discovered that one of the most difficult and complex tasks to perform was preparing for a class of mixed-ability students. All of the teachers on the eighth-grade social studies team had classes that consisted of gifted students, struggling learners, grade-level students, ELL students and special education students. Teacher 2 shared the struggles of teaching a mixed-ability class:

I think the biggest one is if we look at the situation as for what it is, we're really preparing for four very different types of classes. You know we have GT, and level one and the gap there isn't huge, but there's still a gap. And then the gap from level one to on level is huge and then in class support. So even with your classes, where it's on level and in class support, it's almost like having two different classes. So, you really have to think about it four completely different ways, if not more because your level one classes may be different. You may have one level one class this is a lot higher on the spectrum or you may have a level one class that's a lot closer to an on-level class.

Again, this statement validated that teaching a mixed-ability class is a complex issue for many educators. There were no data to support that the eighth-grade social studies team experienced great success in this area due to collaborative planning. Another participant shared:

But that's the biggest thing. That's what I was going to say too. Because with my experience, my two level one classes are so different from each other. One, I call it a high functioning on level and just being able to. I think that the disadvantage sometimes is being able to differentiate for those two classes. Not only do you have to differentiate for that, you also have to differentiate for your in-class support and those sometimes will look different. Also, time (Teacher 3).

This statement not only validated that the social studies team experienced difficulty teaching mixed ability classes, but also recognized the time that is needed to differentiate for mixed-ability classrooms is challenging.

The social studies team understood the importance of developing positive relationships with their students. This team of teachers also understood the importance of building these relationships and the influence they had on student learning during

instruction. The entire team understood the importance of creating a safe learning environment for optimal learning to occur. The teachers respected their students as individuals with regard to the students' diverse learning styles and abilities by establishing routines and procedures, having intentional classroom arrangements, and setting a positive tone between teacher and student. One of the daily routines that were established was the use of the TPO and EQ to articulate the learning objectives for students. The participants felt this helped their students know what type of learning was expected. The social studies team not only demonstrated the ability to build positive relationships with their students, but also utilized continuous and varied assessments to help inform their instruction and provide multiple ways for students to demonstrate mastery. Teacher 4's response reinforces her ability to create a safe environment for students, in addition to providing varied ways to assess her students.

Yes. I have and I've changed it (assessment) depending on the, or I've developed it depending on the students. I do a lot of questioning, so just quick questioning or one on one summaries. And so, I'll do it depending on the comfort level of the students and their comprehension level and their ability to spit the information back at me. If they're comfortable with questioning, we'll do that. If they're more in depth with conversation and they don't really get it in the questioning format, then we'll approach it in a summarization conversation piece.

This statement further validated the flexibility of the team to meet the individual needs of the students, while simultaneously creating a safe learning environment and providing multiple ways to assess students' learning during instruction. The participant demonstrated the ability to use questioning as a form of data collection as well as checking for student understanding. The teacher also realized that if students were not able to articulate their responses verbally, they may need to be given an opportunity to

respond in writing. Both instructional methods demonstrated ways that the teacher was able to collect data.

Time and experience were additional codes that emerged from the data regarding differentiated instruction. Both time and experience appeared to be constraints for participants during this study. Time was a concern for all teachers on the social studies team. There was also a concern with the time that it took to create and implement FA, as well as experience with the implementation and practice of FA. With regard to time, Teacher 2 shared, “I think for me, personally, some of the challenges have been, quite naturally, the time to do it (FA) correctly”. With regard to experience, Teacher 1 explained, “It (collaborative planning) could also be a challenge, I haven’t faced that yet, you know. I’ve only been here for two weeks”. This teacher consistently shared that she was new to the profession and lacked a lot of experience. In this case, experience referred to the amount of time that teachers have spent in the classroom. Time and experience went hand in hand to demonstrate that teachers were not as knowledgeable and consistent with the use of FA in their classrooms. This was also evident with the team’s inability to consistently differentiate in their mixed-ability classrooms.

### **Research Question # 2: Use of FA Strategies during Instruction**

The second research question stated: How do middle school social studies teachers use FA strategies during instruction? This section identified how teachers utilize FA practices during classroom instruction. The data were analyzed and assigned codes. The codes were categorized and placed into larger themes. This section further reported the major theme of reflective pedagogy as well as the two sub-themes of checking for understanding and metacognition. Both sub-themes supported the larger theme of reflective pedagogy. The theme and sub-themes emerged through many interview exemplars.

The first sub-theme, checking for understanding, included the following codes: student misconceptions, superficial FA, deep FA, pre-assessment, and summative assessment. The second sub-theme, metacognition, included the following codes: relevance, student prior knowledge, self-assessment, and student voice. This section began with the first major theme, reflective pedagogy, and then further explained the two sub-themes, checking for understanding and metacognition.

### **Reflective Pedagogy**

The major theme relating to utilizing FA strategies during instruction was reflective pedagogy. Collaborative planning ultimately led teachers to reflective pedagogy. Teacher efficacy of FA was enhanced through frequent reflection on the effectiveness of FA and instructional practices. The social studies team consistently reflected on the student understanding of concepts, in addition to re-teaching and necessary interventions to help students become successful. Reflection amongst the social studies team opened up the door for collaborative discourse to occur, leading to further improvements in FA instructional strategies. When challenges were shared, they were discussed, and the necessary revisions were implemented to improve instruction for their students. It was through reflection that the social studies team was able to identify areas where their students struggled. As a team, these teachers were able to determine the necessary instructional adjustments needed, in addition to the necessary interventions their students needed. The team was then able to collaborate and discuss the results of the interventions to determine if additional steps were needed. One participant shared:

We try to stop and look and go, how do we teach this the first time, where's the disconnect, what do we need to do to reteach this, or explain this concept in a different way or do a different activity in a different way or do a different activity in a different way (Teacher 2).



Teacher 2 further explained:

I think, in general, what we've learned is you cannot just stand back, you know. If something worked the year before, it may not necessarily work this year. You can't just, oh this is what we did last year and just throw it out. You really have to take a look at it and you really have to understand your kids and know that every year is different. Every class is going to be different.

These exemplar, expressed by one participant, validated that reflection occurred as a result of collaborative planning. These statements further aligned with the type of collaborative discourse that occurred, ultimately leading to reflective pedagogy. Through collaboration, this participant took into consideration previous data, along with current data to make decisions regarding his students.

**Checking for Understanding.** The first sub-theme of checking for understanding supported the larger theme of reflective pedagogy. Within the larger sub-theme, checking for understanding, several codes were identified: student misconceptions, superficial FA, deep FA, pre-assessment, and summative assessment. The one thing that was consistent among all the teachers on the social studies team was that they would regularly check for student understanding during instruction. Teachers either made the decision to reteach after discovering student misunderstanding or later decide to approach struggling students independently after instruction or invite these students to tutorial sessions. In all situations, teachers reacted to student misunderstanding, after checking for student understanding, by providing some type of intervention. During instruction, the participants would frequently use the thumbs-up/thumbs-down approach to survey the students' understanding of a concept. This information provided the teachers with an idea of whether students understood certain concepts. There were no data to support that the teachers on the social studies team

immediately reacted to student errors once recognized; however, the teachers would respond with after school or lunch tutorials to provide additional support. The teachers on the social studies team frequently used questioning to check for student understanding during instruction. Checking for understanding helped the team to determine if students understood the concepts being taught. Participants shared their perspectives on FA to check for student understanding. Teacher 1 explained:

I think it (FA) gives the teacher, especially in class of thirty-three, thirty-two a way to see out of the thirty-two what percentage's understanding. Am I teaching this the right way? How can I change it? How can I make sure that the other fifty percent is understanding it as well as catch up to the others?

This exemplar demonstrated how the teacher not only used questioning to determine if students understood concepts, but also used questioning as a means to reflect on her individual instructional practices.

Teacher 2 shared:

So, I really think it (FA) forces you to stop and look at where your students really are instead of, oh let's have a test at the end of this six weeks. Oh boy, they didn't do it, do well on it. Oh well. It's time to move on.

In summary, another teacher responded, "Extremely useful because it (FA) gives me information right then and there letting me know if the student understood the material or if they need further information or if they have to come into tutoring" (Teacher 3). All these statements further validated that the social studies team sought to know if their students understood concepts taught during instruction.

The social studies team demonstrated awareness that interventions would be necessary once students failed to understand concepts, clearly justifying that if students did not understand the way a concept is being taught, then the teacher must adjust the

way they taught the material to students. The social studies team would consistently teach concepts to their students, ask questions using thumb-up/thumbs-down/thumbs-sideways to determine if students felt they understood the concept. The team frequently used questioning methods to determine if their students understood after a concept was taught. The teachers would then observe students' responses to determine if they understood. Finally, the teacher would make sense of the students' responses to determine if mastery was achieved. One participant took the time to explain how she used thumbs-up/thumbs down to check for student understanding during the lesson.

When we do a quick, little, okay well thumbs up. Did you get it? Sideways or down? And so, based on their own indication and mine's, so I'll make an average. If I feel like they really didn't get it and they give me a thumb up, then maybe I'll give them I the middle. In doing it one on one, they're more open rather than questioning during the lesson, so they seem to respond well with that. And if they tell me to my face, yet they don't get it, then we talk about it (Teacher 4).

The social studies team also utilized the TPO and EQ as a means to check for student understanding in the beginning and end of each lesson. Teacher 3 responded:

We have an essential question at the beginning of class that we go over and we talk about our TPO, or three- part objective. We talk about the things that we will be discussing in class and at the end of class. In the middle of class, we talk about the EQ.

The team used the TPO and EQ to help students understand what they needed to know and be able to perform during the lesson. The teachers used multiple levels of learning targets to assess their students' progress on differing levels to better determine what their students needed to perform to reach mastery.

Checking for understanding revealed an experiential continuum of FA that was utilized by the social studies team. The experiential continuum of FA consisted of teachers' comfort levels and frequency of utilizing FA during instruction. The experiential continuum consisted of two levels: superficial FA and deep FA. Superficial FA included teachers use of thumbs-up/thumbs-down/thumbs-sideways to check for student understanding. Thumbs-up/thumbs-down/thumb-sideways was a common practice used by all members on the eighth-grade social studies team. In this manner, the teacher used questioning and surveyed student responses after a concept was taught. Whereas with deep FA, the teacher sought to gain a depth of student understanding or performance after a concept was taught. In this case, the teacher used quick writes, exit-tickets, or think-pair-shares with their peers. These forms of FA allowed their students to demonstrate their knowledge through writing, along with dialogue to further extend and validate student understanding. Further analysis of the data revealed that the social studies team used a combination of superficial and deep FA to check for student understanding during instruction.

Finally, checking for understanding revealed student misconceptions and allowed the social studies team to provide further clarification during instruction. As teachers checked for understanding during instruction, they were able to analyze student misconceptions to determine which students needed further instruction or interventions to successfully understand a particular concept. The social studies team agreed that it was essential to identify areas of struggle for students prior to giving summative assessments. One participant explained:

I think for us, we try to do it. It really kind of forces us to got to stop and go alright, this is what we've talked about so far. Do they really understand this or not? And so, we've been able to kind of stop and reevaluate, use this as far as

reteaching moments for pulling small groups, things like that. Trying to get those who are struggling to be caught up to where they are. So I really think it forces you to stop and look at where your students really are instead of, 'oh let's have a test at the end of this six weeks' (Teacher 2).

Visualizing and first-time instruction were additional codes that emerged from the data with regards to checking for understanding. Visualizing described how participants viewed their own instruction, whether it was the way they visualized themselves as teachers or simply their own perspective of pedagogy. Teacher 1 shared:

It (FA) gives you more of a visual. I am able to see at, okay, table seven, three of the four understand it. Table six, two of the four. Table one, all four understand it. So, since I'm more of a visual learner, I get to see, okay, the back of the classroom is struggling.

This statement confirmed that the teacher used FA to make sense of her students' understanding. She also wanted to make sure that what she observed about student mastery was reliably visible. First-time instruction referred to instructional practices and additional considerations, including FA, that led to successful student learning prior to the need for instructional adjustments outside the designated instructional period. The instructional specialist shared:

So, I think that (spiraling of skills) definitely has an impact on what future lessons, what they look like and the design. Because our main focus for first-time instruction is lesson design.

This exemplar emphasized the importance of the prerequisite skills or learning progressions needed due to social studies concepts constantly overlapping from unit to unit. Student prior knowledge was something that had to be taken into consideration during collaborative planning.

**Metacognition.** The second sub-theme of metacognition supported the larger theme of reflective pedagogy. Within the larger sub-theme, metacognition, several codes were identified: relevance, student prior knowledge, self-assessment, and student voice. The social studies team of teachers felt that FA not only helped them to make informed decisions about what to do for their own teaching practices, but it also helped with their students' metacognition. One teacher shared:

I just think that it's (FA) good for both students and teachers because it's not something that is so formal and it's a quick, easy way to assess if they're getting the information. So, I think that for both teachers and students, it's not as stressful as, you know, STAAR or a unit test or something like that (Teacher 3).

These teachers used feedback that was provided by FA data and their interaction with students to improve students' metacognition. The team used the TPO and EQ to prompt their students' metacognition. Teachers found it essential to prompt students for what they were going to learn that day. Even more importantly, the team prompted students at the end of the lesson to ensure that learning actually took place. Teacher 2 explained how the team used the TPO and EQ to enhance students' metacognition.

For the learning objective and the learning goal, what we do is every day we have the TPO, three-part objective. And this is we try to discuss, I try to discuss with them basically what we're going to be doing that day. And then with the essential question, that is something that we've taken to adding to our spiral notebooks as well as discussing in class and making sure there's a process. And the essential question, now we let them know at the beginning this is basically what you need to be able to understand and know by the end of the day. I need to be able to look at your work or listen to the discussion or talk to you one on one (data via observation). And be able to know that you truly understand this by being able to

answer the essential question. So, letting them know that at the beginning of class and instilling it in their head has really helped them focus on, again that whole thing, what they need to know by the end of the lesson or the end of the day.

The social studies team used learning targets and essential questions to help their students understand what they needed to know and be able to perform after instruction.

Metacognitively, this allowed their students to respond to the feedback, self-monitor, and reflect on their progress toward the learning goal. The team consistently shared the learning target (TPO) and EQ with their students at the beginning of each lesson so that students understood exactly what they would be learning. The social studies team of teachers understood the importance that metacognition played in effective teaching. With regard to reflective pedagogy, these teachers collaboratively planned lessons, presented and evaluated the curriculum they taught to their students, while reflecting on their own teaching processes. The social studies team consistently utilized metacognitive strategies to help their students with their understanding.

The social studies team also understood the importance of relevance in combination with student metacognition. The team would use the TPO and EQ to make lessons personally relevant to their students by providing students with learning experiences that were applicable to the personal aspirations, interests and cultural experiences of their students. Teacher I shared, “After that, we’ll go on to the EQ, the preview question. And it is usually like a reflecting on their lives. Like okay, think of a time where you had to do x, y, z”.

Additionally, the social studies team understood that their students came to the classroom with a broad range of pre-existing knowledge, skills, and beliefs. More importantly, the team understood that these factors impacted their students’ future learning. The social studies team realized that if their students had accurate prior

knowledge, they would be able to retain the new knowledge being presented during instruction. For the social studies team, it was essential for them to assess their students' prior knowledge before instruction, since that knowledge would either promote or hinder learning.

### **Research Question #3: The Influence of Planning FA**

The third research question stated: How does planning for FA influence teacher efficacy during instruction? This section identified the findings of how collaborative planning influenced teacher efficacy of FA. These findings were analyzed and assigned codes. The codes were categorized and placed into larger themes. This section further analyzed the two major themes of collaborative planning and reflective pedagogy as well as the two sub-themes of data collection/data analysis and instructional adjustments. Collaborative planning and reflective pedagogy slightly differed from the way these themes were previously identified. The researcher further identified how collaborative planning influenced teacher efficacy. With regard to reflective pedagogy, the researcher previously identified teacher reflection during collaborative planning instruction. In this section, the researcher identified how teacher reflection occurred after instruction. The researcher pointed out how teachers reflected on student data after collection and determining the necessary instructional adjustments. Both sub-themes supported the larger themes of collaborative planning and reflective pedagogy. The theme and sub-themes emerged through many interview exemplars.

The major themes found in the third research question on how collaborative planning influenced teacher efficacy of FA were collaborative planning and reflective pedagogy. Collaborative planning proved to be beneficial to all teachers by allowing them to design lessons, increasing their pedagogical skills and instructional strategies. In addition, collaborative planning further led to increasing teachers' overall confidence



regarding instructional practices. Collaborative planning allowed teachers to share their diverse perspectives and instructional expertise with the group, not only increasing individual teacher efficacy, but also the efficacy of the entire team. Through collaborative lesson design, the social studies team was able to plan daily lessons, analyze student data collectively, and make instructional adjustments for upcoming lessons, in addition to creating FA.

Collaborative planning influenced the sources of teacher efficacy and became the ideal platform for teachers to view one another as experts. This aligned with collaborative planning allowing verbal persuasion to occur. The social studies team took into consideration input from both novice and veteran teachers. All input was welcomed and used when making decisions involving their students. During the focus group interview, Teacher 1 shared:

I think that also kind of being a first-year teacher, I started off with all my classes with the basic thumbs up, thumbs down if you're understanding it, sideways thumb. I think now I've been able to kind of move on past to higher levels of thinking, open ended questions. Whereas in my other ones (classes), I'm like okay slowly progressing to that doing other types of formative assessments.

Collaborative planning also provided the team with the opportunity to compare instructional practices with their colleagues. This provided teachers with the opportunity to reflect regarding their own instructional practices, in addition to discussing those practices that did not go well. Either way, teammates were able to gain professional learning opportunities through these collaborative planning sessions. All of these opportunities provided the team with vicarious experiences. Collaborative planning allowed teachers to experience success with FA practices. Metacognitively, teachers reflected on their own thinking and pedagogical processes. As they utilized FA, they

were better able to identify those students that struggled and take the necessary steps to intervene. Collaborative planning provided direction for these teachers. The social studies team realized that the most essential piece of planning was beginning with the TEKS. It was important for the teachers to know what learning was required of students first. The team relied heavily on Backwards design to guide their lesson planning process. The more the social studies team used FA during instruction, the more comfortable they were with continuing to utilize it, as well as discussing ways to better utilize FA to assess student understanding. All of these findings aligned with mastery experiences. Teacher 2 shared, “As a team looking at the EQs, see the essential questions together. Looking at first is it matching up with the TEK and is it that what we need them to know for that particular unit lesson”.

Finally, collaborative planning and reflective pedagogy was evident as teachers collected and analyzed data, along with making the necessary instructional adjustments during teaching. The social studies team primarily used questioning to poll their students and gather immediate feedback in response to the questions asked. The social studies teachers created FAs based on the learning objective or TPO, then polled students to determine the learning needs of the classroom and individual students. The teachers frequently used thumbs-up, thumbs-down, thumbs-sideways to gather responses from their students. The team also shared additional methods to gather student data. Teacher 4 shared:

Gathering data, we have tracking sheets for those students that are in small groups, but occasionally even for students that aren't in my specific small groups. I'll jot down, if I feel like they need a little bit more help so that during the same day, after the small, after the mini lesson, I can go to them so I'll just write it down so that I can remember or I can come to them and work with them one on

one at their table with the lesson and see if they need to come, you know, for lunch or tutorials for their help.

The social studies team also used observations to collect data. Through observations, the eighth-grade social studies team was able to collect and analyze data to determine if instructional adjustments were needed. These observations were typically performed as students were engaged during the lesson or classroom discussions. Teacher 3 explained:

It's (FA) quick. It's (FA) a quick assessment. They know right then and there if they know, based on my incentives or based on their grades or based on me giving them a thumb up or thumb down if they got the information. Did they receive the material or if they were able to give the information back to me?

The team used classroom discussions in the form of whole class, small group, or one on one to collect data regarding student learning. The instructional specialist shared his previous experience with data collection with the team during the focus group interview.

As we were walking around the classroom, we did it (checked for student understanding) mentally, but not necessary, you know, thumbs up, thumbs down, sideways, check-ins. Not necessarily that way, but just by observation, by approaching the student one on one. You know, as opposed to what we plan for now, which is small group. But, approaching the student one on one and questioning, you know, individually that student and talk to him.

Through interactive lecture and discussion, these teachers were able to dialogue whole class or with individual students regarding a specific topic.

An important component of reflection that the social studies team used was data analysis. The team took time to reflect on student data to determine students' strengths and weaknesses on concepts. Through this process, the team was able to have an in-depth look at assessments, in addition to analysis of student performance. This process

allowed teachers to be able to identify standards that students struggled with and adjust curriculum and instruction to meet their students' needs. One participant describes the process that he used to analyze student data:

For the test, we do gather data. I do a breakdown of the different questions and the different class period. And so, I can see, I can compare my classes and see what classes struggled with different concepts or what classes did better with that and I share this information with the students. They need to be aware of not only what did you struggle with, but the flip side. Guys, you really rocked this. You really did great on this particular section. So, let's close that gap between what we're getting and what we're not getting. Same things with smaller types when we do our weekly quizzes. I keep track of those and I can use that to kind of go back and again target the students who are kind of missing it and help them get caught back up (Teacher 2).

The social studies team consistently referenced using the TPO and EQ to guide students' learning; however, there was no information to determine if the team provided written feedback to help students achieve the lesson goal or learning tasks. One participant shared the importance of giving students immediate feedback regarding grading their assessments. "When it comes to all the daily grades and quiz grades, I try to get them graded in a timely manner," said Teacher 1. In this case, the teacher associated feedback with grades. However, this teacher understood the importance of giving students immediate feedback regarding assessments. She emphasized the need for students to know immediately how they performed during a task and not waiting a few days or weeks to provide students with the support needed to make the necessary changes in their learning.

After data were collected and analyzed, the social studies team made the necessary adjustments to give their students the best chance to master the learning objectives. The team consistently used remediation activities as the primary form of instructional adjustments. Remediation often came in the form of additional assistance from the teacher, where the teacher would give the student additional practice to meet the learning objective. Teacher 2 described how he made instructional adjustments once he discovered that his students struggled:

And then with those who are really struggling try to pull them, whether it would be like a formal small group, or just kind of an informal thing to my desk and offer them to come to tutoring a lot of times to where we can work on things that they've been struggling with.

The social studies team utilized tutorials as well as small groups to make instructional adjustments for those students that failed to meet the learning objective. The teachers made adjustments and improvements to the curriculum, with each member building their individual teacher efficacy of FA, ultimately strengthening the entire team. Teacher 4 explained:

So, planning. When we're doing our team planning, sometimes we'll talk about, well what are we going to do about the lower level students and then side planning after we've broken up and we are doing our own things. Just make the adjustment like during the day, I guess. You know, if I really see that they are so struggling, pull them aside or sometimes, somewhat alter the lesson or also alter the assignment for them if they're having a difficult time, you know, giving me the questions one by one, we'll give me a summary or we'll meet in the middle so that we can reach the students' capabilities.

The data did not reveal if the team used enrichment activities to make instructional adjustments for those students that met or exceeded the established learning goal.

### **Summary of Findings**

The social studies team agreed that FA was important because it provided them with important information about student learning; however, the team did not have a consistent definition or approach to using FA during instruction. This finding aligned with Heritage's (2011) suggestion that teachers may lack agreement on what constitutes as FA in teaching. This finding further verified that some teachers neither understood the FA process nor do they implement it with consistency. The social studies team of teachers did not receive extensive training on FA. Some of the team members had practical experience using FA, while others had limited exposure.

The social studies team incorporated some of the components of the process of FA during instruction. The teachers consistently used the TPO and EQ to guide their students' learning at the beginning of each lesson. This practice confirmed Marzano's (2011, 2013) research which supported that teachers communicating the learning goals to students should include describing what students will learn, in addition to how they will learn the material. The team consistently used questioning during instruction as a means of checking for understanding and collecting student data. This was done frequently through the use of thumbs-up/thumb-down to poll/survey students' understanding of concepts recently taught. The team did not consistently provide their students with feedback regarding how they were progressing toward the learning target. Team members associated grading with giving students feedback. Black and Wiliam (2009) suggested that students need to know where they regarding the learning objective, along with where they need to make the necessary adjustments. In addition to struggling with giving students feedback, the social studies team also struggled with differentiating for

their mixed-ability classes. This aligned with Dixon et al.'s (2014) findings regarding teaching mixed-ability classrooms can be difficult and complex for most teachers. The challenge is not only to teach the gifted as well as struggling learners, but also the grade-level students. These finding further supported that the team utilized remediation frequently as a form of instructional adjustment during instruction. Teachers also provided their students with additional practice in the form of small groups or tutorials when students failed to meet the learning objectives.

## CHAPTER V

### SUMMARY OF FINDINGS, IMPLICATIONS, AND RECOMMENDATIONS

The researcher analyzed and explained how a team of four middle school social studies teachers planned and implemented FA practices during lesson design and instruction. This study delved into teachers' ability to effectively utilize FA during instruction. It was determined that teachers' ability to effectively use FAs during instruction was contingent upon teachers' knowledge of the FA process. Four social studies teachers at a Southern United States middle school were interviewed, and the data were further analyzed to answer the following research questions:

1. How do middle school social studies teachers plan for FA during lesson design?
2. How do middle school social studies teachers use FA strategies during instruction?
3. How does planning for FA influence teacher efficacy during instruction?

This qualitative case study utilized interview protocols to further analyze how teacher collaboration influenced their ability to create FA during lesson design and explain when, why, and how these teachers implemented FA during instruction. Individual interviews were conducted for the teachers on the eighth-grade social studies team, along with one focus group interview. Data from the individual and focus group interviews were analyzed for triangulation.

FA is a strategy that has been proven to improve student achievement when teachers implement it simultaneously with best practices (Black & Wiliam, 2009). There is much debate about the degree of teacher efficacy of the FA process (Burns & Foo, 2013; Crossouard & Pryor, 2012; Dunn & Mulvenon, 2009; Torrance, 2012). The lack of teacher knowledge, as well as the lack of teacher efficacy of the FA process is partially



related to the inconsistent implementation of FA in classrooms and schools. The effectiveness of the FA process is contingent upon the teacher's perspective of the use of FA (Frohbieter, Greenwald, Stecher, & Schwartz, 2011). Many teachers may not be obtaining optimal student learning results in the classroom due to their inconsistent implementation of the FA process, along with best practices (Bennett, 2011).

The findings from the individual and focus group interviews were consistent with Bandura's (1997) Social Cognitive Theory (SCT). SCT suggested that teacher efficacy is shaped by the support and influence of a teacher's work environment. With regard to this study, the social studies team, through collaborative lesson design, shaped teacher efficacy of FA practices. Teachers learned through contextually-appropriate and social experiences. The majority of the social studies team work day was spent either in the classroom with students or working collaboratively with their colleagues. Their work environment consisted of students, fellow colleagues, and administration. Collaborative planning was an influence on teacher efficacy of FA, further leading to reflective pedagogy. Collaborative planning provided opportunities for verbal persuasion, vicarious and mastery experiences for members of the eighth-grade social studies team. These findings were consistent with Bandura's (1997) SCT that teacher efficacy was shaped by the support and the influence of their environment. In this case, the influence was that of teachers' colleagues.

### **Summary of Findings**

#### **Q1. How do middle school social studies teacher plan for FA during lesson design?**

The social studies team determined that it was extremely important to begin with the state standards and summative assessment. Beginning with the TEKS gave the social studies team a sense of direction. The team realized that the standards needed to be unpacked to determine what students needed to know and perform in order to master the

content. Because state standards are intentionally broad and do not represent the details required for lesson planning, they need to be unpacked before instruction is planned (Konrad et al., 2014). The team also understood that there were certain prerequisite skills needed in order for students to successfully meet the learning objectives of the TEKS. These prerequisite skills or learning progressions were a sequence set of subskills that students must acquire prior to mastering a more focused target curricular aim (Popham, 2008). These learning progressions served as stepping stones in order for students to be successful. In this case, vocabulary and spiraling concepts were the learning progressions that activated students' prior knowledge. Participants also took into consideration the depth of knowledge needed by their students in order to demonstrate mastery. After unpacking standards, the team was able to create their TPOs. The team used the TPO to check for student understanding during the lesson. The team also understood that the TPO would help to guide students' learning so that they understood what was expected of them once the lesson was complete. Clear learning targets helped students understand what they need to know and do, which helped them respond to feedback, self-monitor and reflect on their progress and develop a sense of responsibility (Konrad et al., 2014).

The team understood the importance of Backwards design during planning. In addition to using the TPO, participants frequently used the EQ to guide student learning during the lesson. Teachers used the EQ to determine what students should know and be able to perform at the end of each lesson. The team also planned with summative assessment in mind. By understanding what these teachers needed their students to know at the end of each unit, they were better able to create FA to assess their students' understanding along the way. According to McTighe and Wiggins (2013), identifying desired results helped the teacher focus instruction on the big ideas, or targeted content, of the unit minimizing the potential to incorporate nonessential information into the unit.

The social studies team understood that their students had diverse needs; however, they struggled with differentiation within their mixed-ability classrooms. This finding aligned with Dixon et al. (2014) that teaching mixed-ability classes is a difficult and complex issue for many teachers. Teachers that do not recognize ways to differentiate or who do not feel capable of instructing different groups at the same time struggle with differentiated instruction (Dixon et al., 2014). Participants felt they were able to provide their students with a safe, risk-free learning environment. These teachers' abilities to build relationships with their students allowed them to better support their students during instruction.

Participants also took their students' misconceptions into consideration during planning. Guskey (2015) explained that when planning instruction and designing curriculum, teachers should anticipate learning difficulties students are likely to have and address these difficulties directly. The participants understood that student misconceptions can be persistent and present potential gaps in student knowledge that would continue to spread if the misconceptions are not addressed.

## **Q2. How do middle school social studies teachers use FA strategies during instruction?**

The social studies team used direct instruction in conjunction with interactive lecture during instruction. Participants frequently used the TPO and EQ to articulate the learning objectives for their students, demonstrating that they used some of the components of the FA process. Teachers were able to collect data through questioning and observations during instruction. One frequently used technique was thumbs-up/thumbs-down/thumbs-sideways. This technique was an informal way to check for student understanding and probably not a reliable reference because students could look around the room and easily move their thumb based on how other students responded to

questions asked. It is through this process that teachers were able to determine if their students felt they understood the concept that was taught. This informal data collection method lacked reliability and could mislead teachers to believe that their students were ready to move on to a different concept due to possible misinterpretations of the data collected. Participants also shared that they utilized tracking sheets and checklists to collect data during instruction. These data collection practices allowed teachers to collect data via observation. According to Dunphy (2010), observations give teachers the opportunity to analyze students' learning needs to determine if remediation or enrichment is needed. These strategies allowed the teacher to determine which mistakes students were making on an individual basis. Data collected led to teachers offering remediation as a form of instructional adjustments; however, it seldom led to the team offering students enrichment opportunities. As teachers made instructional adjustments, it seemed to occur after first-time instruction had already taken place, rather than in the moment of the learners' struggles. This lends to the idea that teachers were wasting time attempting to collect data if they did not act upon this data to improve student learning in the moment. Students need to know where they are with regards to the learning objective and where they are going to be able to make the necessary adjustments. Lemov (2015) emphasized the importance of teachers being able to address student misunderstanding before they leave the room and the lesson is over, because student understanding would become more entrenched and gather further misconceptions. Without feedback, teachers collecting student data is irrelevant (Black & Wiliam, 2009).

Because there were limited data to show how participants used feedback regarding students' progress toward the learning objective in the classroom, it was difficult to determine if this component was used effectively during instruction. Teachers often referenced feedback in the form of grades. Assigning a grade should not be the

only type of feedback that teachers provide during the FA process. Using data collected primarily for grades is one of the barriers to implementing the FA process (Heritage & Chang, 2012). According to Wiliam (2010), teachers should provide students with grades and take time to assign grades in lieu of collecting data and using the time grading to develop interventions to focus on student learning. Again, this idea aligned with the social studies team not being able to optimize first-time instruction by providing students with feedback toward the learning objective in order to correct student misunderstanding as it occurs. Feedback was an area that was most inconsistent. Participants rarely gave feedback to their students, and feedback given was not descriptive. The feedback often came in the form of grades, resulting in superficial feedback and not informative for students. Feedback should be content focused. It should be focused on content so the student knows how to close the gap between current performance and mastery (Hattie & Timperley, 2007).

**Q3. How does planning for FA influence teacher efficacy during instruction?**

Collaborative planning provided various sources of efficacy for teachers. Collaborative planning was a platform that afforded multiple opportunities for colleagues to give verbal input to one another regarding the lesson, particularly regarding the successful implementation of instructional strategies. Through collaboration, teachers were provided with opportunities to improve their development and implementation of FA practices, creating a platform for the development of teacher knowledge and efficacy of FA. Participants did not share having the opportunities to observe one another; however, collaborative discourse allowed the team to share successful implementation of FA practices with one another. These discussions provided colleagues opportunities to judge their own confidence of performing FAs in their classrooms. Collaborative dialogue provided teachers with the opportunity increase teacher knowledge and efficacy

of FA. According to Askew and Lodge (2000), dialogic feedback is a term that has been used to describe the learning conversations that provide feedback for teachers in classrooms. Dialogic feedback is a collaborative peer coaching practice that can support teachers to build leadership capacity as they inquire into practice with colleagues. This form of thinking together is based on a dialogic process where teachers take up authoritative positions activating their own learning and the learning of others (Charteris & Smardon, 2014; Charteris & Smardon, 2015). As the participants discussed individual successes and failures, they were able to provide effective instruction for their students. Although teachers did not receive any formal training in the FA process, collaborative planning provided the team with opportunities to gain knowledge and improve the use of FA in the classroom. Through collaborative planning, teachers were able to gain confidence in the use of FA by listening to colleagues, then later using those strategies in their classrooms. As the social studies team became more proficient in the use of FA in the classroom, their efficacy was enhanced by these mastery experiences.

Because there was inconsistency regarding how some of the team viewed FA, the level of efficacy of FA varied from teacher to teacher, class to class. The Social Cognitive Theory (SCT) suggested that teachers learn through contextually-appropriate social experiences (Bandura, 1997). In addition to working with students, the social studies team of teacher spent a significant amount of time with one another on a weekly basis. The team was able to learn from one another as they shared experiences, and modeled behaviors during collaborative planning. A collaborative culture was established and maintained to support the team and negate the struggles of individual teachers. As teachers felt empowered to improve the learning of their students, teacher efficacy and confidence were enhanced.

Collaborative planning created the ideal conditions and opportunities for the social studies team to reflect on the decisions they made regarding curriculum and instruction. Collaborative planning created the ideal platform for teachers to be able to share ideas about teaching based on their classroom experiences and professional learning. The social studies team would debrief to determine if students mastered the TEKS at the end of each unit and lesson. The team also reflected about important vocabulary and spiraling skills that student would need to know in order to be successful in each unit of study. Reflection caused participants to discuss the depth of knowledge that students need to be able to perform the TEKS. Ultimately, this led to the creation of TPOs and EQs to assess students' knowledge, in addition to informing students of what they needed to know by the end of each lesson. Analysis of student assessment data eventually led to making instructional adjustments to ensure that students were successful meeting the TEKS. Popham (2010) explained that when the teaching methods in a classroom are adjusted after collecting student data, students have a better chance of mastering the learning objectives.

This qualitative case study can be utilized by schools in various settings: urban, suburban, and rural. This study did not focus on teacher or student access to technology or measure the impact of FA on student achievement. The researcher sought to analyze how teacher collaboration influenced teacher efficacy of FA. This study could be replicated in any setting. FA is a process where student performance is assessed in an ongoing fashion: teachers articulate a clear objective, collect and analyze student-learning data, provide feedback, and develop alternative interventions in a continual cycle (Heritage & Chang, 2012). FAs can have a positive impact on student learning when implemented with consistency and commitment (Bennett, 2011). If teachers lack the confidence and knowledge of the FA process, they may abandon FA before their skill in

creating and implementing FAs has a chance to develop (Van Den Bergh et al., 2013; Volante & Beckett, 2011). The participants have demonstrated some of the components of the FA process during planning and instruction; however, the findings of this case study revealed that teachers were not always consistent with the process of FA. For the most part, the teachers used the TPO and EQ to articulate the learning objective to their students. They were also able to collect data through observations, questioning, as well as checklists. Teachers often associated feedback with grades. Often times, marking and grading papers are overemphasized by teachers while giving useful feedback was underemphasized (Heritage 2010; Schomoker, 2012). Although the participants demonstrated the capacity to develop alternative interventions, it was typically in the form of remediation, rather than enrichment. This aligned with the challenge that many of the teachers struggled to differentiate with mixed-ability classrooms. The findings of this study demonstrated the need for teachers to work collaboratively to plan FA, discuss student data, and anticipate the necessary instructional adjustments during lesson design in order to improve student learning.

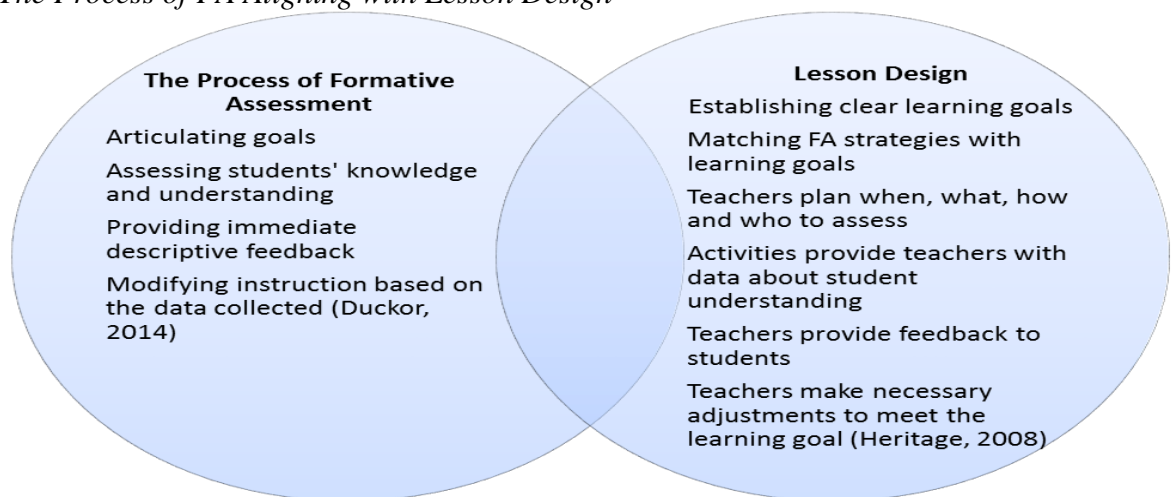
### **Implications**

There were many implications for teachers, school administrators, and district administrators regarding teacher efficacy of FA within the classroom. Although teachers were able to implement different components of the FA process, they will need professional learning opportunities that will lead to full implementation. Black and Wiliam (2009) shared that many teachers lack the ability or training to utilize FA effectively. Many teachers do not understand all of the components of the FA process or even realize that FA is a process. Teachers will need to receive staff development that not only explains the steps to the FA process, but also gives practical strategies and examples of what each component looks like. In order to promote the use of FA in



districts and on campuses, district polices should include professional development with administrators and teachers on how to effectively implement the FA process. In addition to receiving professional development, teachers must then work collaboratively to plan lessons using the FA process as a framework for planning. By using the FA process as a framework for planning, teachers would be able to have clear plans that show how teachers would use each of these components during planning and ensure that FA is being used in a consistent manner on a daily basis in each classroom. Figure 3 displays lesson design aligning with the FA process. Professional learning would also help to ensure that FA practices are implemented consistently during instruction in all classes. It is critical for teachers to understand that the FA process consists of some of the similar components they currently implement, but also looks differently than the FA practices that they use in their classrooms.

*Figure 3. The Process of FA Aligning with Lesson Design*



The team demonstrated the ability to articulate clear learning objectives, as well as the ability to utilize strategies to collect and analyze data. The team struggled to consistently give feedback during the lesson because they often associated feedback with grades. In order for FA to be effective, learning goals must not only be articulated and

understood, but there must also be frequent feedback about how students are advancing to meet these goals. Teachers must understand that optimizing first time instruction is critical to the FA process and that instructional adjustments must occur as soon as the learning struggles have been identified. The participants were willing to make instructional adjustments after the class period had ended by offering students opportunities for tutorials afterschool or during lunches. The teachers would eventually utilize small group instruction as a result of the data; however, the small groups would occur the following day or during tutorials. Teachers must understand how to make instructional adjustments in the moment that students' struggles have been identified, rather than respond at the end of instruction. This process would optimize first time instruction and capture a wider range of student learning struggles. Teachers will still need to create a common language and consistent definition of FA, plan with the FA process as a framework, practice implementing FA, and provide opportunities for professional learning and support that will allow teacher efficacy to be enhanced.

In addition to receiving professional learning opportunities for the FA process, teachers also need further training on differentiated instruction. The social studies team experienced difficulties reaching a diverse group of learners within their classrooms. Dixon et al. (2014) shared that any classroom with more than one student present a range of diverse learning needs causing many teachers to struggle to provide all students with the type of learning activities that work best for them. The social studies team struggled to meet the need of students in mixed-ability classrooms. Experienced and novice teachers need professional development opportunities that will provide them with the support and opportunities to practice the FA process to ensure success. Professional development opportunities for effective differentiated instruction must help teachers understand the conceptual approach to teaching that involves analysis of learning goals,

continual assessment of student needs, and instructional modifications in response to data readiness levels, interests and learning profiles (Brimijion, 2005). Incoming teachers in the field of education should have background experience in the FA process and differentiated instruction through their teacher education programs.

### **Recommendations**

This qualitative study could be expanded to the K-12 setting to extend findings beyond the sample of eighth grade social studies teachers. The expansion of a similar study with all grade levels and different content and subject areas could either validate these case study's findings or reveal additional findings that support the influence of collaborative planning on teacher efficacy of FA. This study is not limited only to middle school teachers, but all teachers and campuses intending to improve student achievement. This study could also be replicated on other middle schools of high numbers of economically disadvantaged students, as well as low numbers of economically disadvantaged students. There could be additional research on the impact of teacher efficacy of the FA process within economically disadvantaged campuses. These studies could provide additional research regarding teacher efficacy of FA practices with schools struggling to meet the learning needs of students.

Collaborative planning led to reflective pedagogy as well as influence the social studies teachers' efficacy of FA practices. Even though teachers on the social studies team did not always implement all of the components of the FA process, they were more than willing to use FA practices that allowed them to check for student understanding and provide students with a sense of direction during instruction. Collaborative planning provided multiple opportunities for teachers to discuss student learning outcomes, reflect on instructional practices, and make the necessary adjustments to lessons based on the student data. The team demonstrated a willingness to implement instructional and

assessment practices that were student centered; however, they relied heavily on those practices that they were most comfortable implementing. Based on these findings, campus administration and teacher leaders must provide teachers with the necessary staff development opportunities that would expose teachers to the components of the FA process. Teachers not only need to understand that there are several components to the FA process, but also be exposed to practical applications of each of the components of the FA process. It is important that campus administration and instructional specialist equip teachers with some practical strategies of each of these components to demonstrate what FA looks like as teachers plan, as well as FA strategies during instruction.

The social studies team was willing to put forth the necessary effort to support struggling learners; however, teachers failed at getting their students that were competent in the same concepts to higher levels of understanding. This was consistently reflected in the data by teachers utilizing remediation as the primary form of instructional adjustments. It was evident that teachers struggled with planning and assessing students in mixed-ability classrooms. This became apparent during first time instruction, whereas teachers often made instructional adjustments after the lesson was taught as opposed to during instruction. The FA process gives teachers the opportunity to differentiate the class beyond those students that struggled to understand a concept and those students that demonstrate competence in the same concept. Based on these findings, teachers must not only utilize Blooms Taxonomy (Anderson et al., 2001) and Webb's (2002) Four-Level Depth of Knowledge as a framework for unpacking content standards and planning, but also as a framework for differentiated instruction. Additional staff development opportunities would help teachers not only increase the level of rigor for learners that understand taught concepts, but also give these students an opportunity to assist struggling learners to better understand taught concepts.

The data collected from the four social studies teachers provided confirmation that teacher knowledge of the FA process was inconsistent; however, teachers utilized various components of the FA process. Although teachers did not always implement all of the components of the FA process, teacher efficacy was influenced as a result of collaborative planning. The team was also inconsistent regarding when, why, and how they implemented FA during instruction. When implemented consistently and with fidelity, FA can have a positive impact on student learning (Black & Wiliam, 2009). The teachers interviewed in this study acknowledged the benefits of FA for student learning but did not always plan or implement these practices during instruction. The participants understood the importance of learning targets and consistently used this tool, along with the EQ to articulate the learning goals for their students. The participants used questioning and activities to collect student data during instruction. The team was not as consistent with providing their students with descriptive feedback in relation to the learning target. Students did not always receive feedback from their teachers; however, by students using the TPO and EQ on a daily basis, they were able to gain frequent feedback in a self-reflective manner and develop metacognitive processes that improved students' learning. Even though the social studies team consistently used remediation as the form of instructional adjustment, the TPO and EQ guided students in their own learning, allowing them to make their own instructional adjustments. This confirmed that FA is a process that involves both the teacher and students.

More professional development opportunities would lead teachers to use instructional practices with which they are less familiar, and support teacher practice to lead to successful implementation. Professional development experiences would provide this team of teachers with opportunities to be constant learners, increasing results in student achievement by improving their FA practices and reflecting on their own

pedagogy. According to Black and Wiliam (2009), additional professional development opportunities to gain a deeper knowledge of FA can have a positive effect on teacher use of FA. Participants also need additional support to assist them with being able to differentiate students' learning processes based on student interests, needs, and skills. Dixon et al. (2014) explained that professional development opportunities must not only introduce the topic of differentiation, but professional development must also allow teachers to practice the strategy in a workshop setting in the coach or instructional specialist helps them write and review their own lessons, assuring them of greater success in the classroom. If districts and campuses value differentiation enough to devote time to ensuring teachers are knowledgeable, it is extremely important they are vigilant in requiring the implementation of differentiation when teachers return to their classrooms (Dixon et al., 2014). Districts and campus administrators and teachers must understand that FA can have a positive impact on student learning; however, it is equally as important that professional learning occurs to establish a common knowledge and language, in addition to what the FA process will look like in every classroom. If districts and campuses fail to do so, teachers will remain inconsistent with their knowledge and practice, but more importantly their efficacy of the process may decline. This will continue to create barriers to the effective implementation of FA and its effectiveness on student learning. Districts and campuses need to take into consideration the staff development needed for teachers to feel confident implementing the FA process and differentiation. Campus administration also needs to make sure that they are providing teachers with the necessary structures such as team planning, planning resources, and guidance to ensure that effective collaborative planning takes place. If districts and campuses provide the necessary support needed to implement the FA process and differentiation, administrators and teacher leaders must also understand that

the teacher's knowledge and sense of efficacy may play a vital part in his or her success with FA and differentiation.

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APPENDIX A  
INDIVIDUAL INTERVIEW

1. How do you define FA?
2. Have you utilized FA in your class? If so, how have you learned and developed your skills and strategies to effectively implement FA?
3. If you have utilized FA, what are some of the challenges that you have experienced? What do you perceive to be potential challenges when implementing FA?
4. If you have utilized FA, how do you believe it impacts your students' learning?
5. How do you present your students with the learning objective/learning goal/ learning target prior to each lesson?
6. How do you gather student data when implementing FA? Do you find this data useful when implementing FA? If so, please explain.
7. What are some methods that you use to provide feedback to your students? Describe how your students typically respond to this feedback. How do you respond to your students' responses?
8. During planning, what kinds of instructional adjustments do you make from the feedback and data that you receive from your students (Feel free to email responses, if needed)?
9. How does collaborative planning help with or inhibit creating and implementing FA?
10. What additional information would you like to share with regards to FA practices?

APPENDIX B  
INTERVIEW PROTOCOL FORM – BRUCE HILL  
THE DEVELOPMENT OF TEACHER EFFICACY AND KNOWLEDGE OF  
FORMATIVE ASSESSMENT DURING COLLABORATIVE LESSON DESIGN

Date \_\_\_\_\_

Time \_\_\_\_\_

Location \_\_\_\_\_

Interviewer \_\_\_\_\_

Interviewee \_\_\_\_\_

Release form signed? \_\_\_\_\_

Notes:

Thank you for your participation. I feel that your input will be greatly valuable to this research.

Confidentiality of responses is guaranteed. If there is any time you would like to stop, withdraw from the study, or have questions, please do not hesitate. Please feel free to answer all questions honestly.

The approximate length of the interview will be 45 to 60 minutes.

This study will investigate how teachers' knowledge of the FA process influences their ability to create FA during lesson design and determine when, why, and how these teachers will implement FA during instruction.

I will share the results of this interview with you, both the written transcription and the audio recording. I will ask that you reply to my email to confirm the data or provide any clarification of what was transcribed. I will share with you my research when it is

completed. There will be other teachers involved; therefore, I am going to use pseudonyms for each of you.

Do you have any questions for me before we begin?

## APPENDIX C

### ADULT INFORMED CONSENT

Investigator: My name is Bruce Hill. I am a doctoral student at The University of Houston-Clear Lake. I am conducting a research study to better understand how a team of four middle school social studies teachers plan and implement formative assessment practices during lesson design and instruction. I am completing this research as part of my doctoral degree. I invite you to participate.

Purpose of the Study: This study will investigate how teachers' knowledge of the FA process influences their ability to create FA during lesson design and determine when, why, and how these teachers will implement FA during instruction.

Description of the Study:

- The researcher will utilize purposeful sampling
- The participation in this study will be limited to four eighth grade social studies teachers from the selected campus during the 2016-17 academic school year
- The teachers were selected because of their diversity of years of experience working on campus that consisted of a high percentage of students of low social economic status (SES)
- The researcher will utilize interviews to answer the research questions. The researcher will utilize two formats of interviews (individual and focus groups) with the participants
- All interviews are expected to take about one hour to conduct.
- The interviews will pose open-ended questions and assume a conversational manner
- Participating teachers will be involved in one individual interviews and one focus group interviews

- The participating instructional coach will be involved in two focus group interviews only

Risks: There are minimal risks in this study. Some of the possible risks of this study include: possible discomfort or anxiety of not knowing the researcher or of not knowing an answer to a question.

Benefits of the Study: If you decide to participate in this study the potential benefits include: sharing your thoughts, ideas, and classroom practices about formative assessments. The potential benefits to the field of education are that this information is important to develop a consistent approach toward the implementation of the formative assessment process.

Compensation: To show appreciation for your willingness to participate, you will be given a \$25 Best Buy Gift Card.

Audiotaping: I would like to use a voice recorder to record your responses during the individual interviews and focus group interviews. You can still participate if you do not wish to be recorded.

Please sign here if I can record you: \_\_\_\_\_

Confidentiality: The information that you provide will be kept confidential to the extent allowable by the law. The steps that I will take to keep your identity confidential are: using a number to identify you and never mentioning your district or school. The individuals that will have access to your information are: My dissertation chair and I. The Committee for the Protection of Human Subjects may also review my research and view your information. The researcher will preserve the confidentiality of all participants by keeping all data under lock and key. Participants will also be given pseudonyms to protect their confidentiality and identity.

Voluntary Nature of Participation: Participation in this study is voluntary. If you decide to participate, you are free to withdraw your consent and to stop your participation at any time without penalty or loss of benefits to which you are allowed.

Questions about the Study: If you have any questions for me, you can contact. My dissertation chair's name is Dr. Sandra Browning. She works at The University of Houston-Clear Lake and is supervising me on this research. If you have questions about your rights in the research, or if a problem has occurred, or if you are injured during your participation, please contact the Committee for the Protection of Human Subjects at: [uhcl.edu/research](http://uhcl.edu/research) or 281.283.3015.

Signature: A signature indicates your understanding of this consent form. You will be given a copy of the form for your information.

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Participant Signature	Printed Name	Date
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Researcher Signature	Printed Name	Date
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APPENDIX D  
FOCUS GROUP INTERVIEW

1. What are some things that are taken into considerations when planning for formative assessments?
2. What are some of the resources that are available when planning for formative assessments?
3. Explain how your team collaborates to create formative assessments during planning sessions.
4. How does collaborative planning enhance the creation of formative assessments?
5. What are some challenges to collaborative planning?
6. How do the results of formative assessments impact future lesson design (Feel free to email responses, if more time is needed)?