THE EFFECT OF INSTRUCTIONAL COACHING
ON TEACHERS’ SENSE OF SELF-EFFICACY

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ABSTRACT

The purpose of this mixed methods study was to determine if teachers’ sense of self-efficacy is influenced by instructional coaching. The Teachers’ Sense of Efficacy Scale survey was used to determine teachers’ sense self-efficacy. Demographic data was also collected which included years of experience, grade level taught, and coaching experience. One-on-one interviews further explored teachers’ perceptions of coaching. Quantitative data were analyzed using a paired t-test and ANOVAs. Qualitative data was analyzed using an inductive approach. Quantitative analysis demonstrated teachers’ sense of self-efficacy overall was not significantly influenced coaching. Qualitative analysis did show that particular coaching types were preferred over traditional models of professional development and had impacted teachers’ instructional practices, as well as student performance.
ACKNOWLEDGEMENTS

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CHAPTER I:  
INTRODUCTION  

Overview  

This study was an investigation of teacher professional development with a focus on coaching and its influence on teachers’ sense of self-efficacy. This chapter begins with a background of the study and then identifies the need and purpose for the study. Definition of concepts and statement of the research questions are introduced. Finally, scope and limitations will be discussed.  

Background of the Study  

The focus of educational discourse frequently includes increasing student achievement. In an effort to improve all student achievement, legislation was passed in 2002 with No Child Left Behind (NCLB) that placed an emphasis on increasing academic achievement. Phrases such as scientifically research based, highly qualified, and accountability became significant in schools across the nation. Following the passing of NCLB was the reauthorization of the Individuals with Disabilities Act (IDEA) in 2004 with more emphasis being placed on research-based practices in education. A new process was outlined in this reauthorization of IDEA that would give states the freedom to use a process known as Response to Intervention (RTI) in lieu of the discrepancy model for determining a specific learning disability.  

On December 10, 2015, President Barack Obama signed the Every Student Succeeds Act (ESSA) into law. ESSA is the most recent version of the Elementary and Secondary Education Act, which went into effect in 1965 (The Education Trust, 2016). The act was revised to address education equity for all students, and it contains mandates that must be implemented. State
adopted standards for all students that align with the demands of postsecondary education and work are included. Statewide assessments that are aligned to the state standards are mandated. Accountability, the third mandate, looks different under ESSA than under NCLB. ESSA requires school ratings based on the performance of all students, specifically academic achievement in the areas of reading and math. Finally, public reporting on academic outcomes is required. Alabama, for the first time in December of 2017, released the A-F report card to the public which reflects those requirements of ESSA. Teachers and school leaders are not left out of ESSA. States must ensure that disadvantaged students are not taught at disproportionate rates by inexperienced or out-of-field teachers. The last mandate is funding for the highest poverty schools.

Despite legislative mandates and school systems’ focus on research-based practices, performance on the National Assessment of Educational Progress (NAEP) has remained below proficient in both reading and math nationwide. In a report released in 2016 by the U.S. Department of Education, it was reported for the first time in 2015 the average mathematics scores for fourth and eighth grade students were lower than the average scores in the previous assessment year. The reading assessments were not measurably different from the scores obtained by fourth, eighth, and twelfth graders in 2013.

Teacher practices in the classroom are the greatest predictor of student achievement (Knight, 2009; Hattie, 2009). Quality professional development can equip teachers with the knowledge and skills to change their classroom practices (Tschannen-Moran & McMasters, 2009). Unfortunately, research and evidence-based teaching practices have had little carryover into the classroom (Fuchs & Fuchs, 2001). High quality professional development that contains demonstration, practice, and coaching increases both teachers’ knowledge and application of
newly-learned strategies (Joyce & Showers, 2002; Tschannen-Moran & McMasters, 2009). Specifically, coaching that follows in-service has shown promise in promoting changes in teacher behavior (Yoon, Duncan, Lee, Scarloss, & Shapley, 2007; Knight, 2011; Tschannen-Moran, & McMasters, 2009).

A teacher’s sense of self-efficacy is a teacher’s belief that he or she has the ability to affect student performance (Bandura, 1993; Tschannen-Moran, Woolfolk, & Hoy, 1998). Efficacy can determine how people feel, think, and act towards a given situation (Bandura, 1993). Teachers’ personal belief systems can predict instructional capacity and student achievement (Bandura, 1997; Goddard, Hoy & Woolfolk Hoy, 2000; Shaw, 2009). Teachers with a high sense of self-efficacy create opportunities to engage students in the learning process, even with the most difficult students (Bandura, 2006; Tschannen-Moran & McMasters, 2009). Both teachers and students benefit when teachers reflect on their sense of efficacy, examine their instructional practices, and make necessary changes to improve their professional practice (Bandura, 2006; Knight, 2011).

**Need and Purpose**

Darling-Hammond and Richardson (2009) reported that most teachers find the professional development offered to them is not useful. Teachers will sit through many one-day workshops throughout their career. Sometimes these workshops produce great ideas, but may or may not be carried over into the classroom setting. Many times, there are no follow-up workshops to gain deeper knowledge or time for reflection and collaboration with colleagues. Instructional coaches help increase teachers’ likelihood to take strategies they are learning and bring them to life within the classroom. Without this additional piece of professional development, many times no significant change occurs (Knight, 2009).
Providing professional development opportunities for teachers to communicate, collaborate, and reflect on their teaching practices requires time and commitment from educational administrators (Darling-Hammond & Richardson, 2009; Shaw, 2009). Providing teachers time to work together fosters an efficacious system (Goddard et al., 2000; Tschannen-Moran & Barr, 2003). Giving teachers opportunities to collaborate and reflect builds stability within teachers and helps them improve their instructional performance (Shaw, 2009). Through this ongoing collaborative process, efficacy grows as teachers become a part of a culture whose belief system is that all students can and will learn (Goddard et al., 2000; Tschannen-Moran & Barr, 2003). Strengthening a group of likeminded educators is an ongoing process worth the time and commitment because of the direct link to student achievement (Bandura, 1997; Goddard et al., 2000; Tchannen-Moran & Barr, 2004).

Knowledge in the area of a teacher’s sense of self-efficacy needs more attention and development within an educational setting (Woolfolk Hoy & Davis, 2006). Implementing instructional coaching is one way to focus more attention on sense of self-efficacy. Instructional coaching holds the valuable components for teachers to feel they can implement new learning successfully (Knight, 2009; Tchannen-Moran & Barr, 2004).

Skilled teachers are needed to develop 21st century students. Challenging content, critical thinking, problem solving, effective communication, ability to collaborate, and self-direction are just a few skills teachers are tasked with teaching. New accountability measures increase the importance of providing meaningful professional development and must be a priority for school systems. If teachers do not fully know how to teach the standards they are required to teach or how to deliver quality instruction at a rigorous pace, they can adversely impact student
achievement. School systems should be providing the best possible education to all students, and to do so, their teachers must be provided with quality professional development.

The purpose of the study was to determine if teachers who received instructional coaching from their colleagues had a higher sense of self-efficacy in one rural school system in Central Alabama. These findings can be used to plan future professional development opportunities within the district.

**Definition of Concepts**

*Job-Embedded:* When professional learning is integrated into the workday, designed to enhance teachers’ instructional practices, improve student learning, and directly connected to learning and application into daily practice (DeMonte, 2013).

*Instructional Coaching:* When coaches partner with teachers to analyze current best practices, set goals, identify and explain teaching strategies to hit the goals, and provide support until the goals are met (Knight, 2011).

*Peer Coaching:* For this study, peer-coaching is coaching that was provided by a colleague who works within the same school system (Joyce & Showers, 2002).

*Professional Learning:* The deepening of teachers’ knowledge to increase student achievement (Garet et al., 2001; Harwell, 2003; Mizell, 2010).

*Student achievement:* Amount of academic content a student learns in a determined amount of time.

*Teacher sense of self-efficacy:* A teacher’s belief that he or she has the ability to affect student performance (Bandura, 1993; Tschannen-Moran, Woolfolk, & Hoy, 1998).

*Vicarious experiences:* Proficient models who can demonstrate the skills in which others desire to improve or excel (Bandura, 1993; Tschannen-Moran & McMaster, 2009).
Research Questions

The following research questions were addressed in this study:

1. Is there a relationship between coaching and teacher sense of self-efficacy;

2. Is there a difference between teachers’ sense of self-efficacy when they are coached by their colleagues versus an external coach; and

3. For teachers who have been coached, how do teachers depict their experiences with coaching?

Scope and Limitations

Data was collected from teachers in a small rural school system. A limitation of the study is that results are based on teachers’ perceptions of their own sense of self-efficacy. Additionally, the data gathered are from one school system and therefore cannot be generalized to other school systems.

Researcher Positionality

My present position in the system is that of Executive Director of Teaching and Learning. I have served in this role for four years now. Part of my responsibilities includes seeking and approving professional development for teachers and administrators. Teachers feel very comfortable speaking to me about various topics related to their work, even those that are sensitive. I am often told that I am “supportive” and a “great listener.” Teachers were asked by the researcher to participate in the study by completing the Teacher Sense of Self-Efficacy Scale (TSES) during faculty meetings. This could have resulted in reactivity on the teachers’ part. Although it was explained that completing the TSES was voluntary, teachers may have felt obligated to participate because of the position of the researcher. Teachers who were interviewed may have not shared all the information they would have to someone outside the
system. All teacher interviews will remain confidential. It is also important to note the researcher does not have evaluative power over the teachers.

**Summary**

In this chapter, a background of the role professional development plays in increasing teacher effectiveness was given. The need and purpose of the current study was also discussed. Definitions of important concepts were provided. Research questions were introduced as well as scope and limitations.
CHAPTER II:

REVIEW OF THE LITERATURE

Introduction

The purpose of this literature review is to examine research on professional development provided to teachers. The topics that will be discussed are the importance of professional development for teachers, current professional development practices, effective professional development, core features of professional development, models of professional development, instructional coaching, expected outcomes of professional development, and best practices for professional development. The conceptual definition and history of teacher efficacy is discussed. All of the topics covered in this chapter help to form the rationale and hypotheses for the research.

Importance of Professional Development for Teachers

Continuous learning is an important part of any profession (Garet et al., 2001). Teachers must be lifelong learners. According to Darling-Hammond, Wei, Andree, Richardson, and Orphanos (2009), “these opportunities help teachers master content, hone teaching skills, evaluate their own and their students’ performance, and address changes needed in teaching and learning in their schools” (p. 7).

In today’s world, teachers must be prepared to teach students of the 21st century, which requires teaching complex analytical skills (Darling-Hammond et al., 2009). Students must be prepared upon graduation to compete in a global market that is challenging and competitive. Teachers must stay abreast of current content standards, technology, student diversity, and
teaching strategies. If educators are not provided effective professional development, students are negatively impacted (Baret, Butler, & Toma, 2013; Mizell, 2010).

Teachers support high standards of teaching and learning, but many times are not prepared to implement teaching strategies based on high standards of learning (Desimone, Smith, & Ueno, 2006). When provided effective professional development, teachers can improve student learning (Garet et al., 2001; Mizell, 2010; Petrie & McGee, 2012). Mizell (2010) has maintained that professional development is the only means by which school systems can influence teacher performance in order to increase student achievement. “Almost every presentation or speech or conversation about educational reform inevitably includes some references to the amount of support and training teachers and administrators will need in order to make key reforms real and effective in classrooms” (DeMonte, 2013, p. number).

**Current Professional Development Practices**

Some states require teachers to complete a certain amount of professional development to maintain their teaching certification. Although mandatory, the type and quality of the professional development requirements are not regulated. Research shows that traditional models of professional development are ineffective (Gulamhussein, 2013; Desimone, 2011). Many of these professional development opportunities are one-time workshops. Data gathered by Darling-Hammond et al. (2009) confirmed that many teachers are still participating in these brief conferences and workshops that do not benefit them or their students.

With limited time spent on one topic, teachers do not have ample time to develop their learning (Petrie & McGee, 2012). Gulamhussein (2013) has asserted that teachers are provided with new knowledge, but are not provided with time to gain a deeper understanding. Little opportunity is given to practice these newly learned skills, or receive feedback on their
performance (Wood, Goodnight, Behtune, Preston, & Cleaver, 2016). Without ample time to implement the new skill or technique, instruction will not be affected.

Not only are teachers required to attend these one-time conferences, they are often subjected to a “one-size-fits-all” model that is not relevant to their school or individual class (Mizell, 2010). Barrett, Butler, and Toma (2013) suggested that professional development decisions are not based on connecting teachers to opportunities that meet their needs. Darling-Hammond et al. (2009) stated that teachers have little influence on decisions made, including their own professional learning. To initiate meaningful change, teachers must be involved in choosing what they will learn, offering them a personalized approach to professional development.

Another factor to consider when examining professional development is cost. In “The Mirage” released by The New Teacher Project (2015), it is estimated that school systems spend between $40 and $50 million dollars on professional development for teachers. Professional development is usually provided during the school year, which requires the teacher to be out of the classroom. The number of days a teacher is required to attend workshops and conferences can be a financial burden to school systems (Wayne, Yoon, Zhu, Cronen, & Garet, 2008). Accounting procedures used by districts can be unclear, which leads to school systems not being fully aware of the amount of funds being spent on professional development (Gulamhussein, 2013).

Effective Professional Development

Effective professional development is structured professional learning that results in changes in teacher practices and improves student learning (Darling-Hammond, Hyler & Gardner, 2017; Kassner, 2014). Teachers experience a vast array of activities that can improve
their teaching practice. The activities range from formal, structured workshops, to informal hallway discussions with their colleagues. Structured professional development activities can come in the form of workshops, state and national conferences, college courses, credentialing, curriculum specific training, and the list goes on. In recent years, a trend in professional development has emerged creating a more interactive and social based learning experience for teachers (Desimone, 2011; Darling-Hammond et al., 2017). This form of professional development can take many forms such as co-teaching, mentoring, group discussions revolving around student work, book clubs, data meetings, or school committees. This approach moves away from traditional models that are lecture based and have no direct connection to teachers’ classrooms or students (Darling-Hammond et al., 2017).

Because professional development activities consist of various forms, it is challenging to measure the effects of professional learning on teacher knowledge and classroom instruction (Desimone, 2011; Garet et al., 2001). There is a consensus among empirical research on the main features of professional development and those core features will be discussed in the next section (Kassner, 2014; Patton & Parker, 2015; Garet et al., 2001). Activities that contain the core features do not automatically equate to effective professional development.

Desimone (2011) proposed a conceptual framework to measure how professional development impacts both teacher and student outcomes. The model includes the core features of professional development and its interactive relationship with teachers’ instructional practices and student outcomes. Successful professional development should follow these steps according to Desimone (2011): 1) teachers experience professional development; 2) teacher knowledge increases and changes are seen in attitudes and or beliefs; 3) the new knowledge is used to improve content and approach to pedagogy; and 4) the instructional changes increase student
learning. This basic framework offered by Desimone (2011), in conjunction with the core features, is a foundation for determining the effectiveness of professional development for teachers.

**Core Features of Professional Development**

Research identifies core features that administrators should consider when creating professional development models for teachers. Some of the “hallmarks” of effective professional development would include “job-embedded learning, on-going support, and a high level of differentiation based on teachers’ needs,” according to Kassner (2014).

Professional development needs to be based on teachers’ needs and interests. It should also be ongoing and sustained, treat teachers as active learners, include collaborative opportunities within learning communities, enhance teachers’ pedagogical skills and content knowledge, focus on improving learning outcomes for students and facilitated with clear objectives (Patton & Parker, 2015). Darling-Hammond and Richardson (2009) added that professional development should be part of a school reform effort that links curriculum, assessment, and content standards to professional learning.

Garet et al. (2001) believe that if professional development contains certain core components the type of activity will not matter. First, the professional learning activity must be relevant to their area of teaching. Second, it must provide teachers with active learning opportunities as described already. Lastly, the activities must be coherent. Garet et al. described coherence as connecting the learning with previous learned skills, aligned to state standards, and fostering communication among colleagues.

Core features of professional development can be broken down into two categories, structural and core (Desimone et al., 2002; Garet et al., 2001). The structural development
features characteristics related to the configuration of the professional development; reform type, duration, and collective participation. Reform type differs from traditional professional development because they usually take place during the school day through study groups, mentoring and coaching, which encourages collective participation among colleagues teaching similar grades or subjects. Duration is important in two ways: longer activities provide for deeper discussion and more time allows teachers to try out new practices and be provided with feedback. By focusing on a group of teachers from the same school, collective participation can help sustain changes in practice over time. The core development features, characteristics related to the substance of the professional development activity; active learning, coherence, and content focus. Active learning creates opportunities for teachers to observe and be observed, plan classroom implementation, review student work, and offer teachers a chance to present and lead discussions with their colleagues. Professional development that builds on previous goals or activities, is aligned to state and national standards, and encourages professional communication among teachers working toward the same goal creates coherence.

Studies have shown that professional development that shares all or some of the core features can have positive influence on teachers’ classroom practices (Garet et al., 2001; Darling-Hammond et al., 2017). Researchers are examining the effects of professional learning on teaching, but few have compared the effects of different features of professional development.

Models of Professional Development

Job-Embedded

When professional learning is integrated into the workday, designed to enhance teachers’ instructional practices, improves student learning, and is directly connected to learning and application into daily practice, it is considered job-embedded (DeMonte, 2013). This type of
professional development may be more likely than traditional forms to make connections with classroom teaching and can be easier to sustain over time (Garet et al., 2001). Professional learning communities and instructional coaching are two forms of job-embedded learning that can be found in the research on professional development.

Examples of job-embedded professional development include 1) a teacher working with a coach to plan a lesson, 2) teachers meeting to analyze student data and discuss instructional strategies to meet individual needs, or 3) an instructional coach modeling a lesson for a group of teachers working on improving practices. All of these activities are related to the work of the teachers and are informed by what is happening in the classroom (DeMonte, 2013).

**Professional Learning Communities**

Professional learning communities (PLCs) happen when teachers work collaboratively to build a shared culture of high-quality instructional practice. PLCs have become commonplace in schools throughout the nation and their “benefits are numerous and profound” (Woodland & Mazur, 2015, p. number). According to Woodland and Mazur (2015), when done well, PLCs can reduce teacher isolation and increase their ability to examine student data to inform instruction. The structure of PLCs provides teachers with the opportunity to learn from and with one another building a “culture of collaboration and offering possibilities that might not otherwise exist” (Patton & Parker, 2015, p. number).

Arredondo-Rucinski (2016) identified four essential components of PLCs: 1) collaborative teacher dialogue centered on student learning; 2) deprivatization of teaching practices; 3) collective responsibility for all student learning; and 4) collaborative structural supports. The first component, teacher dialogue, requires educators to agree upon what is being taught and how learning will be measured. For PLCs to be effective, teachers can no longer teach in silos.
Deprivatization happens when teachers frequently visit other classrooms through peer observations or instructional rounds, followed by reflective dialogue. Collective responsibility is the belief that each teacher is responsible for the learning of every child in the building, not only their classroom. Time devoted to PLCs, expectations and procedures, and an optimistic school culture are all structural supports that must be provided by administration. These essential components are developed over time and can foster a culture of optimism (Arredondo-Rucinski, 2016).

**Coaching**

**History of coaching.** Coaching began as a function of instructional supervision. Supervision can be dated back to the nineteenth century, when American public schools were rural, democratic, and highly influenced by European culture. Supervision during this period was often performed by ministers, local townspeople, or distinguished citizens. The primary role of the supervisor was to maintain order and had nothing to do with improving instruction. As the country moved from settlements to more urbanized communities, supervision of schools became more bureaucratic. Rice (1893) suggested that superintendents used supervision to gain order over these urbanized schools. With the support of influential men such as William Harris, Williams Maxwell, and Andrew Draper, supervisors used autocratic methods to correct teacher incompetence, not realizing the ill effects of their methods. Bureaucracy was the “one worst system” for education as explained by Seeley (1985).

Superintendents found it difficult to manage the workload alone and began delegating responsibilities to assistants. The role of the supervisor included such tasks as collecting data, report reading, and other administrative duties. The number of supervisors began to grow at a faster rate than teachers. These new supervisors were former teachers or influential outsiders.
with no formal training. Instead of influencing instruction, they were generally viewed as “critics bent on the discovery and revelation of teacher weaknesses and failures” (Spaulding, 1955, p. number). They were merely an extension of school administration.

Glanz (1998) has provided seven models characterized throughout the history of supervision: inspection, efficiency, democratic, scientific, leadership, clinical, and changing concepts. The early models of supervision were influenced by bureaucratic methods, demonstrated through inspection and efficiency. These models were more concerned with the operations and inspection of such operations, not on improving instruction. They found teachers to be deficient according to their rating scales and sought to remove ineffective teachers. Then we moved to the third model, where supervisors sought to help teachers through more democratic means. The last four models of supervision were influenced by the human relations movement and were a direct contrast with previous bureaucratic methods. It was the incorporation of scientific methods in the fourth model that defined the supervisor’s role in a different way than ever before. The last three models continued to identify the role of supervisor as a distinct function in schools, which should be professionalized.

Through collaboration between supervisor and teacher, instruction can be improved. This was the foundation of the sixth model of supervision, clinical. Throughout the seventies the focus on supervision continued to incorporate more democratic methods. Bolin and Panaritis (1992) stated that it was “collegiality” of clinical supervision that appealed to teachers. By the end of the 1980s, teachers were becoming more active in the decision-making process. Use of terms such as peer supervision, cognitive coaching, and transformational leadership emerged with teachers taking on leadership roles. Cognitive coaching is an effective means of developing
sound professional relationships that lead to enhanced professional performance (Costa & Garmston, 2002).

**Approaches to coaching.** Professional development that includes demonstration, practice, and coaching increases teachers’ knowledge, skills, and application (Wood et al., 2016; Tschannen-Moran & Mcmasters, 2009). The purpose of coaching is to provide individualized support to teachers following training. Knight (2011) stated that without coaching, “no significant change occurs.” Coaches serve in various ways such as listener, curriculum specialists, learning facilitator, model lessons, observe, and engage in dialogue with teachers in order to help students learn more effectively (Killion, 2009; Shaw, 2009; Wood et al., 2016). Thomas, Bell, Spelman, and Briody (2015) noted that the most prominent characteristic of coaching is the ongoing relationship between the coach and teacher. An appeal of coaching is the opportunity to individualize learning for teachers. Coaching is directed toward individual teachers in their own classroom. Joyce and Showers (1996) recognized that many professional development practices are deemed “coaching” that are referring to supervisory practices of pre-conference, observation and post conference. These should not be confused with coaching and or used for evaluation of teachers.

According to Knight (2011), there are six well known approaches to coaching. The first approach, cognitive, is used to improve one’s thinking practices. Through a means of self-monitoring, teachers improve their higher order thinking skills, which in turn improves the way in which they teach. Coaches using the cognitive method help teachers help themselves. Literacy coaching involves helping teachers recognize what they know, strengthening teachers’ abilities to effectively use what they know, and supports teachers as they continue to learn (Toll, 2005). All of these activities are centered on one goal, increased student achievement in
literacy. Peer coaching, discussed in more detail later, involves colleagues observing each other and engaging in confidential conversation to reflect and improve upon their instruction. Taking data and analyzing it to monitor student learning is the data approach. In content coaching, teachers gain deeper knowledge in their field of study.

The last approach, instructional coaching, has the potential to positively impact teacher attitudes, increase the implementation of new strategies, increase teacher sense of self-efficacy, and improve student achievement (Devine, Meyers, & Houseemend, 2013; Killion, 2017; Knight, 2011). Instructional coaches partner with teachers to help them integrate research-based practices into their teaching. They provide ongoing support and encouragement to teachers while helping them to reflect on their classroom practices.

For coaching to be successful, a partnership approach must be used (Knight, 2011). The seven partnership principles that Knight (2011) identified, describe a theory of interaction currently used by instructional coaches. First, equality must exist in the coaching relationship, where both partners share and make decisions as equals. This core principle, equality, is constant in the six remaining principles. Choice, the second principle, has teachers as the final decision makers. Teachers are given choice in what strategies they wish to target and coaches meet them where they are and then collaborate to implement those strategies. Teachers must be given voice in a coaching relationship, the third principle. The conversations between coaches and teachers need to be an open and honest one.

Coaches must be effective listeners and sometimes the best thing they can say is nothing at all. Knight (2011) stated, “if you are not thinking about what you are learning, you probably are not learning” (p. number). Thus, reflection, the fourth principle, is an important part of the learning process. The next principle, dialogue, happens when the coaches ask questions that
prompt teachers to share her thoughts and ideas. During dialogue a coach gives up trying to push his or her own agenda or point of view. Praxis is about making an impact. This principle describes the application of new knowledge and skills. The last principle, reciprocity, is the belief that during this partnership everyone will learn.

Knight (2011) refined his components of instructional coaching to the following: enroll, identify, explain, model, observe, and explore. During enrollment, teachers are offered coaching as a way in which they can conduct professional learning. Coaches do not come into the partnership with predetermined goals; instead they help the teacher identify a specific student goal. Coaches then explain the practices in which to achieve the goal and model the practice for the teacher in the classroom. The observation component is when the teacher is ready to implement the new practice and have the coach observe and collect data, sometimes through the use of video recording the lesson. In the final coaching component, the coach and teacher explore what went well during the lesson and what adjustments need to be made.

A coach must possess certain qualities in order to be effective (Knight, 2011). The first is knowledge of the practices they are sharing with others. Coaches need to be relationship builders and therefore must have emotional intelligence. Growth mindset, which is a desire to learn through embracing challenges and finding inspiration in others successes, is another important quality a coach must have (Dweck, 2016). Coaches must value their own limitations, while appreciating the values others bring (Toll, 2005; Knight, 2011). The most important quality a coach must possess is trust. If a coach is not trusted by those that she works with, all her work will be for naught.

**Peer coaching.** Swafford (1998) defined peer coaching as two educators who collaborate both inside and outside of the classroom on topics ranging from instruction to
resource development. Killon and Harrison (2006) indicated that in peer coaching, teachers provide support to one another, typically focused on a new learning in a non-evaluative relationship to advance their individual learning.

In the early 1980s, Joyce and Showers (1982) examined peer coaching and the transfer effects on teaching. They believed that “modeling, practice under simulated conditions, and practice in the classroom, combined with feedback” was the most productive professional development design (Joyce & Showers, 1980). One study conducted by Showers during that time involved middle school teachers who went through eight weeks of initial training. Over the eight-week period, teachers were provided with explicit training on teaching strategies, peer teaching sessions, opportunities for dialogue with peer teacher and practice implementing the new strategies within their own classrooms. The results from the study revealed teachers who received peer coaching practiced newly learned skills and strategies more frequently and applied them more appropriately than their colleagues who did not receive coaching.

Bruce and Ross (2008) examined the effects of peer coaching on teaching practices in mathematics and teachers’ beliefs in their ability to impact student learning. Twelve elementary teachers participated in four mathematical pedagogy training sessions that included peer coaching. Teachers were trained to observe each other using a classroom observation guide. Participants also completed online reflective assessments at the beginning and end of the study. Their findings found that teachers changed their instructional practices, teacher sense of self-efficacy increased, and peer coaching increased participants’ reflective practices.

Joyce and Showers (1996) offer four principles of peer coaching. The first principle involves setting expectations for the team. These expectations begin with the team agreeing to practicing or using whatever change has decided to be implemented, supporting one another in
the change process and collecting data throughout the implementation of the process. The next principle involves omitting verbal feedback as part of the coaching component. Joyce and Showers (1996) emphasized the primary function of the team is planning and developing curriculum and instruction. Through their research they found that when peer coaches begin providing feedback, they slip into making evaluative comments. Omitting feedback in the peer coaching process has not diminished implementation of the newly learned skills.

The third principle provided by Joyce and Showers (1996) involves redefining the term “coach.” They suggested when teams of teachers are working together, the one teaching is the “coach,” and the one observing is the “coached.” The teacher being “coached” is observing to learn from their colleague. Observations should be followed with only brief discussions that do not involve feedback, but simply thanking the coach for letting them watch the lesson. The last principle describes the collaborative work of the team, which involves more than observations and conferences. Through planning instruction, sharing materials and resources, and watching one another work with students, teachers are learning from one another.

Recognizing that all coaching is not the same is crucial. In the field of education, oftentimes terms are interchanged and misinterpreted. Showers and Joyce (1996) stipulated that "technical coaching, team coaching, and peer coaching focus on innovations in curriculum and instruction, ... whereas collegial coaching and cognitive coaching aim more at improving existing practices.” Coaching is an effective means of developing sound professional relationships that lead to enhanced professional performance.
Best Practices of Professional Development

Format

Developing quality professional development starts by focusing on the teacher as both the learner and the instructor (Petrie & McGee, 2012). Organizers also need to consider learning styles, what subjects are taught, if there are any weaknesses already identified, their teaching style, and actual confidence levels. Teachers also need to feel that the material is applicable to their students. If the skills being taught are not related to their subject area or their student demographics it will be time wasted. “The most useful professional development emphasizes active teaching, assessment, observation, and reflection rather than abstract discussion” (Darling-Hammond & Richardson, 2009, p. number).

Active learning is an area that Garet et al. (2001) give attention to. They clarify that teachers should have time to observe in other classrooms, preferably master teachers. Once the observations are complete, feedback should be given to teachers to inform their instructional decisions. Teachers collaborating while reviewing student work samples are another idea Garet et al. explored. They posited that studying students’ work helps teachers to identify student difficulties and develop appropriate interventions as a team. Studies conducted have linked high student achievement through continuous study of student data by teachers (Strahan as cited in Darling-Hammond et al., 2009). This studying of student data is done collaboratively among teachers which lead to discussions about how to alter instruction to meet students’ needs. An additional active learning activity that teachers rarely do is lead presentations and discussions (Garet et al., 2001).

Teachers need time to collaborate and have open discussion (Harwell, 2003). Finding this time can be difficult within the school day, but is important to teachers learning new techniques.
Harwell goes on to say that by having this time to learn and practice together, teachers can impact students’ learning. Time is one factor, but actually feeling they can practice in a supportive environment is an important factor to changing their instruction.

Blank’s (2013) findings confirm Harwell’s (2003) previous research on increasing teacher learning through peer interaction. Teachers must have additional opportunities to collaborate with one another after a new skill has been learned. Blank reaffirms that teachers need to observe one another and provide constructive feedback. Darling-Hammond et al. (2009) confirm that collaboration is the key to quality professional development.

The more time dedicated to job embedded learning, the better the outcome (Wayne et al., 2008). Administrators will need to be creative to find the time, but will find it beneficial to the learning culture of the school.

Content

Research on the content of professional development activities varies commonly along four dimensions: those intended to increase teachers’ knowledge of subject-matter, those intended to change teaching practice, goals for student learning that are emphasized, and those that focus on ways in which students learn (Garet et al., 2001). Activities also vary in the specificity of the changes in teaching strategies that are encouraged. Some activities focus on the use of particular curriculum or teaching strategies, while others focus on general principles. Research conducted over the last decade has shown that when professional development is focused on specific content it can be associated with changes in teachers’ instruction and could be positively linked to student achievement (Desimone et al., 2006).

When developing professional development activities for teachers, the content must be relevant. Teachers need to be working and learning about the areas in which they teach (Darling-
Hammond et al., 2009; Wayne et al., 2008). Emphasis should be on understanding the subjects they teach and how students learn these subjects. Deepening of knowledge and skills is an integral part of any profession and teaching is no exception.

Each year schools develop various plans that contain goals. When planning professional development, organizers should take these goals into consideration (Darling-Hammond et al., 2009). If everyone is expected to work towards the goal, activities should be planned or related to meeting the goal.

**Time**

School systems need to be creative in their planning of professional development. Mizell (2010) suggested working an alternate schedule some days to allow for professional learning. Some systems have begun adding work days set aside specifically for professional development. On these days, students are either dismissed early or do not attend at all.

DeMonte (2013) suggested to make a difference in student achievement, professional development activities needed to include more than 14 hours of learning. On the other hand, research reviewed by Reich and Daccord (2009) found that 14 hours would not make a significant impact on student achievement. They stated that effective professional learning will take time, and it should be more than 14 hours in length. Darling-Hammond et al. (2009) acknowledged that the more intense the better outcome for teachers. Their research revealed when teachers participated in more than 80 hours of professional development they were more likely to change their instruction.

Wei, Darling-Hammond, and Adamson (2010) studied professional development across six topic areas: content, technology, reading instruction, student discipline and classroom management, students with disabilities, and English Language learners. The average amount of
time spent across all six areas was about 44 hours per teacher in the United States. Teachers in high-achieving nations were provided with 100 hours of professional development in addition to 15-25 hours spent weekly planning and collaborating with colleagues.

“Sustained over time” was a phrase used by many researchers when discussing the duration of professional development should be (Darling-Hammond et al., 2009; Gulamhussein, 2013; Harwell, 2003; Wayne, 2008, Garet et al., 2001). By spreading the learning over time, it provides teachers with more opportunities to practice these newly learned skills.

Teacher Choice

In many instances teachers are subjected to a top-down model of professional development that is driven by principals or district mandates. Administrators play a key role by balancing reform efforts of the district and helping teachers navigate their own learning process. When teachers are involved in choosing their own professional development activities, it increases their sense of ownership and likelihood of success (Desimone et al., 2006). Providing choice also increases teacher autonomy and professionalism.

Evaluation

Evaluation must be done to ensure the professional development activities are meeting the needs of the teachers (Mizell, 2010). Evaluations can inform administrators for future planning. With the goal being to improve instructional practice, evaluations need to be in conjunction with feedback (DeMonte, 2013). Evaluation requires thoughtful planning, asking the right questions, and getting valid answers according to Guskey (2002). When considering the impact of professional development the following five areas must be evaluated: participants’ reactions, participants’ knowledge, impact on the organization, participants’ instruction, and student-learning outcomes (Guskey, 2002).
Wayne et al. (2008) have maintained that professional development needs to be measured. Student achievement is one part of the evaluation and teacher instruction is the second part. Both must be studied to determine the effectiveness of professional development. Rarely is follow-up data collected to determine whether student achievement is impacted by changes in teachers’ instructional practices. Other areas to consider are teachers’ reactions to the professional development and increase in knowledge (Guskey, 2002). If the outcomes expected are not obtained, organizers need to determine if it was due to methods of instruction or unsuccessful implementation of the skills learned.

**Expected Outcomes**

The goal of professional learning is to deepen teachers’ knowledge and in turn increase student achievement (Garet et al., 2001; Harwell, 2003; Mizell, 2010). According to Garet et al. (2001), this learning must include increasing content knowledge through real-life activities. It is also helpful to tie this new knowledge to reform efforts, such as Common Core.

Harwell (2003) explained that administrators can impact the outcome of professional development. Administrators are the leader of the school and must model desired behaviors to their staff and students, which includes a passion for learning. If the leader of the school does not communicate his expectations of professional development to the staff, then how will the teachers know what the goal is?

If the goal of professional learning is clear to all staff members it can not only change instructional practices, but the culture of the school. When everyone in the school is sharpening their skills it creates a culture of learning for both students and teachers (Mizell, 2010). When teachers engage in learning together they build comradery and more importantly they feel a sense of belonging (Fitzgerald & Theilheimer, 2012).
Theoretical Framework for Teacher Sense of Self-Efficacy

Bandura’s social-cognitive theory is believed by many scholars to be a critically important theoretical contribution to the study of academic achievement, motivation, and learning (Pajares, 1996; Schunk, 1991). Bandura (1997) suggested that people make contributions to their own psychosocial functioning through devices of personal agency. Beliefs of personal agency are essential among the devices of personal agency. People have little motivation to act unless they believe they can generate a desired outcome by their actions. This makes efficacy a major foundation of action.

Bandura (1993) identified four sources of self-efficacy: mastery experiences, vicarious experiences, verbal persuasion, and emotional state. Mastery experiences is the first source of self-efficacy. Experiences of mastering a task or controlling an environment builds efficacy beliefs. The second source of self-efficacy comes from observation of people around us, especially those seen as role models. By observing people similar to ourselves succeed by their efforts raises our beliefs that we have the capabilities to master an activity. People in our lives that persuade us in believing we possess the capabilities to master certain things are influencing verbal persuasion, the third source of efficacy. The last source of efficacy, emotional state, influences how individuals judge their self-efficacy. Positive emotions boost confidence in skills, whereas negative emotions can hinder performance.

Teacher sense of self-efficacy has evolved over decades through various instruments used to measure it. Researchers at the RAND Corporation took the theoretical base of Rotter’s locus of control theory to study the effectiveness of reading instruction and from this study produced the term teacher efficacy (Goddard et al., 2000). Teacher efficacy was related to variations in reading achievement among minority students in the first study conducted by RAND in 1976.
(Tshannen-Moran, Woolfolk, Hoy, & Hoy, 1998). In a second study by RAND, researchers found a strong positive effect between teachers’ sense of efficacy and student performance.

A second conceptual strand of teacher efficacy grew out of Bandura’s work on self-efficacy. Self-efficacy has to do with self-perception of ability rather than actual ability level and is rooted in Bandura’s social cognitive theory. Social cognitive theory posits that individuals hold beliefs about their ability to make things happen through their own action (Bandura, 1993). Bandura believed that humans are processors of information and think about the relationship between their behavior and the consequences of such behavior. Social cognitive theory suggests that self-efficacy is the key for individuals to successfully shape their lives in the reality he or she wants to create. Bandura (1993) recognized that self-efficacy beliefs are not uniform for individuals, but will vary across activities or situations. Bandura (1997) has maintained that teachers’ sense of efficacy influences both the kind of environment that they create as well as their judgments regarding the different tasks introduced in the classroom in order to bring about student learning.

The two separate strands developed from two theoretical perspectives caused confusion about the nature of teacher efficacy (Goddard et al, 2000). Bandura clarified the difference between the two strands, explaining one’s beliefs about their capability to produce certain actions are not the same as beliefs about whether actions affect outcomes (Bandura, 1993). Furthermore, perceived self-efficacy is a stronger predictor of behavior than locus of control.

Gibson and Dembo (1984) developed a 30-item Teacher Efficacy Scale (TES) using a blend of social cognitive theory and locus of control theory. The TES included two factor structure, personal teaching efficacy (PTE) and general teaching efficacy (GTE). Personal teaching efficacy (PTE) represents a teacher’s belief that he/she possesses the skills and abilities
to facilitate student learning, the teacher’s overall sense of his/her own teaching effectiveness. *General teaching efficacy* (GTE) represents the belief that teaching can have a positive effect on students, even in light of external factors or conditions such as low socio-economic status.

Taking the two strands and building off the teacher efficacy scale created by Gibson and Dembo (1984) and Tschannen-Moran, Woolfolk, and Hoy (1998) suggested a new integrated model to measure teacher efficacy. According to Tschannen-Moran et al. (1998), teaching task and context is required in order to make a judgement on efficacy. Teachers need to assess their competence across a range of tasks they are asked to perform. This new measure developed by Tshannen-Moran et al. (1998) assesses both personal competence and analysis of the teaching contexts.

Tschannen-Moran et al. (1998) stated that teacher sense of efficacy affects the effort that teachers will put into teaching. They go on to explain that teacher sense of efficacy is cyclical in nature. Thus meaning, greater efficacy leads to greater effort, which leads to enhanced performance, which in turn will lead to a higher sense of efficacy. The reverse also holds true. A teacher with low efficacy leads to less effort, which leads to poor instructional practices, which in turn produces decreased efficacy.
According to Tschannen-Moran et al. (1998), when teachers implement new practices they experience a negative effect on their sense of efficacy. Changes in standards impact teachers’ beliefs about the effectiveness of their teaching. Once a teacher develops new strategies to meet the changes in standards, they gain confidence and therefore increase their efficacy.

Bandura (1995) noted that the tenets of coaching and efficacy provides the experiences essential to increasing efficacy. Tschannen-Moran et al. (1998) also reported that higher efficacy has been related to the willingness to make use of coaching. As teachers implement new strategies, they need encouragement and support to overcome dips in efficacy. According to Tschannen-Moran and McMaster (2009), people seek proficient models who can demonstrate for them the skills in which they desire. This model is described as a vicarious experience. Through vicarious experiences of watching others implement a new strategy; teachers are more likely to see the teaching strategy as manageable. Tschannen-Moran and McMasters (2009) found that
professional development that included follow-up coaching was related to increased implementation.

Recent empirical research identifies the relationship between teachers’ years of experience and their reported self-efficacy (Akopochafo, 2014; Knobloch, 2006; Woolfolk Hoy & Burke-Spero, 2005). Teachers report their highest levels of self-efficacy at the conclusion of student teaching (Knobloch, 2006; Woolfolk Hoy & Burke-Spero, 2005). Elementary teachers report higher levels of self-efficacy than middle or high school teachers (Klassen & Chiu, 2010; Wolters & Daughtery, 2007). Dixon, Yssel, McConnel, and Hardin (2014) examined the number of hours spent in professional development and the effects on teachers’ self-efficacy. Their data revealed the greater number of professional development hours were positively associated with teacher sense of efficacy, regardless of grade level taught.

**Statement and Rationale for the Hypotheses**

This study explored the extent to which coaching affects teachers’ sense of self-efficacy in a rural school district in Central Alabama. More specifically, this study examined the differences in teacher sense of self-efficacy when teachers have been coached by peer coaches versus those who have been coached by external coaches.

The literature review revealed that quality professional development is most impactful when followed by coaching. Coaching provides teachers with the support and feedback in order to try new instructional practices. Efficacy is increased when teachers develop new strategies and gain confidence (Goddard, Hoy & Hoy, 2000). It is also increased through time invested in professional learning, which coaching provides. Teacher sense of self-efficacy has been linked to coaching because coaching involves identifying and sometimes changing existing beliefs, including teacher self-efficacy beliefs to support new instructional practices and therefore
impacting student achievement (Goddard et al., 2000; Tschannen-Moran & McMaster, 2009).

The model in Figure 2 provides the theoretical framework for this study linking coaching to efficacy and instruction, which in turn impacts student achievement.

![Figure 2: Theoretical framework](image)

**Figure 2.** Theoretical framework

After a review of the literature on professional development, more specifically coaching, and empirical research on teacher sense of self-efficacy, the following hypotheses were developed:

H1: Teachers who receive instructional coaching have a higher sense of self-efficacy, despite years of service or grade level taught.

H2: Teachers who receive instructional coaching from their colleagues have a higher sense of self-efficacy than their colleagues who have been coached by external coaches.

To gain a better understanding of why teachers who have received peer coaching or instructional coaching have a greater sense of self-efficacy, a qualitative portion of the study is necessary. The literature review revealed the importance and impacts of coaching on teacher sense of self-efficacy; however, a gap existed in the literature relevant to peer coaching versus external instructional coaching.

R1: How does coaching impact teacher sense of self-efficacy?
Summary

Quality professional development is essential to continuous learning for teachers and ambitious reform initiatives hinge on the effectiveness of teachers (Garet et al., 2001). With emerging technology, Common Core State Standards, and a new age of digital learners, teachers must stay abreast of current trends. Instructional strategies teachers use must meet the needs of their students. When provided quality professional development, teachers can design their instruction to impact student achievement.

Professional development must be ongoing and can no longer be a one-stop workshop. Some research tells us to impact student achievement teachers need at least 14 hours of professional learning on a single topic (DeMonte, 2013). For better results, more than 30 hours is suggested (Reich & Daccord, 2009). With the ultimate goal being to change teacher instruction, some research found 80 hours of professional learning to be optimal (Darling-Hammond et al., 2009). Providing this intense level of professional development will prove to be a challenge for many school districts. This type of high quality professional development is costly. Districts can either focus resources on fewer teachers or invest the necessary resources to ensure more teachers benefit from high-quality professional development and coaching.

Teachers need opportunities in their own schools to understand, experience, and reflect on innovative methods (Burke, 2013). Teachers learn best when collaborating with their peers. Administrators who develop professional learning must keep this in mind when organizing learning activities. Garet et al. (2001) state teachers need to be engaged in active learning. These active learning activities need to include peer observations with feedback, reviewing of student work, and teachers leading the discussions. The content of professional development activities should always be related to their area of teaching or reform efforts.
Administrators must also pay attention to the role that self-efficacy plays when teachers are implementing new strategies (Tschannen-Moran & McMasters, 2009). Teacher’s sense of self-efficacy will first take a dip when trying something new. Coaches can help support teachers through this phase of implementation. Administrators will also need to be creative when scheduling time for teachers to collaborate. Some systems use professional development days that are designated for teacher learning. Other systems provide before- and after-school learning for teachers. No matter when the scheduled activity is, it must allow time for peer collaboration and most importantly follow-up coaching.

Given the link between teachers’ professional development to school improvement efforts and the financial investment from state and local levels, increasing our understanding of how schools can provide and deliver the best professional development is a worthwhile endeavor. The goal of professional learning is to change teachers’ instruction and impact student achievement. If organizers plan quality professional development followed by coaching for teachers it not only will impact student achievement, but change the learning culture of the school.

The review of literature revealed evidence that teacher sense of self-efficacy impacts implementation of new instructional strategies and has a positive effect on student achievement. The quality of professional development and components of effective professional development followed by coaching impacts the implementation and sustained use of these newly learned teaching techniques.
CHAPTER III:
METHODOLOGY

Introduction

A description of the methodology and procedures used to frame this study are discussed in this chapter. The sample, research design, data collection, and statistics will be discussed to help understand the methodology selected by the researcher.

The purpose of this study is to evaluate the impact of instructional coaching and peer coaching on teacher sense of self-efficacy. The researcher chose to use a mixed method approach of explanatory sequential to investigate the relationship between coaching, peer and external, on teacher sense of self-efficacy by utilizing the TSES and teacher interviews. This chapter will provide the methodology selection and research design to answer the research questions guiding the study.

Sample

Quarry City Schools (pseudonym) is a small rural district that is positioned between Birmingham and Auburn in Alabama. Enrollment is around 2100 students, with about 60% of those receiving free or reduced lunch. Students typically score at or above the State average on many assessments. ACT scores have struggled over the past few years. Students score well in the area of English, but fall short of benchmarking in math and Science. They continue to seek ways to increase proficiency in math and reading across all grade levels.

Quarry City Schools has been utilizing coaching for over twenty years. Reading coaches were housed in the elementary schools up until six years ago through the work of Alabama
Reading Initiative. Then came restructuring from the Alabama State Department of Education, and those coaches transitioned into instructional partners that served all four schools in the district. For two years funding continued for instructional coaches to continue working with all grade levels. Four years ago funding was lost for the instructional coaches and the positions were eliminated. Presently the State Department of Education is funding reading coaches for one coach per school with kindergarten through third grades. The system uses one coach at the K-2 school and an additional coach at the 3-5 school.

From 2014-2017 they worked with PowerSchool to provide professional development followed by coaching to teachers at every grade level. An investment of over $300,000 was made to provide this professional learning for our teachers. PowerSchool sent experts in the fields of math, reading, and instructional technology during this period of time. The contract was suspended this school year because of the little growth in student summative assessments.

Over the past two years they have contracted with Southern Regional Education Board (SREB) to complete a math audit. A team from SREB conducted observations, pulled lesson plans, reviewed student work, and interviewed teachers, parents and students. The audit revealed what they expected; teachers were either not teaching to the standards or not teaching at a rigorous enough level to prepare students for higher level math. After the audit findings they entered into an additional contract with SREB to provide professional development followed by coaching to secondary teachers. The secondary teachers needed more immediate attention than the elementary teachers. The contract provides secondary teachers with five days of professional development, followed by on-site coaching from one of their staff.

Teachers at the elementary schools have received math specific coaching from the Alabama Math, Science and Technology Initiative (AMSTI) beginning in the summer of 2018.
Teachers spent four days in the summer with AMSTI coaches taking a deeper look at the math content standards in the elementary grades. Teachers identified the standards that were essential to master before moving onto the next grade. AMSTI coaches have spent time in the classrooms observing this school year and providing teachers feedback. The coaches also conduct data meetings with teachers to determine if students are mastering the standards. If students are still struggling, coaches offer instructional strategies and activities to increase mastery.

All 163 teachers in Quarry City Schools were asked to voluntarily complete the TSES during faculty meetings. Teachers range in experience from one year to twenty-seven years of classroom experience. Teachers from preschool through twelfth grade are represented in the sample. Teachers who have been peer coached are also represented across the grade levels. Not all teachers have been exposed to peer coaching. Principals from each of the four schools gave two teacher recommendations based on who had received peer coaching in the last two years and who had an established relationship with the researcher. Only teachers who have tenure in the district were selected to participate in the interview portion of the study. The principals at each of the four schools discussed their recommendations for teachers to be interviewed with the researcher. The researcher helped the principal to make the selection based on teachers’ coaching experiences. It was necessary to select teachers who had a variety of coaching experiences. Teachers selected had experiences with peer coaching and external coaching. The principal helped the researcher select participants that had an established relationship with the researcher and were identified as being “leaders” among their peers. This purposeful selection of teachers that have established rapport with the researcher was to generate knowledge both for the participants and the researcher (Maxwell, 2013). The Superintendent gave permission prior to collecting the data.
Design

The researcher utilized an explanatory sequential design to conduct this mixed-methods study. An explanatory sequential design consists of first collecting quantitative data and then collecting qualitative data to help explain or elaborate on the quantitative results (Creswell and Plano Clark, 2011). The study design allowed for a more thorough investigation by following up the quantitative portion of the study with a qualitative phase that looked for emergent themes. The dependent variable, teachers’ sense of self-efficacy, was measured by the Teachers’ Sense of Efficacy Scale (TSES). The independent variables consisted of teachers who had been coached and those who were not coached. Control variables included years of experience and grade level taught. Quantitative data were analyzed using a paired t-test and an ANOVA, while the qualitative data were analyzed using an inductive coding process. The quantitative data and results provide a general picture of the research problem. Qualitative data was needed to further explain the general picture.

Figure 3. Explanatory sequential design

The researcher completed the application to obtain approval from the Institution Review Board (IRB) to conduct research in October of 2018. The researcher obtained written consent to conduct research from the superintendent of Quarry City Schools and from the principals of each of the four school in the study. An overview of the study was offered to the superintendent followed by a letter of consent, which was signed during the meeting to grant permission for the research. The same process was repeated with each of the four principals. After the IRB granted
approval for the study in November 2018, the researcher and school principals set a date for the researcher to attend faculty meetings at each school to share an overview of the study and ask teachers to participate. Once principals made teacher recommendations for interviews, the researcher met with the teachers individually and obtained written consent prior to conducting interviews.

Quarry City Schools teachers were asked to participate in the study during faculty meetings. The researcher administered the TSES to all teachers present at faculty meetings during December 2018. Each time the TSES was administered the researcher explained that participation was voluntary. The researcher assured participants that confidentiality would be maintained.

Once principals and the researcher made the selection of teachers to participate in the interview, the researcher contacted each teacher. The researcher explained the process and set up at time to meet with each teacher. Meetings were held at a time and place that were chosen by the teacher during the month of December of 2018. Each meeting began with a review of the study and obtaining consent from the teacher being interviewed. It was explained to teachers that their names would not be used in order to maintain confidentiality. Interviews were conducted using audio recording that were later transcribed.

Data Collection

In this mixed-method research study, quantitative data will be collected using a paper version of TSES. Qualitative data will be gathered through conducting one-on-one interviews with teachers.
**Interviews**

The qualitative data following the TSES was completed through an interview process using a semi-structured interview protocol, leaving room for follow-up questions based on initial answers. The interview questions were informed by both the literature review and personal experience. Teachers were asked the same questions that reflect on their coaching experiences. Teachers were interviewed at their schools or a place most convenient for them. Interviews took anywhere from thirty minutes to around an hour to complete. Responses were reviewed to reveal common themes existing among respondents.
## Current Forms of Coaching at Quarry City Schools

<table>
<thead>
<tr>
<th>Name</th>
<th>Purpose</th>
<th>Peer or External</th>
</tr>
</thead>
<tbody>
<tr>
<td>SREB</td>
<td>Provide professional development, observation, lesson planning and feedback for math teachers in grades 6-12. This coaching is required for all math teachers at the secondary level.</td>
<td>External</td>
</tr>
<tr>
<td>Reading</td>
<td>Work individually with teachers in grades K-5 in specific literacy instruction. This form can be requested by the teacher or suggested from administrators.</td>
<td>Peer</td>
</tr>
<tr>
<td>AMSTI (math)</td>
<td>Focus on standards and strategies for teaching math in grades K-5. All teachers participate in professional development, coaching and quarterly data meetings. AMSTI is required for all elementary teachers currently teaching math.</td>
<td>External</td>
</tr>
<tr>
<td>eMints</td>
<td>Instructional strategies that are designed to incorporate the use of technology into classroom lessons. All middle school teachers have participated as well as seven teachers at the elementary school.</td>
<td>Peer</td>
</tr>
<tr>
<td>NBCT</td>
<td>Teachers who are seeking National Boards Certification are assigned a mentor to help them navigate the process.</td>
<td>External</td>
</tr>
<tr>
<td>Co-Teaching</td>
<td>Two teams of teachers at the middle school (four total teachers) were selected by the State Department of Education to pilot a co-teaching program. Each team consist of one general education and one special education teacher. The focus of the coaching it so facilitate co-teaching in classrooms between the two teachers.</td>
<td>External</td>
</tr>
<tr>
<td>AMSTI (science)</td>
<td>Teachers at the elementary and middle schools who teach science have participated in AMSTI training and coaching. The focus is on providing teachers with engaging standards based units.</td>
<td>External</td>
</tr>
<tr>
<td>SDE</td>
<td>The State Department of Education provides coaching at the elementary level to preschool teachers. The focus is to ensure classroom activities are age-appropriate and meeting the needs of the students.</td>
<td>External</td>
</tr>
<tr>
<td>Mentoring</td>
<td>First year teachers are provided mentors to help them through the various demands of teaching. Mentors assist with pacing, lesson planning, grading, procedures and overall system and school expectations.</td>
<td>Peer</td>
</tr>
</tbody>
</table>
Measures

Teachers from Quarry City Schools completed the Teachers’ Sense of Efficacy Scale (TSES) during faculty meetings using a paper form. Participants completed a demographic section of the survey, allowing the researcher to collect demographic data on respondents. Respondents were asked information regarding current position (elementary or secondary), years of experience (<1-3, 4-10, 11-17, 18-25, or >25), received coaching (yes or no) and who did they receive coaching from (outside source, peer or both). To maintain confidentiality, teachers did not include their names on the TSES.

The Teachers’ Sense of Efficacy Scale (TSES) is a 24 survey item scale that asks respondents to relate to their feelings towards teaching efficacy and instruction. The TSES uses a Likert scale from 1 to 9 with a response of 1 representing nothing and a response of 9 representing a great deal. Researchers tested the TSES instrument in three different studies. The first study resulted in the original 52 item measure being reduced to 32. The second study further reduced the scale to 18 items made up of three subscales: efficacy for instructional strategies, efficacy for classroom management, and efficacy for student engagement. It was the third study that arrived at the current TSES 24 item instrument and a short form that contains 12 items. The factor structure, reliability and validity of the new measure were examined. Tschannen-Moran and Hoy (2001) stated, “It is superior to previous measures of teacher efficacy in that it has unified and stable factor structure and assesses a broad range of capabilities that teachers consider important to good teaching.”

Analysis

Quantitative

Data from the TSES were analyzed using IBM SPSS. To answer research question one, a t-test was conducted to determine if there was a statistically significant mean difference in
teachers’ sense of self-efficacy if they had received coaching. Research question two was analyzed by using an ANOVA to find if there was a positive and significant relationship between teachers’ self-efficacy and types of coaching they have participated in. A significance value of .05 was used for this study.

Qualitative

To answer research question three, qualitative data were gathered from one-on-one interviews. Interviews were analyzed using an inductive approach. Once interviews were completed the researcher used rev.com to transcribe each interview. The interviews were read three times to begin the coding process. Transcriptions were then uploaded to Quirkos software to begin color coding and identifying themes. Strauss and Corbin (1990) noted “coding represents the operations by which data are broken down, conceptualized, and put back together in new ways.” (p. 57). The researcher then used in vivo coding to help preserve participants’ meaning of their views of coaching (Saldana, 2016). The focus was on describing what teachers have in common as they experience this phenomenon, coaching. The purpose was to develop a composite description of the essence of the experience for all of the teachers interviewed. The description consisted of “what”, “why” and “how” the teachers have experienced coaching that could lead to a higher sense of self-efficacy.

Trustworthiness

The qualitative portion of this study involved interviews with participants who work with the researcher. Confidentiality of participants was maintained throughout the study. During interviews, reflection and rephrasing was used by the researcher to further understand the participants’ experiences. To foster trustworthiness in this study, the researcher used audio recordings of the interviews with participants. The recordings were then transcribed and made
available to each participant for his or her review for accuracy. Member checking was established by providing participants the opportunity to correct errors or misconceptions in the coding and established themes.

**Summary**

This chapter provides the methodology for the study. It began with a description of the sample, then a discussion of the design, followed by data collection, measures, and analysis. Trustworthiness was also discussed in this chapter.
CHAPTER IV:
DATA ANALYSIS AND RESULTS

The purpose of this research was to collect quantitative and qualitative data to answer the research questions posed in the study. This study sought to investigate the impact of instructional coaching on teachers’ sense of self efficacy. The research followed a mixed method design to collect both quantitative and qualitative data. This chapter examines the results of the data collected from the research instruments. This chapter is divided into two sections: quantitative and qualitative. The quantitative section contains the results of the TSES administered to measure teachers’ sense of self efficacy and what impact coaching had on such beliefs. Some additional data was gathered along with the TSES: years of experience, elementary or secondary teacher, if the teacher had received coaching and by whom they had been coached. The qualitative section contains a report of the findings labeling the themes that emerged during the analysis of participants’ responses to questions during scheduled interviews.

Quantitative Analysis

The TSES was provided in a paper format to 163 teachers at Quarry City Schools in December of 2018. A total of 104 were completed, but only 102 were analyzed due to missing data from two respondents. The response rate was 63%. Table I displays participant demographics regarding grade level taught, years of teaching experience, and coaching experiences.
Table 2

Participants Demographics: Grade Level, Years Teaching, and Coaching Experience

<table>
<thead>
<tr>
<th></th>
<th>Frequency (n)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grade Level</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary</td>
<td>45</td>
<td>44.0</td>
</tr>
<tr>
<td>Secondary</td>
<td>57</td>
<td>56.0</td>
</tr>
<tr>
<td><strong>Years of Teaching</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-3 Years</td>
<td>17</td>
<td>16.6</td>
</tr>
<tr>
<td>4-10 years</td>
<td>34</td>
<td>33.3</td>
</tr>
<tr>
<td>11-17 years</td>
<td>18</td>
<td>17.6</td>
</tr>
<tr>
<td>18-25 years</td>
<td>26</td>
<td>25.5</td>
</tr>
<tr>
<td>&gt;25 years</td>
<td>7</td>
<td>6.8</td>
</tr>
<tr>
<td><strong>Received Coaching</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>80</td>
<td>78.4</td>
</tr>
<tr>
<td>No</td>
<td>22</td>
<td>21.6</td>
</tr>
<tr>
<td><strong>Coaching Provided By</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer</td>
<td>14</td>
<td>13.7</td>
</tr>
<tr>
<td>Outside</td>
<td>16</td>
<td>15.6</td>
</tr>
<tr>
<td>Both</td>
<td>50</td>
<td>49.0</td>
</tr>
<tr>
<td>NA</td>
<td>22</td>
<td>21.5</td>
</tr>
</tbody>
</table>

**Instrument Reliability**

Cronbach’s alphas were calculated to assess the reliability or internal consistency of the TSES and its three subscales. Table 3 provides the Cronbach’s alpha coefficient for this study and the reliability coefficients reported from Tschannen-Moran and Hoy’s (2001) and this study. According to Morgan, Leech, Gloeckner and Barrett (2013) acceptable reliability coefficients are greater than .70.
Table 3

*Reliability Coefficients for TSES*

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TSES</td>
<td>.94</td>
<td>.934</td>
</tr>
<tr>
<td>Efficacy in Student Engagement</td>
<td>.87</td>
<td>.902</td>
</tr>
<tr>
<td>Efficacy in Instructional Strategies</td>
<td>.91</td>
<td>.875</td>
</tr>
<tr>
<td>Efficacy in Classroom Management</td>
<td>.90</td>
<td>.902</td>
</tr>
</tbody>
</table>

**Research Question 1**

Is there a relationship between coaching and teacher sense of self-efficacy? To determine if there was a significant difference in level of teachers’ sense of self-efficacy between teachers who had received coaching and those who had not, a t-test was conducted. This statistical approach was used because the research question called for a comparison of the mean TSES levels (the dependent variable) of two independent groups. The independent sample t-test was conducted to compare composite teacher sense of self-efficacy (TSES) score means and factor score means for each of the three subscales that compromise the TSES (Student Engagement, Instructional Strategies, and Classroom Management). Table 4 shows the group statistics, including mean efficacy scores and standard deviations for the total and each composite score.
Table 4

*Differences Between Coached and Non-Coached*

<table>
<thead>
<tr>
<th></th>
<th>Coached</th>
<th>Non-Coached</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Teacher Efficacy Total</td>
<td>7.22</td>
<td>.788</td>
</tr>
<tr>
<td>Student Engagement</td>
<td>6.98</td>
<td>.836</td>
</tr>
<tr>
<td>Instructional Strategies</td>
<td>7.31</td>
<td>.803</td>
</tr>
<tr>
<td>Classroom Management</td>
<td>7.37</td>
<td>1.010</td>
</tr>
</tbody>
</table>

*Note.* Statistically significant (p<.05)

Table 5 provides the results of the paired *t*-test regarding coaching and its influence on teacher sense of self-efficacy. Results of the paired *t*-test indicate there was not a statistically significant mean difference between teacher’s sense of self-efficacy if teachers had received coaching or not. Note that teachers who had received coaching had a higher sense of self-efficacy in the area of Student Engagement (M=6.98) than those who had not received coaching (M=6.82).

Table 5

*T-test Teacher Sense of Self-Efficacy Between Coached and Non-Coached*

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th><em>t</em>-value</th>
<th>df</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coached</td>
<td>80</td>
<td>7.22</td>
<td>.788</td>
<td>.176</td>
<td>101</td>
<td>.860</td>
</tr>
<tr>
<td>Non-Coached</td>
<td>23</td>
<td>7.19</td>
<td>.876</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Statistically significant (p<.05)
Table 6 provides the result of the \( t \)-test regarding coaching and its influence on teacher sense of self-efficacy. Results of the \( t \)-test indicate there was not a statistically significant mean difference between teachers who received coaching and teachers who have not received coaching, \( t(101)= .176, p=.860 \). However, those teachers who had received coaching had a higher sense of self-efficacy (\( M=7.22, SD=.788 \)) compared to those who had not received coaching (\( M=7.19, SD=.876 \)).

Table 6

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>( t )-value</th>
<th>df</th>
<th>( p )-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peer Coach</td>
<td>14</td>
<td>7.27</td>
<td>.788</td>
<td>.618</td>
<td>18.54</td>
<td>.544</td>
</tr>
<tr>
<td>Outside Coach</td>
<td>17</td>
<td>7.10</td>
<td>.472</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Statistically significant (\( p<.05 \))

Results of the \( t \)-test shown in Table V indicate there was not a statistically significant difference between teachers who had been coached by a peer or outside coach, \( t=.618, p=.544 \). This answers the second research question: Is there a difference between teachers’ sense of self-efficacy when they are coached by their colleagues versus an external coach?

Teachers report their highest levels of self-efficacy at the conclusion of student teaching (Knobloch, 2006; Woolfolk Hoy & Burke-Spero, 2005). Elementary teachers report higher levels of self-efficacy than middle or high school teachers (Klassen & Chiu, 2010; Wolters & Daughtery, 2007). Teachers who receive instructional coaching have a higher sense of self-efficacy, despite years of service or grade level taught, was a hypothesis that needed further analysis using a two-way ANOVA. Table VI displays the means and standard deviations for teacher sense of self-efficacy separately for grade level taught and coaching experience. Table 7
shows that there was not a significant interaction between grade level taught and coaching experience on teacher sense of self-efficacy ($p = .466$).

Table 7

*Means, Standard Deviations and n for Teacher Sense of Self-Efficacy as a Function of Grade Level Taught and Coaching Experience*

<table>
<thead>
<tr>
<th></th>
<th>Elementary</th>
<th>Secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$n$</td>
<td>$M$</td>
</tr>
<tr>
<td>Coached</td>
<td>41</td>
<td>7.18</td>
</tr>
<tr>
<td>Non-Coached</td>
<td>5</td>
<td>6.86</td>
</tr>
</tbody>
</table>

Table 8

*Analysis of Variance for Teacher Sense of Self-Efficacy as a Function of Grade Level Taught and Coaching Experience*

<table>
<thead>
<tr>
<th>Teacher Efficacy</th>
<th>df</th>
<th>$MS$</th>
<th>$F$</th>
<th>$n2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Level</td>
<td>1</td>
<td>.833</td>
<td>1.260</td>
<td>.013</td>
</tr>
<tr>
<td>Coaching Experience</td>
<td>1</td>
<td>.304</td>
<td>.462</td>
<td>.005</td>
</tr>
<tr>
<td>Grade Level*Coaching Exp.</td>
<td>1</td>
<td>.353</td>
<td>.535</td>
<td>.005</td>
</tr>
<tr>
<td>Error</td>
<td>99</td>
<td>.659</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A second two-way ANOVA was used to analyze the interaction between years of experience and coaching experience on teacher sense of self-efficacy. Table VIII displays the means and standard deviations for teacher sense of self-efficacy separately for years of experience and coaching experience. Table 9 demonstrates that there was not a significant
interaction between years of experience and coaching experience on teacher sense of self-efficacy \((p=.290)\).
Table 9

*Means, Standard Deviations and n for Teacher Sense of Self-Efficacy as a Function of Years of Experience and Coaching Experience*

<table>
<thead>
<tr>
<th></th>
<th>1-3</th>
<th>4-10</th>
<th>11-17</th>
<th>18-25</th>
<th>&gt;25</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>M</td>
<td>SD</td>
<td>n</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Coached</td>
<td>14</td>
<td>7.40</td>
<td>.739</td>
<td>23</td>
<td>7.12</td>
<td>.850</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>6.60</td>
<td>.770</td>
<td>79</td>
<td>7.22</td>
<td>.793</td>
</tr>
<tr>
<td>Not Coached</td>
<td>3</td>
<td>7.76</td>
<td>.509</td>
<td>11</td>
<td>7.01</td>
<td>.711</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>7.46</td>
<td>1.28</td>
<td>1</td>
<td>8</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 10

Analysis of Variance for Teacher Sense of Self-Efficacy as a Function of Grade Level Taught and Coaching Experience

<table>
<thead>
<tr>
<th>Variable and source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>n2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher Efficacy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years of Experience</td>
<td>1</td>
<td>.482</td>
<td>.751</td>
<td>.008</td>
</tr>
<tr>
<td>Coaching Experience</td>
<td>4</td>
<td>.885</td>
<td>1.378</td>
<td>.057</td>
</tr>
<tr>
<td>Years of Exp.*Coaching Exp.</td>
<td>4</td>
<td>.812</td>
<td>1.264</td>
<td>.052</td>
</tr>
<tr>
<td>Error</td>
<td>92</td>
<td>.642</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Data were recoded using a 1-5 scale as opposed to 1-9 to determine if there was statistical significance difference between teachers’ sense of self-efficacy of who had received coaching and those who had not. Using an independent samples t-test there was not a statistical significance between teachers’ sense of self-efficacy if they had received coaching or not. A one-way ANCOVA was conducted to compare teachers’ sense of self-efficacy while controlling for experience, grade level taught and form of coaching received. Levene’s test and normality checks were carried out and the assumptions met. There was a not a significant difference in teachers’ sense of self-efficacy when controlling for any of the above variables.

**Qualitative Analysis**

This section of the study reports on the interviews that took place between the researcher and the teachers from Quarry City Schools. Teachers were identified by their principals and then asked to participate in the qualitative component of the study. Two teachers from each of the four schools were selected to participate in the study. Teachers selected had
tenure status and had received coaching in the last two years. Each teacher gave consent to audio recording of the interviews prior to being interviewed. Four teachers were elementary teachers and the other four were secondary teachers. A semi-structured interview protocol was used, which allowed the researcher to ask clarifying questions in the moment. Questions were generated by information gathered during the literature review and personal experience. Questions focused on student engagement and instructional practices, forms of efficacy, as well as coaching experiences. See the interview protocol included in Appendix C. The analysis of the research question “How do teachers describe their experiences with coaching?” occurred, citing information gathered during the interviews.

Data were collected using audio recordings during the interviews. The audio recordings were then transcribed using an online service. Once the transcriptions were obtained, the interviews were read and reread to begin identifying initial codes. Then data was uploaded to Quirkos to begin color coding and identifying themes. Themes and subthemes emerged through this process.

Participants

All of the teachers selected by their principals to participate had tenure and had been coached in the last two years. The researcher obtained written consent from each teacher interviewed. Interviews were scheduled at a time and location convenient to the teacher. It was important to the researcher to keep identity of the teachers anonymous due to the study taking place in a small school district. Relevant information about each teacher is years of experience, grade level taught, degree held, type of coaching they had received and subject area(s) they teach, as seen in Table 11.
Table 11

Teacher Participants

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Elementary or Secondary Teacher?</th>
<th>Years of Experience</th>
<th>Degree Level</th>
<th>Type (s) of Coaching</th>
<th>Subject Area(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Elementary</td>
<td>4</td>
<td>Masters</td>
<td>Reading</td>
<td>All</td>
</tr>
<tr>
<td>2</td>
<td>Elementary</td>
<td>8</td>
<td>Bachelors</td>
<td>SDE Reading</td>
<td>All</td>
</tr>
<tr>
<td>3</td>
<td>Secondary</td>
<td>23</td>
<td>Masters</td>
<td>SREB Mentoring</td>
<td>Math</td>
</tr>
<tr>
<td>4</td>
<td>Elementary</td>
<td>19</td>
<td>Bachelors</td>
<td>Reading NBCT</td>
<td>ELA &amp; Social Studies</td>
</tr>
<tr>
<td>5</td>
<td>Secondary</td>
<td>9</td>
<td>Masters</td>
<td>AMSTI eMints NBCT</td>
<td>Science</td>
</tr>
<tr>
<td>6</td>
<td>Secondary</td>
<td>4</td>
<td>Bachelors</td>
<td>SREB</td>
<td>Math</td>
</tr>
<tr>
<td>7</td>
<td>Elementary</td>
<td>4</td>
<td>Masters</td>
<td>AMSTI Mentoring</td>
<td>ELA and Social Studies</td>
</tr>
<tr>
<td>8</td>
<td>Secondary</td>
<td>22</td>
<td>Bachelors</td>
<td>eMints SREB Co-Teaching</td>
<td>Math</td>
</tr>
</tbody>
</table>

Findings

Interviews were analyzed using the methods outlined in Chapter III, there were three major themes and sub-themes that emerged from the data. Themes emerged through the coding process using an inductive approach. As themes emerged, they were organized and a narrative description of the findings was presented. These major themes included types of coaching: Reading, AMSTI and SREB. Subthemes identified were why the type of coaching was
preferred, how the coaching impacted instruction and student impact resulting from coaching.

The subthemes identified are derivatives of teacher efficacy. Teacher efficacy has been linked to coaching which supports new instructional practices (Goddard et al, 2000; Tschannen-Moran & McMaster, 2009). When teachers develop new strategies and gain confidence efficacy is increased (Goddard, Hoy & Hoy, 2000). Teachers’ personal belief systems can predict instructional capacity and foster growth in the students they teach (Bandura, 1997; Goddard, Hoy & Woolfolk Hoy, 2000; Shaw, 2009). Statements from participants are included to substantiate the development of categories. Figure 4 provides a visual of how the themes and subthemes emerged.

**Figure 4.** Major themes from qualitative analysis

**SREB**

Three of the eight participants highly preferred the coaching they had received from the Southern Regional Education Board (SREB). This coaching began last January and is coupled with professional development. The focus of the coaching is math instruction. Teachers spend
one day with a group of other math teachers receiving instruction from one of SREB’s math experts. The other two days the SREB coach spends time in the classrooms observing lessons and then debriefing with teachers. This cycle of coaching from SREB happens every other month.

Teachers gave various reasons for why they preferred this form of coaching. One of the main reasons given is coaching is embedded into their curriculum. Teachers shared that too often the professional development they had received in the past had not addressed math content at their level. Teacher 6 shared, “it’s been a lot more beneficial to have someone actually come and sit in your room and see what you’re doing rather than just tell you what you need to do.” All three of the teachers who preferred this type of coaching taught math.

A second reason given by the teachers for their preference of SREB is the feedback they received from the coach. Teachers are observed doing a formative assessment lesson that are chosen prior to the coach’s observation. The coach spends an entire class period observing. At the end of the day the coach sits down with the teacher and the principal to discuss what went well and any changes they may make in future lessons. Teachers were very appreciative of the feedback provided and felt the constructive criticism only made their instruction better. When teachers have struggled with particular content or lessons, the coach has stepped in to model a lesson.

Teachers discussed they were studying student data now and identifying students’ misconceptions. They had not done this prior to the SREB coaching. Each time the coach visits teachers bring student work samples to share with the group. Teachers work in teams to review the students’ work and identify mistakes. From there the teachers work to identify the students’ misconceptions and then plan instruction to help fix the errors.
Another reason teachers preferred SREB coaching was because it was student focused. Not only were they taking a look at the data and misconceptions, but also the way in which they asked and answered questions. Teachers were encouraged to let students have a productive struggle in order to solve math problems. Before the coaching began, teachers were quick to offer an answer to students and not allowing the students time to think.

**Teacher sense of self-efficacy.** Teachers who preferred SREB coaching stated they had changed their instructional practices. The methods and strategies learned are different from what they were accustomed to doing. Teachers had increased the rigor of their instruction. One teacher said the strategies she has learned now guides her daily lessons. While another stated, “I feel like it’s changed my instructional practices a lot.”

The push from SREB has been for teachers to have more student led classrooms. Teachers plan their lessons including anticipated student questions. They even think about how they will ask the questions differently. Teachers are not rushing to provide answers, but instead asking thought provoking questions that help students find their own answers. Activities incorporated into the lessons are more hands on and provide time for student collaboration.

**How impacted students.** Throughout the interviews the teachers gave examples of how their students had been impacted by their changes in instruction practices. Some had student assessment results that they felt had been influenced by their coaching experiences. Others had noticeable changes in student engagement and their resiliency.

Students spend time collaborating with their peers and explaining and defending their answers. Since the lessons are more hands on, students are more interested in the lessons and spend more time on task. Because teachers are no longer quick to provide answers, students are
becoming more resilient and keep working to find the answers on their own. One teacher shared the students’ attitudes are different and that it has been “really neat to see what they can do.”

Students in teacher three’s classroom are now required to talk mathematically. She has noticed an increase in their math vocabulary. They were reluctant she admitted in the beginning but now it is part of their daily class discussions.

Two of the teachers have already seen increases in the students’ standardized test scores using the Scantron assessment. Scantron is the current state assessment used in Alabama to measure grade level proficiency on content standards. The assessment is online and scores can be viewed immediately upon completion of the assessment. At the time the interviews were conducted, the teachers had just completed a mid-year Scantron benchmark assessment to measure growth.

**AMSTI**

The Alabama Math, Science and Technology Initiative (AMSTI) is the Alabama Department of Education’s initiative to improve math and science instruction According to the AMSTI website, their mission is to “provide all students in Grades K-12 the knowledge and skills needed to for success in the workforce and/or postsecondary studies. Beginning in the summer of 2018, AMSTI provided professional development and coaching for elementary teachers. AMSTI has also provided training and coaching for science teachers during the last four years. The professional development delivered by AMSTI is based on the content standards and provides teachers with instructional strategies in order to teach those standards. AMSTI also provides materials and resources that accompany the units of study.

Two of the teachers preferred the coaching they had received from AMSTI because it was standards focused and provided them with instructional strategies to teach their content. One
of the teachers had received the math training and coaching from AMSTI, while the second teacher had received the science training and coaching.

The math teacher shared her preference for AMSTI was because it has made her more comfortable with her math instruction. She has a better understanding of the foundational math skills students need. The coach is knowledgeable and guides her in identifying her weaknesses so she can grow in those areas. The coach also pushes the teachers to work as a team and rely on each other in order to grow. She had received previous AMSTI training while in college and was “giddy” when she found out she was going to be part of the coaching process.

For the science teacher, she prefers AMSTI because of the activities and ideas she has gained from her coach. Her coach has helped her with the flow of her units. Before coaching she shared that she did not always get through the standards. The coach helped her pace her units and lessons in order to teach all the standards. It was also the open dialogue she has with her AMSTI coach that made her prefer this coaching experience over others.

**Teacher sense of self-efficacy.** AMSTI coaching has helped the math teacher broaden her mindset and view on instruction. The coach has provided her with different activities and games to help enrich her instruction. She has made both changes in her instruction and classroom management because of the coaching provided. Her understanding of the standards and math foundational skills has made her “a better teacher.”

The coaching has helped her with making instructional decisions and exposing her to different instructional strategies. With the knowledge gain she feels more confident in developing her lessons. She is incorporating more of these instructional tools than she would if not exposed to coaching.
For the science teacher, coaching has changed her science assessments. She has learned how to ask better questions in order to elicit students to think logically. Changing her approach to the standards has helped her lessons flow better. She realizes that her lesson plans may not go as planned and you have to adapt to students’ needs in the moment. Her coach helped her to realize that it was okay modify your lesson in the moment.

**How impacted students.** The materials provided in the science kits from AMSTI creates hands-on experiences for students. This has increased student engagement in the science lessons. Students are now able to interact with the standard to gain a better understanding.

The math teacher has seen students being more engaged and wanting to thrive in what they do. “They are more interested in the subject matter,” she went on to explain. The way she is approaching the standards now has students eager to learn. The games and activities provided by the coach has created a “love of math” in her students and they no longer see math as boring.

“We are one of the biggest impacts in terms of our students’ achievement and if I’m growing as a teacher, my students are growing too,” described one teacher. She further explained that her students are achieving more in their day to day activities which she attributes to the coaching process.

“Oh my gosh, you’re getting it!” was how the math teacher described her students’ math understanding now. The students are more comfortable with math which has affected their performance in mastering the standards. She has seen an increase in mastery on her weekly math assessments.

**Reading: Peer Coaching**

Reading coaches were a preferred method of coaching by the three of the participants. The reading coaches are provided in part by the Alabama Reading Initiative (ARI). According
the Alabama State Department of Education website ARI is a “statewide K-12 initiative committed to supporting the development of high-quality instruction that will prepare all students with the literacy skills needed to meet or exceed grade-level standards and improve reading instruction and ultimately achieve 100% literacy.” ARI provides differentiated levels of support, including professional development, onsite support, and funding for school literacy coaches. The Initiative focuses on the following aspects of reading: preventing reading difficulties; identifying struggling readers and intervening to help struggling readers. This past school year ARI has spent more time developing reading coaches through the use of coaching communities.

Two of the teachers preferred the reading coaching because the coach modeled lessons in their classroom. The coach spent time pre-planning and then observing the teacher teach. The participants enjoyed being able to watch the lesson being modeled for them with their own students. One shared just being able to watch the coach conduct small group lessons was “the most beneficial thing that I have been able to do.”

The ability to talk to the reading coach and compare ideas was another reason that the participants preferred reading coaching. Participants mentioned the proximity of the coach and how helpful it was to have them in the building. When they had questions it was easy to get an answer.

Teachers preferred this coaching type because it met their needs and it was geared toward their room. Reading coaches were described by the participants as “willing to help.” Coaches would seek out various materials and resources to help strengthen the literacy lessons for the teachers. One teacher talked about the commitment of the coach, saying the coach is “extremely giving, always willing to give her time.” Because of the time given through the coaching process
and overall commitment from the coach, one teacher explained that it has helped her to better reach her class. She went on to say that this change in instruction would be hard to do in overall professional development because “every class of students is different.”

**Teacher sense of self-efficacy.** Since participating in a coaching cycle with the reading coach one teacher described how she looks at student data differently. The coach taught her how to use the data to better differentiate her instruction. She now groups her students differently because of her time spent with the coach. Coaching has also helped develop a better routine for doing guided reading with her students.

The coach helped to rework and organize the class schedule differently for one participant. Time management is now more important. Before coaching when the teacher had 15 or 20 minutes of unscheduled time, she did not use it wisely. Now since working with the coach she knows how to structure this time and use it to help students become better readers. Instead of starting her literacy block with whole group, she instead starts it with small group lessons.

**How impacted students.** Since the change in how the literacy block is structured students are now excited for small group. Students know the routine now and what is expected of them. Lessons are more hands on and students love the attention they get during small group time with the teacher.

Teacher one said that her students remember from day to day because the small group lessons are helping them to make a connection to the text. Students are also retaining the information better.

Assessment data is showing reading growth for students in one participants room. She has seen growth on benchmark and summative assessments. “All of them had growth” she went
onto say. She notices a difference when listening to her students read. They are more reading more confidently and fluently. Not only is she noticing a difference in their reading, but the students writing is another area that has improved.

**Qualitative Summary**

Similarities can be seen across the types of coaching preferred by the participants. The main reason was the specificity of coaching related to content and curriculum for each individual teacher. A second similarity that all three types of coaching contained was the feedback provided by the coach. This verbal persuasion, a source of efficacy, provided from the coach encouraged teachers to do better. Coaches allowed teachers “room to grow” and “were always there to lend a helping hand.” Teachers had time to observe, plan and reflect with the various coaches. This made an impact on their instruction and reflected in student engagement and overall performance. One teacher stated, “It’s been a lot more beneficial to have someone actually come and sit in your room and see what you’re doing rather than just tell you what you need to do.”

Two of the forms of coaching preferred were external, AMSTI and SREB. “Both of them have their advantages,” one teacher explained while comparing peer and external coaching. She went on to explain, “an external coach has been exposed to things that peer coaches may not have been exposed to.” Peer coaching was seen by all participants as having the advantage of proximity and availability. The findings were in line with the quantitative findings that efficacy was not affected differently by internal or external coaching.
Summary

This chapter was divided into two sections: quantitative and qualitative with a presentation of the findings for each portion of this mixed methods study. The Quantitative section contained the demographic information about the participants, as well as the results of their responses on the TSES. The qualitative section contained a report of the findings along with themes that emerged during analysis of the participants’ responses to interview questions.
CHAPTER V:
SUMMARY AND RECOMMENDATIONS

Introduction

The purpose of this mixed methods study was to examine if a relationship exists between teacher sense of self-efficacy and exposure to coaching, specifically peer coaching. This study was intended to contribute to the broader study of effective professional development for teachers. There is an existing body of literature and research on professional development as well as teacher sense of self-efficacy. Knowledge in the area of teacher’s sense of self-efficacy needs more attention and development within an educational setting (Woolfolk Hoy & Davis, 2006). This study was important, as there is little existing research or empirical studies on instructional coaching, specifically peer coaching, as an effective form of professional development.

The summary of findings is aligned to the methodological and research design as outlined in the first three chapters of the study. Chapter four provided an analysis of both the quantitative and qualitative data analysis. The current chapter will draw on the data analysis and results to present discussion, conclusions and recommendations for future research.

Discussion

The premise of this study was to examine the relationship between teachers’ sense of self-efficacy and instructional coaching. Quantitative findings did not support the notion that coaching impacted teachers’ sense of self-efficacy. However, qualitative data did reveal that
coaching had impacted teachers’ use of instructional strategies and student engagement. The impact of coaching on teachers’ sense of self-efficacy, peer coaching versus external coaching and student outcomes will be discussed in this section.

**Coaching Impact on Teachers’ Sense of Self-Efficacy**

Coaching has the potential to positively impact teacher attitudes, increase the implementation of new strategies, increase teacher sense of self-efficacy, and improve student achievement (Devine, Meyers, and Houseemend, 2013; Killion, 2017; Knight, 2011). This study focused on the direct relationship between coaching and teacher sense of self-efficacy. Of those teachers who had received coaching, quantitative analysis revealed there was not a statistical significant difference in the school district under study. These results differ from other research that demonstrated a positive correlation between teachers’ sense of self-efficacy and coaching (Duran et al., 2009; Guskey & Yoon, 2009). The difference could be contributed to the fact that 78% of participants had received some form of coaching. Only 23 of the 102 participants indicated they had not received any type of coaching.

The quantitative findings are not consistent with earlier research and findings by Tschannen-Moran and McMaster (2009) that found when participants were exposed to coaching they showed increased efficacy in reading and implementation of specific strategies. Qualitative findings in the study did reveal that teachers implemented newly learned strategies and made instructional changes after receiving coaching. The participants attributed this change in instruction to support that was provided by the coach. Participants were allowed to build mastery experiences through observation, followed by reflection with their coaches. Two of the participants stated it was the vicarious learning that most impacted their teaching practices. All participants were impacted by the verbal persuasion offered by their coaches. Coaches invested
time by pre-planning, providing professional development and reflecting with teachers after observing lessons. One teacher explained that the coaching now “guides my teaching every day.” One of the notable responses from a teacher was she is “excited about my curriculum” and knows that she is “a better teacher” because of the coaching experience.

Participants interviewed reflected on the ability to observe their coach modeling a lesson. Some indicated the coach modeled lessons for several days prior to them implementing their own lesson. Bandura (1995) noted that the tenets of coaching and efficacy provides the experiences essential to increasing efficacy. Tschannen-Moran et al. (1998) also report that higher efficacy has been related to the willingness to make use of coaching. Through vicarious experiences of watching others implement a new strategy; teachers are more likely to see the teaching strategy as manageable. Tschannen-Moran and McMasters (2009), found that professional development that included follow-up coaching was related to increased implementation. Interviews conducted through this study found similar findings. Several teachers reported having professional development provided prior to their coaching which help solidify their learning.

Although the quantitative findings did not find a correlation between coaching and increased teacher efficacy, the qualitative data gathered from the interviews suggested that teachers’ efficacy may have been influenced. Efficacy in student engagement, instructional strategies and classroom management are the three areas of efficacy that are measured by the TSES and the focus of this study. Participants that were interviewed reflected on the instructional strategies they were now incorporating because of coaching. They also discussed numerous ways that the instructional changes had impacted student engagement through the various forms of coaching.
Therefore, it is crucial to not solely focus on the quantitative findings. The qualitative findings add to the body of research that exists linking coaching to increased teachers’ sense of self-efficacy.

**External Versus Peer Coaching**

Both quantitative and qualitative analysis did not find a significant difference between teachers’ sense of self-efficacy when coached by a peer over an outside source. Results from other research demonstrated a positive correlation between teacher self-efficacy and peer coaching (Locke et al., 2013; Stevens et al., 2013). When conducting the t-test to examine if there was a significance between teachers who had been coached by a peer versus an external source the cell sizes were small, 14 and 17 respectively. This is because the presence of coaching in the school system is substantial. Many of the participants had experienced both forms of coaching. When completing the TSES, participants did not indicate when they had participated in coaching. The coaching could have taken place in the last few years, but could have easily been over five years ago.

Bruce and Ross (2008) examined the effects of peer coaching on teaching practices in mathematics and teachers’ beliefs in their ability to impact student learning. Their findings found that teachers changed their instructional practices, teacher sense of self-efficacy increased, and peer coaching increased participants’ reflective practices. Joyce and Showers (1980) believed that “modeling, practice under simulated conditions, and practice in the classroom, combined with feedback” was the most productive professional development design. The results from their study revealed teachers who received peer coaching practiced newly learned skills and strategies more frequently and applied them more appropriately than their colleagues who did not receive
coaching. Teachers interviewed indicated they had changed their instructional practices because of their coaching experiences.

Qualitative findings revealed the teachers preferred both types of coaching. They discussed proximity and availability as the advantages of having a peer coach. Participants interviewed used terms and phrases such as “reachable” and “right here in our building.” Several teachers talked about their preference of having face to face conversations. Having a peer coach made it “easy to access and easy to get with in terms of helping develop lessons and get ideas on instruction and good practices.” Several teachers shared they were more reluctant to reach out to external coaches because they knew they were busy. They opted for emails or texts with external coaches. Regardless of their experiences or preferences for coaches, the teachers interviewed felt they benefited from being coached. One of the notable responses from a teacher was she is “excited about the curriculum” and knows that she is “a better teacher” because of the coaching experience.

**Student Outcomes**

Teacher’s sense of self-efficacy is a teacher’s belief that he or she has the ability to affect student performance (Bandura, 1993; Tschannen-Moran, Woolfolk, & Hoy, 1998). Teachers’ personal belief systems can predict instructional capacity and student achievement (Bandura, 1997; Goddard, Hoy & Woolfolk Hoy, 2000; Shaw, 2009). Teachers with a high sense of self-efficacy, create opportunities to engage students in the learning process, even with the most difficult students (Bandura, 2006; Tschannen-Moran & McMasters, 2009). Interviews with participants were consistent with the literature. Teachers felt more confident in their abilities to deliver quality instruction that would produce increases in student achievement after their coaching experiences.
Research conducted over the last decade has shown that when professional development is focused on specific content it can be associated with changes in teachers’ instruction and could be positively linked to student achievement (Desimone et al., 2006). Participants discussed the importance of having professional development and coaching that was directly linked to their content area. According to the participants, coaching met their professional development needs over traditional professional development because it was relevant to their classroom and hands on. Since having coaching in their content areas, they have a better understanding of the standards and instructional strategies to teach them. One teacher stated, “I have grown as a teacher” and clarified further, “as I get better, my students get better.”

Teachers’ sense of self-efficacy has been linked to student achievement (Bandura, 1997; Goddard et al., 2000; Tschannen-Moran & Barr, 2004). In this study, three of the teachers noted gains in student achievement as measured by summative and formative assessments. Other teachers described changes that were not linked to assessments, but more in students’ engagement. Teachers saw an increase in student’s problem solving skills, recall of information, engagement, writing skills, reading fluency, resiliency and eagerness to learn. This is consistent with Bandura’s (2006) notion that both teachers and students benefit when teachers reflect on their sense of efficacy, examine their instructional practices, and make necessary changes to improve their professional practice.

Theoretical Implications

Bandura (1993) states that creating environments that are conducive to the learning process rests on both teachers’ talents and self-efficacy. He explains further that teachers’ classrooms are determined by their beliefs in their instructional efficacy. Teachers with low sense of self-efficacy rely heavily on negative consequences and bribes in order to get students to
comply with classroom demands. Teachers with higher sense of self-efficacy create mastery experiences for their students and foster academic determination. Coaching and efficacy provides the experiences essential to increasing efficacy (Bandura, 1995).

The four sources of efficacy according to Bandura (1993) are mastery experiences, vicarious experiences, verbal persuasion, and emotional state. Bandura viewed mastery experience as the most effective way of creating a strong sense of efficacy. Coaches provided mastery experiences for participants through pre-planning and feedback. Teachers felt prepared to teach the lesson and then were able to make adjustments after reflecting with their coach.

A second way to create and strengthen beliefs of efficacy is through vicarious experiences. Participants described this source of efficacy as being the most impactful. They were able to observe a lesson being model by the coach prior to their own implementation. Bandura (1994) clarified that in order to increase their own confidence; individuals seek others who are more skilled. Two of the participants explained that the ability to watch someone else teach was far more beneficial than hearing the information.

Through supportive relationships, coaches persuaded the participants to try new strategies and ways of teaching. Coaches were there to assist participants in improving instruction in their particular content area. Professional development was provided before and sometimes after coaching. Coaches served as an expert in the field and were credible. Bandura (1997) noted that verbal persuasion is most effective when given by a credible individual. Tschannen- Moran et al., (1998) recognized the potential for verbal persuasion to act as a powerful source of efficacy beliefs in teachers, indicating, “The positive effects of vicarious experiences and verbal persuasions are likely to be pronounced, because practiced teachers can provide compelling models and credible sources of feedback.”
Practical Implications

With school systems struggling to hire and retain quality teachers, equipping teachers with the necessary skills is important for retention. Proper professional development not only validates teachers’ professional standing and strengthens the teaching workforce, but it also correlates with teacher retention (Garcia & Weiss, 2019). The implications of this research and future research in teacher professional development and teacher sense of self-efficacy are critical to retaining teachers in public schools. The practical and immediate implications of this study are for the school district in this study to continue the use of instructional coaching by both peer and external coaches. Teachers saw benefits in both forms of coaching. Teachers valued external coaches because of the diverse perspectives they provided. The school system should continue to invest in external coaches for teachers, especially in content areas that are not represented by peer coaches.

Teachers valued peer coaches because of their ability to access them directly. Only two of the four schools have full time peer coaches. Another implication is for the school system to look at providing peer coaches in the other two schools.

Participants experienced significant changes in their instruction as a result of their coaching experiences. By continuing to provide both peer and external coaches, the school system can continue to improve instruction for teachers. The changes in instructional practices seen by participants lead to evidence of improvement in student engagement. The implication of change in teachers’ instructional practices could ultimately lead to increased student engagement and achievement.

Teachers in this study were provided with content specific professional learning prior to their coaching experience. This is yet another implication for the system to consider. Coaching
across the district should include some form of professional development prior to the coaching cycle. Professional development could include a thorough review of the standards, lesson planning, studying student data and modeling of lessons.

**Recommendations for Future Research**

Coaching is an important area for continued study and for schools to consider as a form of professional development as it has been shown to increase student achievement (Bandura, 1997; Goddard et al., 2000; Tschannen-Moran & Barr, 2004). Specifically, further research is needed to explore the impact peer coaches have on teachers’ sense of self-efficacy. Peer coaching has been shown to increase implementation of newly learned skills and strategies, as well as teachers’ sense of self-efficacy (Joyce & Showers, 1982; Bruce & Ross, 2008).

Teachers with a high sense of self-efficacy create opportunities to engage students in the learning process, even with the most difficult students (Bandura, 2006; Tschannen-Moran & McMasters, 2009). Knowledge in the area of teachers’ sense of self-efficacy needs more attention and development within an educational setting (Woolfolk Hoy & Davis, 2006). Continued research is needed to determine what factors increase a teacher’s sense of self-efficacy. The use of pre and post TSES data to measure the effects of coaching on teachers’ sense of self-efficacy would be beneficial and might be able to add to our understanding of the relationship between coaching and teacher efficacy.

Student achievement in this study was qualitatively measured through answers to interview questions. Perhaps future research that uses quantitative data to measure student outcomes would provide more insight as to the effects of coaching on teachers’ sense of self-efficacy and ultimately student achievement.
Recommendations for Policy Makers

The qualitative portion of this study informs previous research that found teachers’ sense of self-efficacy to be positively influenced by instructional coaching. Teaching is a demanding profession. School leaders and policy makers could help support teachers in order to increase their self-efficacy in order to persist in this demanding field. Providing more funding for each school to either hire a full-time coach or obtain outside coaching would be a great starting place.

Funding decisions start at the State level during legislative sessions. The budget change would need to be proposed by the Governor and then approved during the legislative session. Funds could either be provided by school or district, taking into account the size of the school or system. Other factors would need to be considered to determine equitable funding for all schools, poverty level being the first priority.

Administrators would need to show they were using the funding appropriately and be accountable for the funds. Documentation of the use of the funds would need to be a requirement. By providing teachers with coaching support, teachers would have the opportunity to increase their sense of self-efficacy.

Limitations of the Study

There are several limitations that need to be acknowledged. First, the study was limited to one small school district in rural Alabama. Therefore, findings cannot be generalized to other small districts nationwide. Another limitation is related to the instrument used in this study. The TSES is a self-reported instrument and teachers were assumed to be honest regarding their efficacy beliefs.

Another limitation is teachers self-reporting of their coaching experience. The number of teachers indicating they had received both forms of coaching far exceeded the number of
teachers receiving only one form of coaching. Teachers may have misinterpreted other forms of professional development as “coaching” and therefore marked both forms of coaching on the survey.

**Conclusions**

Teaching is a profession that has become very demanding. Teachers need quality professional development to equip them in order to handle the demands. The qualitative data from this study along with the findings from the literature, indicate that administrators would be well served if they considered coaching when planning professional development to support teachers.

This study sought to contribute to the body of knowledge that administrators can use to help teachers feel better equipped to implement new standards and instructional strategies. The intent was to determine how coaching impacts teachers’ sense of self-efficacy. School and district level administrators and policymakers can use the implications from this study to make decisions on meeting the needs of teachers. While the results from this study were limited, the positive, supportive relationships that were identified by participants when describing their coaches is worth recognizing.

**Mixed Perceptions with Respect to Coaching**

The quantitative data in this study did not concur with previous research that found coaching to have a positive effect on teachers’ sense of self-efficacy. However, the qualitative findings revealed teachers who had experienced coaching experienced positive changes in self-efficacy. Teachers who experienced increased efficacy as a result of coaching had changes in instructional strategies and engagement. Likewise, Bruce and Ross (2008) found that teachers changed their instructional practices and increased self-efficacy after receiving peer coaching.
The researcher was under the premise that peer coaching would be a more preferred method of coaching than external coaching by participants. Teachers found value in having both forms of coaching.

When asked specifically about their preference between an external coach or peer coach, those who had experienced both types felt that each was beneficial and served a purpose. They clarified that an external coach brings different experiences and knowledge that peer coaches may not have working in only one school. Professional development followed by coaching provided by external coaches had impacted teachers daily instructional practices. Teachers were now excited about their curriculum, which in turn made the students more engaged in the lessons.

Proximity and availability were the advantages of having a peer coach. They were able to meet with peer coaches during the school day or at an agreed upon time. Sometimes they were able to call their peer coach into their classrooms with little notice to observe a lesson. Lesson planning could be done more frequently and adjusted quickly with the peer coach.

External coaches time in the schools ranged from every few months to weekly visits. External coaches kept to a schedule, but were reachable by email, text messaging or phone calls. Teachers did have preferred methods of reaching the external coaches. This was agreed upon when the coaching process began.

Regardless of time spent with external or peer coaches teachers made instructional changes. Students benefit when teachers improve their instructional practices. Every teacher interviewed spoke positively about their coaching experience. This is not always the case when teachers attend workshops and conferences.

**Coaching Does Impact Teacher Efficacy**
When teachers develop new strategies and gain confidence efficacy is increased (Goddard, Hoy & Hoy, 2000). Although quantitative data did not find a significant relationship between coaching and teachers’ sense of self-efficacy, qualitative findings did find coaching led to instructional changes and student engagement which are tenets of teacher efficacy. As mentioned earlier, teachers are now excited about their curriculum and eager to implement newly learned instructional strategies on a daily basis.

In some cases, instructional changes were small for participants, like regrouping their tier two groups during reading block. For other participants they had completely changed their approaches to teaching mathematics. For years some of the math teachers had been structuring their math lessons the same every day; lecture, model, whole group practice and individual practice. Now their lessons involve collaboration time for students that encourages problem solving and productive struggles.

Formative assessments inform participants’ instructional decisions. Several teachers talked about the focus of data-driven decisions that grew from their coaching experience. They now look at student data differently than before. Some use their data now to change their instruction in the moment, while others use the data to adjust future lessons.

It was obvious that students were impacted from the instructional changes made by their teachers who had been coached. All participants mentioned engagement of students had increased because of the changes in their instruction. Students were more eager to learn and more resilient when they struggled with a learning task.

Teacher sense of self-efficacy is cyclical in nature (Tschannen-Moran, 1998). Greater efficacy leads to greater effort which in turn will lead to a higher sense of self-efficacy. Participants in the study are now putting forth greater effort in changing their instruction to meet
students’ needs and study data more closely to inform their instruction. The changes in their instructional practices have increased student engagement and in some cases student achievement.

**Coaching and Professional Development Are Intricately Connected**

Coaching and professional development are intricately connected. Coaches provided professional development throughout the coaching cycles. Professional development came in various forms for the teachers. In some cases, the professional development began prior to the coaching session with standards-based training. The learning continued throughout the coaching cycle as teachers and coaches worked collaboratively to improve instruction for students.

All the participants discussed professional development as being part of their coaching cycle. The professional development came in the form of one-on-one, small group or even whole group instruction prior to the implementation of the lessons. SREB and AMSTI provided sessions with groups of teachers ranging from one to three days in length at a time. SREB consultants provided instruction to teachers each time they visited the school system, nine visits over the span of a year and a half. AMSTI provided four consecutive days of math standards instruction during the summer.

Through planning lessons, studying data, discussing standards, providing feedback, etc. teachers were in a continuous cycle of professional development (Devine, Meyers, and Houseemend, 2013; Killion, 2017; Knight, 2011). Much like a teacher adjusts their instruction to meet the needs of students, coaches customized learning for the participants. Time spent observing in teachers’ classrooms helped coaches create individualized professional learning plans for the teachers.
Coaching is a form of job-embedded professional development for teachers. Throughout the coaching process professional development was interwoven with each activity. Participants described their learning as it related to the coaching cycle. The learning did not stop once the coaching cycle was complete. Reading coaches continue to answer questions that help drive instructional decisions for teachers. SREB and AMSTI coaches have also been available to participants to answer their questions when they struggle with a lesson or need assistance. Maybe it is because a relationship was established or a sense of trust exists between the teacher and the coach, but whatever the reason, learning continues for the participants.

The goal of professional development for teachers is to change teachers’ instructional practices. High quality professional development containing demonstration, practice, and coaching increases teachers’ knowledge and application of newly learned strategies (Joyce & Showers, 2002; Tschannen-Moran & McMasters, 2009). Participants in this study were provided ongoing professional development throughout the coaching process.
REFERENCES


Harwell, S. (2003). *Teacher professional development: It’s not an event, it’s a process*. Waco, TX: Center for Occupational Research and Development.


APPENDIX A:

IRB APPROVAL LETTER

THE UNIVERSITY OF
ALABAMA
Office of the Vice President for
Research & Economic Development
Office for Research Compliance

November 20, 2018

Jennifer Rosato
ELPTS
College of Education
Box 870302

Re: IRB#: 18-OR-419 “The Effect of Instructional Coaching on Teachers’ Sense of Self-Efficacy”

Dear Jennifer Rosato:

The University of Alabama Institutional Review Board has granted approval for your proposed research.

Your application has been given expedited approval according to 45 CFR part 46. You have also been granted the requested waiver of written documentation of informed consent. Approval has been given under expedited review category 7 as outlined below:

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies

Your application will expire on November 12, 2019. If your research will continue beyond this date, complete the relevant portions of the IRB Renewal Application. If you wish to modify the application, complete the Modification of an Approved Protocol Form. Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants. When the study closes, complete the appropriate portions of the IRB Request for Study Closure Form.

Please use reproductions of the IRB approved stamped consent form to provide to your participants.

Should you need to submit any further correspondence regarding this proposal, please include the above application number.

Good luck with your research.

Sincerely,

[Signature]

[Name]
Director & Research Compliance Officer

358 Rose Administration Building | Box 870127 | Tuscaloosa, AL 35487-0127
205-348-8461 | Fax 205-348-7189 | Toll Free 1-877-820-3066
APPENDIX B:

TEACHER SENSE OF SELF-EFFICACY SCALE

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<th>Teacher Beliefs - TSES</th>
<th>None at all</th>
<th>Very Little</th>
<th>Some Degree</th>
<th>Quite A Bit</th>
<th>A Great Deal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How much can you do to get through to the most difficult students?</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2. How much can you do to help your students think critically?</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
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<tr>
<td>3. How much can you do to control disruptive behavior in the classroom?</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4. How much can you do to motivate students who show low interest in school work?</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. To what extent can you make your expectations clear about student behavior?</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. How much can you do to get students to believe they can do well in school work?</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. How well can you respond to difficult questions from your students?</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. How well can you establish routines to keep activities running smoothly?</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. How much can you do to help your students value learning?</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. How much can you gauge student comprehension of what you have taught?</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. To what extent can you craft good questions for your students?</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. How much can you do to foster student creativity?</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. How much can you do to get children to follow classroom rules?</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>14. How much can you do to improve the understanding of a student who is failing?</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>15. How much can you do to calm a student who is disruptive or noisy?</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>16. How well can you establish a classroom management system with each group of students?</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
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<tr>
<td>17. How much can you do to adjust your lessons to the proper level for individual students?</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
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<tr>
<td>18. How much can you use a variety of assessment strategies?</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
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<tr>
<td>19. How well can you keep a low-problem students from ruining an entire lesson?</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>20. To what extent can you provide an alternative explanation or example when students are confused?</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. How well can you respond to defiant students?</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
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<td></td>
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<tr>
<td>22. How much can you assist families in helping their children do well in school?</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. How well can you implement alternative strategies in your classroom?</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>24. How well can you provide appropriate challenges for very capable students?</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
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</tr>
</tbody>
</table>

APPENDIX C:
INTERVIEW PROTOCOL

1. Please tell me about your experience with coaching.

2. What changes in instructional practices have you made because of coaching? Why?

3. With changes in your instruction, what impact have you seen on student achievement?

4. What type of professional development if any proceeded your coaching?

5. How often did you meet with your coach and for how long?

6. Was your coach a colleague or an external coach?

7. What was the purpose of your coaching sessions? What were you hoping to change within your instruction?

8. How would you describe your coach?

9. Do you feel it is better to have a peer coach or external coach and why?

10. Would you choose coaching over traditional professional development models? Why or why not?

APPENDIX D:
LETTER TO SUPERINTENDENT EXPLAINING THE RESEARCH AND REQUESTING PERMISSION

Dear Dr. Segars,

I wish to conduct research for my doctoral dissertation to improve professional development practices. The purpose of this study is to examine the effects of coaching on teacher sense of self-efficacy.

Teachers from each school will be asked to voluntarily complete the Teacher Sense of Self-Efficacy (TSES) scales during a faculty meeting. Principals will be asked to select two tenured teachers from their school who have received coaching in the last two years. As a result, I am hereby seeking your approval to speak with the principal and teachers, as well as interview selected teachers. You have my sincere assurance that these procedures will not be disruptive or in any way cause the district or school embarrassment. In fact, there will be no schools or teachers named or identified by location.

It will be made clear that participation is voluntary and that the most stringent protections of participant anonymity will be observed. The teacher participant will be asked to read, sign, and keep for the records an informed consent form. There will be no publicized report by the school or district.

I have provided you with a copy of the consent forms to be used in the research process, as well as a copy of the approval letter which I received from the University of Alabama's IRB.

If you require any further information, please do not hesitate to contact me at Jennifer.rosato@csboe.org or 256-267-8018. Thank you for your time and consideration in this matter.

Sincerely,

[Signature]

Jennifer Kosato

[Signature of Superintendent]  Date

Enclosures: IRB Approval Letter
Consent Forms
APPENDIX E:

LETTER TO PRINCIPALS EXPLAINING STUDY AND REQUESTING PERMISSION

Principal Informed Consent Form

You and your staff have been invited to take part in a research study to learn more about how coaching impacts teacher sense of self-efficacy. This study will be conducted by Mrs. Jennifer Rosato – doctoral student – Department of Educational Leadership, Policy, and Technology Studies at The University of Alabama as a part of his dissertation.

If you agree to participate in this study, you will be asked to do the following:

1. Allow researcher to attend a faculty meeting in order to have teachers complete the Teacher Sense of Self-Efficacy Scale (TSES)

2. Select two tenured teachers from your school who have been coached within the last two years to participate in interviews

Participation in this study will involve approximately 30 minutes of your time. There are no known risks associated with your participation in this research. Although you will receive no direct benefits, this research may help the investigator contribute to the overall knowledge base about successful professional development practices that can be used to inform future opportunities.

Confidentiality of the research records will be strictly maintained. Participation in this study is voluntary. You may refuse to participate in the study. If there is anything about this study or your participation that is unclear or that you do not understand, or if you have questions or wish to report a research related problem, you may contact Mrs. Jennifer Rosato by email at Jennifer.rosato@scsbow.org or by calling 256-267-8018. You may also contact Mrs. Rosato’s UA faculty advisor, Dr. Roxanne Mitchell at rmmitchell@ua.edu.

If you have questions about your rights as a person taking part in a research study, or if you would like to make suggestions or file complaints and concerns, you may call Ms. Tanya Myles, the Research Compliance Officer of the University at (205)-348-8461 or toll-free at 1-877-420-3066. You may also ask questions, make suggestions, or file complaints and concerns through the IRB Outreach Website at http://osp.ua.edu/site/PRCO_Welcome.html. You may email them at participantoutreach@bama.ua.edu.
Agreement to Participate

I have read this consent form. The study has been explained to me. I understand what I will be asked to do. I freely agree to take part in it. I will receive a copy of this consent form to keep.

[Signature of Research Participant]  [Date]
APPENDIX F:

INFORMED CONSENT LETTER

Teacher Informed Consent Form

You have been invited to take part in a research study to learn more about how coaching impacts teacher sense of self-efficacy. This study will be conducted by Mrs. Jennifer Rosato – doctoral student – Department of Educational Leadership, Policy, and Technology Studies at The University of Alabama as a part of his dissertation.

If you agree to participate in this study, you will be asked to do the following:

1. Participate in an interview with the researcher focused your coaching experience.

Participation in this study will involve approximately 90 minutes (60 minutes for the first and 30 minutes for the follow-up if necessary) of your time. There are no known risks associated with your participation in this research. Although you will receive no direct benefits, this research may help the investigator contribute to the overall knowledge base about successful professional development practices that can be used to inform future opportunities.

Confidentiality of your research records will be strictly maintained. You will not be asked to record any identifying information on any forms. Interviews will be recorded and transcribed by the researcher. If you choose not to have your interview recorded, the researcher will record the interview via paper and pencil. Participation in this study is voluntary. You may refuse to participate in the study. If there is anything about this study or your participation that is unclear or that you do not understand, or if you have questions or wish to report a research related problem, you may contact Mrs. Jennifer Rosato by email at jennifer.rosato@scsboe.org or by calling 256-267-8018. You may also contact Mrs. Rosato’s UA faculty advisor, Dr. Roxanne Mitchell at rmitchell@ua.edu.

If you have questions about your rights as a person taking part in a research study, or if you would like to make suggestions or file complaints and concerns, you may call Ms. Tanta Myles, the Research Compliance Officer of the University at (205)-348-8461 or toll-free at 1-877-820-3066. You may also ask questions, make suggestions, or file complaints and concerns through the IRB Outreach Website at http://ovpree.ua.edu/research-compliance/proc/. You may email them at rscompliance@research.ua.edu.

UNIVERSITY OF ALABAMA IRB
CONSENT FORM APPROVED 11/13/18
EXPIRATION DATE 11/12/2019
Agreement to Participate

I have read this consent form. The study has been explained to me. I understand what I will be asked to do. I freely agree to take part in it. I will receive a copy of this consent form to keep.

________________________________________________________________________

Signature of Research Participant                                           Date

[ ] Yes  [ ] No  Please check yes/no to indicate your agreement to have your interview audio-recorded.

UNIVERSITY OF ALABAMA EBI
CONSENT FORM APPROVED: 11/13/18
EXPIRATION DATE: 11/12/2019