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The Self-Reported Impact of Instructional Coaching on Middle School Teachers' Practices in an Urban Georgia School District

Jeffrey D. Dillard
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ACCEPTANCE

This dissertation, THE SELF-REPORTED IMPACT OF INSTRUCTIONAL COACHING ON MIDDLE SCHOOL TEACHERS' PRACTICES IN AN URBAN GEORGIA SCHOOL DISTRICT, by JEFFREY DILLARD, was prepared under the direction of the candidate's Dissertation Advisory Committee. It is accepted by the committee members in partial fulfillment of the requirements for the degree, Doctor of Education, in the College of Education, Georgia State University.

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THE SELF-REPORTED IMPACT OF INSTRUCTIONAL COACHING ON MIDDLE
SCHOOL TEACHERS' PRACTICES IN AN URBAN GEORGIA SCHOOL DISTRICT

by

JEFFREY DILLARD

Under the Direction of Hayward Richardson, Ed. D.

ABSTRACT

Instructional coaching is viewed as a promising initiative in professional learning for teachers, but there is lack of evidence that links coaching to impacting teachers' practices (Marsh, McCombs, & Martorell, 2010). This dissertation research investigated relationships between the reported amount and types of instructional coaching received by a sample of middle school teachers in a large, urban school district in Georgia and any reported changes in teacher practice. The population for this study included English Language Arts (ELA) and social studies teachers from Title I schools across the district. This ex post facto study utilized a new survey, based on the Wyoming Instructional Facilitator Survey, was developed at the University of Wyoming (Rush & Young, 2011), to collect data on the extent and focus of reported coaching activities during the 2013-14 school year. The teachers also self-reported on changes in their practices and to what degree those changes were impacted by coaching. Quantitative data analysis of survey research results using the Statistical Package for the Social Sciences (SPSS) took place to investigate the relationships between the amount and type of reported coaching activities and the reported teachers' changes in practice, as measured by the overall teacher growth and the estimated teacher growth due to coaching. Means and standard deviations were also reported for reported teacher growth and estimated teacher growth due to coaching. Pearson correlation revealed that there were mixed results about coaching. There was no significant relationship between the reported amount and/or type of coaching activities received and the reported overall teacher growth score. There was a significant and positive relationship between the reported amount and type of coaching activities received and the estimated teacher growth due to coaching score. This study examined instructional coaching in a specific context of

secondary literacy coaching across content areas. This study added to existing research regarding the focus and the extent of instructional coaching and its impact on teachers.

Rush, L. S. & Young, S. (2011). Wyoming's instructional facilitator program: Teachers' beliefs about the impact of coaching on practice. *Rural Educator*, 32(2), 13-22.

INDEX WORDS: Instructional coaching, secondary literacy coaching, professional learning, impact, teacher practices, changes, effectiveness, middle school, urban

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JEFFREY DILLARD

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in

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in

the College of Education

Georgia State University

Atlanta, GA

2015

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DEDICATION

I would like to dedicate this dissertation to my faithful family and friends who have been loyal supporters and sources of inspiration to me all along the way during this journey. That begins with my mother, Mrs. Lois Dillard Sutton. For my entire life, she has been a constant source of love, acceptance, and encouragement. She has always told me to never stop “reaching for the stars.” Her example of sacrifice and moving forward in life, especially when there are challenges in the way, propelled me to take on this educational pursuit. The only child out of thirteen to graduate from high school, my mother rose above her circumstances to have a career and provide for her children in order to make it possible for them to seek and fulfill their own goals. Thank you, Mom, for your understanding and reminding me to never give up when times get hard. To my partner, Andres Macias, thank you for never failing to help me see my potential, even when I doubted myself. Your unselfish and committed actions enabled me to embrace and complete this dissertation. To my sister, Vicki Coggins, thank you for your model of being a lifelong learner. Your passion for helping others to be their best is contagious and inspired me to hopefully help others through taking on this process. Lastly, I would like to acknowledge my mentor, Dr. Judith Franson, who has been an advocate and guide since undergraduate school. You have always influenced me to be a reflective thinker and decision maker who considers how my work might have a positive impact on others. Thank you for being a great listener and source of advice. To all of my family and friends, I appreciate your support and love, demonstrated in so many ways especially over the last several years. You have been the most loyal cheerleaders. I can never thank you enough.

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1 THE IMPACT OF SECONDARY LITERACY COACHING AS PROFESSIONAL LEARNING ON TEACHERS' PRACTICES

Instructional coaching is viewed as a promising initiative in professional learning for teachers, but there is a lack of evidence that links coaching to impacting teachers' practices (Campbell & Sweiss, 2010; Gross, 2010; Marsh et. al, 2010).

Overview

In an era of new standards, teacher evaluation systems, and increased teacher accountability for student learning, schools and school districts are trying to become more transformational in their approaches to creating lasting change (Gulamhussein, 2013). As a result, educators, schools and districts, along with state and national policymakers, have become more systemic in order to meet expectations that are part of federal and state grant programs like Race to the Top (RTTT) and Title I (Garet, Porter, Desimone, Birman, & Yoon, 2001; Georgia Department of Education, 2012). More systemic and collaborative work increases the chances that the more rigorous Common Core State Standards (CCSS), which have been adopted in many states, will be fully implemented. The increased rigor should affect changes in teacher practices to reflect more critical thinking and problem solving (Darling-Hammond, Chung Wei, Andree, Richardson, & Orphanos, 2009). As a result, effective professional learning has become necessary for districts to adequately prepare teachers to meet the changes and increased expectations.

The purpose of professional learning is to bring about changes in teachers' practices, as well as their attitudes, beliefs, and student outcomes (Guskey, 1986). Transforming districts involves using a more intentional and shared approach, especially around instruction, at both the

district and school levels. Many districts are utilizing what is called a Community of Practice (COP) at the district level to make important decisions as to how professional learning programs and initiatives will look across schools (Wenger, 1998). A district-level COP entails different departments (i.e., curriculum/instruction, professional learning, human resources) working together seamlessly to bring about successful implementation with the goal of more positive and lasting change. The utilization of a COP should increase the amount of consistency in a school district related to professional learning, and by design, build capacity of teachers, schools, and the system as a whole (ASCD, 2009).

The COP district model is intended to help schools and districts with two issues: 1) creating a professional development system that will provide teachers with effective professional learning based on the use of best practices; and 2) helping teachers become more effective in their delivery of instruction through the use of researched-based strategies (ASCD, 2009; Learning Forward, 2011). Many school districts have used the COP model and other researched-based practices, along with standards for professional learning to develop structures and processes that encourage shared, distributed leadership that results in more collaboration and innovation in these two problem areas (ASCD, 2009; Learning Forward, 2011).

The Problem

Although professional learning is an integral part of an effective district and schools, research indicated that most professional learning approaches are not very effective due to the way they are designed (Guskey, 2002). Most teachers participate in professional learning with the desire to gain specific strategies that will help their teaching and the learning of their students (Fullan & Miles, 1992). Unfortunately, a majority of teachers reported that the professional development in which they were involved was useless (Darling-Hammond et al., 2009; Guskey,

2002). Research indicates that 91.5% of teachers are involved in traditional “one shot, sit and get” workshops that have no follow through or support after the training (Desimone, 2009). This traditional type of professional learning has been found to have little to no effect on changing teacher practice and student achievement. Researchers found that any professional learning program of less than 14 hours had no effect on student learning (Yoon, Duncan, Lee, Scarloss, & Shapley, 2007). Bush (1984) found that only 10% of teachers could transfer a skill learned in a traditional workshop to their classrooms. Meyer (1988) also found that most staff development only leads to about 15% of teachers actually implementing any desired changes based on the goals of the training or workshop.

Most teacher professional learning is not designed to address the implementation problems that teachers will have when integrating a new skill learned from training. Teachers need as much as 50 hours of training, practice, and support in order to master and implement a new skill (Gulamhussein, 2013). Teachers need to practice a newly learned skill at least 20 times in order to have real transfer to the classroom (Joyce & Showers, 1982). Teachers require practice with a new skill or strategy that was emphasized in professional development, and it is expected that many will struggle with how and what to do in such a situation; this crucial time is referred to as the “implementation dip,” and has been observed with veteran teachers applying a new teaching method (Ermeling, 2010). The implementation dip refers to a “dip in performance and confidence as one encounters an innovation that requires new skills and new understandings” (Fullan, 2001, p. 40). If they do not see immediate success, teachers tend to abandon a new practice (Gulamhussein, 2013). Because teachers may stop a practice if they experience this dip, it can be difficult to demonstrate that professional learning has had an impact on teachers (Richardson, 1990).

In order to address the shortcomings of traditional professional learning, including its proven inability to help teachers become more effective, many districts and schools are utilizing school-based instructional coaches as a way to provide job-embedded training and support to teachers. The intention is that coaches will assist teachers with implementing new strategies, thereby helping them experience success, thus contributing to teacher change. Moreover, in an effort to be more systemic, some school districts have streamlined the number of professional learning initiatives being implemented and have provided ongoing training to instructional coaches so that timely training and support can be provided to all teachers.

The literature shows that there are important factors involved in effective coaching. Shidler (2009) found that having a specific focus to coaching and time with the coach are important factors to be considered in a coaching initiative. Coaching can impact teachers when coaches work with teachers individually and in small group settings (L'Allier, Elish-Piper, & Bean, 2010). Knight (2006) indicated the importance of coaches using research-based instructional strategies when working with teachers. Particular coaching activities are perceived by teachers to impact their practice more than others (Rush & Young, 2011). Teachers tend to value coaching activities that center on analyzing student data and student work (Hill & Rapp, 2012). Coaching through the use of a cycle of activities that includes modeling, observing, and giving feedback can have a perceived influence on teachers' practices (Marsh, McCombs, & Martorell, 2010). This use of a coaching cycle helps to scaffold learning of new instructional strategies for teachers in a way that fosters their success with implementation (Collett, 2012).

Although there is research that points to coaching as a promising practice, coaching is still considered to be a topic in its infancy and lacking "strong, replicable evidence to define the work or effects of coaching" (Walpole & Blamey, 2008, p. 222). Other researchers agree that

more research is needed that would involve surveying teachers about the coach's role and purpose, as well as the coaching activities in which teachers have participated (Campbell & Sweiss, 2010; Gross, 2010; Marsh et al., 2010; Walpole & Blamey, 2008). Because the body of research lacks information about coaching effectiveness and its influencing factors (Campbell & Sweiss, 2010), studies need to be conducted on teacher perceptions of the literacy coach (Gross, 2010). Also, more study needs to take place regarding the teachers' perceptions about the impact of coaching on their practices (Marsh et al., 2010). The literature provides many case studies and other types of qualitative research about coaching roles and responsibilities, but because of the sample sizes and methodologies used, as well as the variability of different coaching scenarios in schools, generalizability is difficult (Cornett & Knight, 2009). Currently, many schools and districts are using instructional coaching as a form of professional learning, but the research thus far has shown mixed results. Coaching has been shown to increase teacher confidence and use of proven strategies, but still little is known about its real impact on teacher effectiveness (Gullamhussein, 2013). In a time when instructional coaching is being written into district-wide accountability plans for professional learning and millions of dollars are being spent on supporting such initiatives, it is of utmost importance to seek the teachers' perspectives about the coaching they have received and any impact the coaching has had on their practice, particularly at the secondary level (Blamey, Meyer, & Walpole, 2009).

Purpose of this Study

The purpose of this study was to identify relationships between the amount and types of content specific instructional coaching received and any reported changes in teacher practice. Researching such relationships involved determining how much instructional coaching was received by a sample of middle school teachers in an urban Georgia school district during the

2013-14 school year, as well as the types of coaching activities that were experienced by these teachers. All teachers in the sample received training and support through job-embedded instructional coaching provided by the district to all Title I and Race to the Top schools. Any reported changes in teachers' practices during the duration of the study were also determined, as well as the degree to which teachers reported that their changes were impacted by instructional coaching.

An additional purpose was to investigate the coaching activities that were intended to be a part of a district-wide coaching model and to what degree secondary-level English Language Arts and social studies teachers experienced these activities. This investigation also involved determining to what degree teachers found these particular types of coaching activities to be impactful in changing their practices. The research-based coaching activities that were a part of this coaching model and used with teachers included behaviors from the coaching cycle (i.e., observing, modeling, co-teaching, and feedback), as well as instructional best practice strategies such as Marzano's High Probability Strategies, and the instructional shifts associated with the Common Core State Standards for Literacy in ELA and Literacy in History, Social Studies, Science, and Technical Subjects.

Significance of this Study

This study built on the previous descriptive study conducted on the impact of instructional coaching on teachers' practices by Rush & Young (2011). As Rush and Young did in their study, this study reports descriptive data about the amount and type of coaching activities experienced by teachers. This study adds to Rush and Young's research by including correlational analysis to investigate any relationship between the reported amount of coaching received and/or the reported type of coaching activities experienced by teachers and self-reported

changes in teacher practices. This study investigated coaching in a specific context of secondary literacy coaching across two content areas.

In addition to adding to the informing literature, this research study can also inform schools and districts as they make decisions about how to best help teachers become more effective through professional learning. As in many school districts, the district leaders in this study had been unsuccessfully assisting teachers in improving their practice, as measured by teacher evaluations and student test results. Having effective teachers, or a lack thereof, has been a problem (Partee, 2014).

This study investigated how one district implemented particular instructional initiatives within and across schools using a highly developed, research-based coaching program, which is based on Guskey's theoretical framework of professional learning and teacher change. In addition to the coaching program which emphasized Guskey's theory about teachers changing their practices prior to changing their beliefs, the coaching model used incorporated other aspects of teacher change theory and professional learning effectiveness. This included an emphasis on instructional coaches assisting teachers in improving technical expertise and the ability to use strategies effectively and independently. Another major emphasis of the coaching program in the school district involved facilitating the use of structures and processes with teachers that encouraged their collaboration and innovation (i.e., professional learning communities).

The findings from the sample studied provide important information about the amount and type of coaching activities experienced and the reported impact on teacher practices. Findings indicate how the particular instructional coaching program is working across the entire district. This will allow district leaders to gauge how much coaching is occurring as well as what types of coaching activities are taking place across schools with the understanding that variation

will be a part of any implementation. This study allows the district leaders to see whether relationships exist between the amount and kind of coaching received by teachers and the coaching's degree of impact on changing teachers' practices. Such a study may also provide insight into how this and other coaching programs can be improved as a form of professional learning for schools and districts based on the teachers' perspectives.

Guiding Questions

1. What does the literature say about the process of how teachers change their practices?
2. What does the literature say about characteristics of effective professional learning?
3. What does the literature say about instructional coaching as a form of professional learning?
4. What does the literature say about coaching's impact on teachers' practices?
5. What does the literature say about the need for additional research about instructional coaching?

Literature Review

Introduction

One continuing issue in education is a concern for bringing about long-term improvement in teaching and learning. As result, there are a plethora of studies about the connection between a teacher's practices and student growth and achievement (Marzano, 2003). In addition, there has been an increase in initiatives geared toward trying to improve the level of teacher quality in classrooms (Elmore, 2000). Race to the Top (RTTT), Title I, and Title IIA are federal initiatives with the aim of providing funds to school districts to plan professional learning programs designed to change teachers' practices and improve teacher effectiveness. All of this activity is a

result of the conclusion that “high-level learning by students requires high-level instruction by their teachers” (Danielson, 2007, p. 15).

This chapter consists of a literature review that will first explore information about different theoretical models that detail how teachers change, including a more traditional model, as well as Guskey’s alternative theoretical framework for how teachers change. These two models have distinct differences, but both are considered research-based best practices. There will also be information given about a model of teacher change proposed by Learning Forward that integrates tenets of the two approaches. Next, the chapter will include a discussion of different concepts of professional learning and the components that make professional learning most effective according to the research. There will also be a consideration of how instructional coaching could be a useful practice for job-embedded professional learning, namely supporting teachers in a time when their capacity must increase to deal with all the changes taking place in education. Next, there will be a review of the information about one specific context of instructional coaching, secondary literacy coaching, and how this type of coaching can serve to assist teachers with literacy strategies that can be helpful in teaching English Language Arts as well as other content areas. Lastly, there will be an exploration of what is known thus far about the impact of coaching and areas for future research.

Teacher Change Theories

There are several perspectives on the process of how teachers change in order to have an impact on student learning. One of the more accepted theories espoused by Richardson (1998) states that the way in which teachers change, basically depends on the teachers themselves. According to this theory, some teachers change voluntarily, while others do not (Richardson, 1990; Richardson, Anders, Tidwell & Lloyd, 1991). In this view, teachers also do not implement

practices or change in the same ways and at the same rate. Additionally, sometimes their changes in practice do not result in improved student outcomes. This sets up a more laissez-faire approach to professional learning and teacher change. Richardson also discussed how there are other teachers who really experience change when they become more autonomous and implement change both independently in their classes and as a part of the school community. To Richardson, collaboration and reflection are key ingredients to the change process, both of which can help teachers think at a deeper level and consider their beliefs surrounding teaching and learning, which can lead to lasting change (Richardson, 1998).

Richardson's view of how teachers change is more complex than some of the more simplistic teacher change models. As an example, the Implicit Model of the Purpose of Teacher Professional Development (see Figure 1 below), which is a more traditional view of professional learning, defines the purpose of professional development for teachers as being an impetus for changing teacher knowledge and beliefs, followed by teachers' practices in the classrooms and lastly changes in student outcomes (Clarke & Hollingsworth, 2002). This traditional model is more linear in nature, and does not account for the complexities of change to which Richardson alluded, including the collaboration and reflection pieces that are viewed as important to change. Guskey (1986) questioned this more traditional view of teacher change and offered an alternative theory.

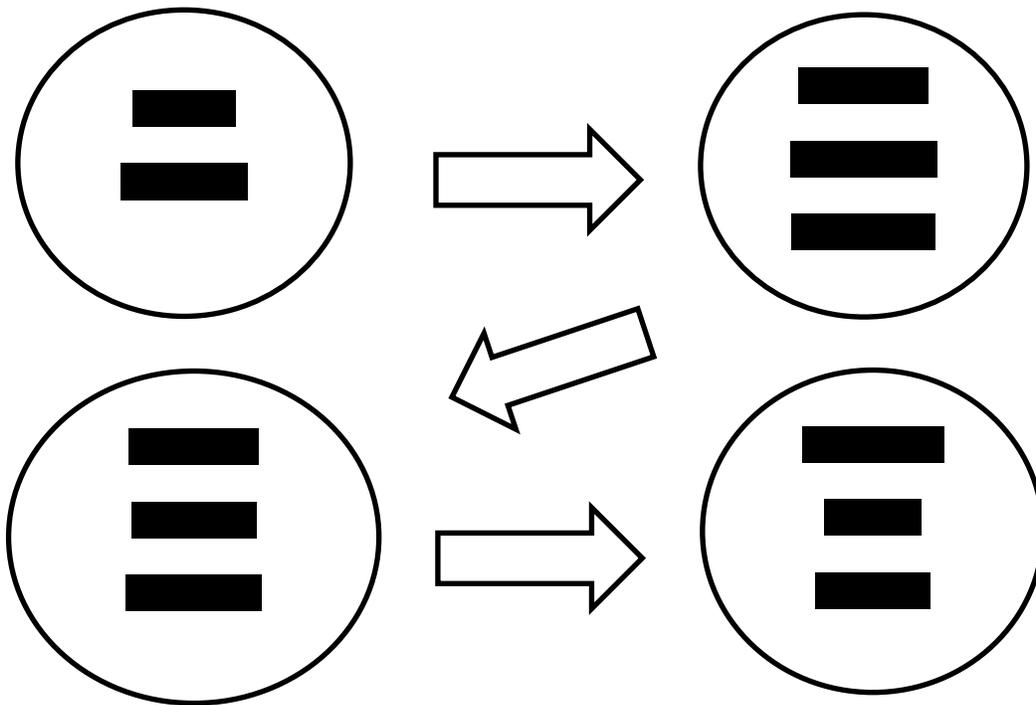


Figure 1 *An Implicit Model of the Purpose of Teacher Professional Development*

Guskey (1986, 2002) presented an alternative theoretical model that can be used for designing professional learning to impact teachers and students. Guskey's Model of Teacher Change is conceptually different from the Implicit Model of teacher change. Guskey's model is based on the idea that there is a temporal sequence of learning events that begins with teachers receiving professional development, which can then lead to changes in their practices (2002). According to the theory, once the teachers' practices change based on the professional development received, changes in student outcomes are supposed to follow; and once teachers observe that these new practices are making a difference with students, then their attitudes and beliefs about teaching and learning will change (see Figure 2 below).

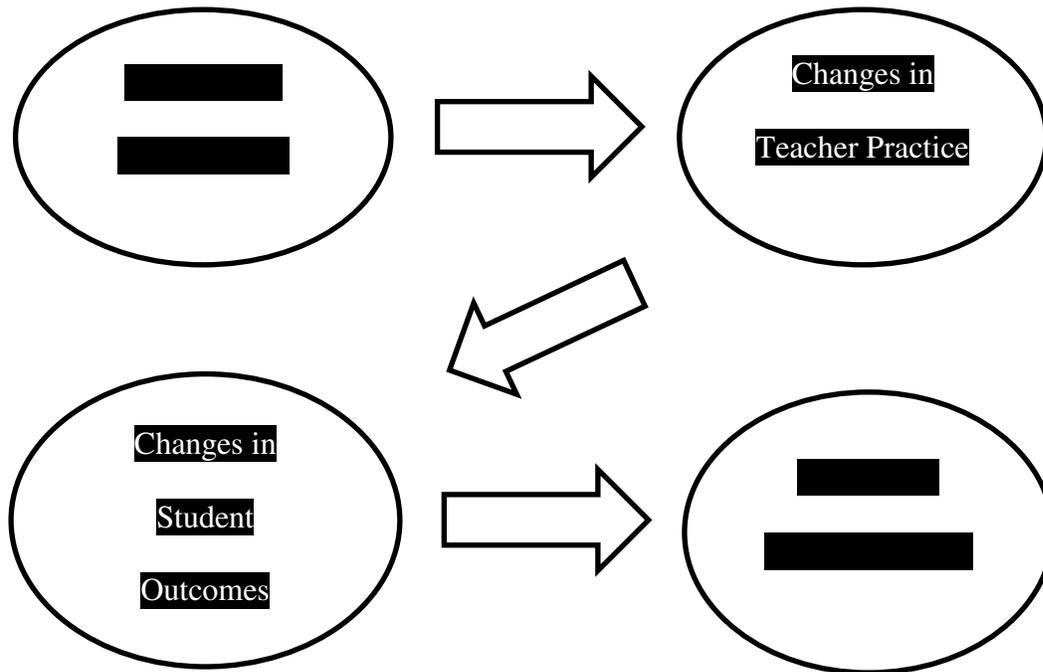


Figure 2 *Guskey's Model of Teacher Change*

Like Guskey's theory, the more traditional view of teacher change demonstrated in the Implicit Model of Figure 1 also says that teachers start to change by receiving some kind of professional learning. However, the traditional model of teacher change suggests that teachers may need to first change the knowledge and/or their beliefs related to any new specific skills or strategies from the professional learning before eventually changing their practices. Traditional theory, as evidenced in the Implicit Model, is based on the work of early change theorists such as Lewin, who used models from psychology to explain how people change (Lewin, as cited in Guskey, 2002). A major difference between Guskey and those with a more traditional view, like the one inherent in the Implicit Model, is a lack of concentrated focus on teachers changing their practices soon after professional learning is received.

To Guskey, teacher change, especially the change process of more experienced teachers, depends on how successful teachers are with implementing new practices (Rush & Young, 2011). He based this theory on ideas specific to learning theory and studies related to large scale implementation of specific instructional practices and programs, such as Bloom's Mastery Learning and the Exemplary Center for Reading Instruction approach (Crandall et al., as cited in Guskey, 1986 and 2002; Fullan, 1985; Guskey, 1986; Guskey, 1997; Huberman, 1981; Huberman & Crandall, as cited in Guskey, 1986 and 2002). In these studies, it was found that teachers changed their beliefs after they implemented the new strategies and saw how specific skills and strategies were effective for students. Guskey theorized that teachers need to see changes in students' outcomes soon after trying some new instructional practice if they are to then change their beliefs and attitudes about teaching and their students (Rush & Young, 2011). This in turn leads to more enduring changes in their attitudes and beliefs about teaching and learning. Guskey also found that teachers who do not implement changes and see a positive effect on their students as a result do not experience a change in beliefs or attitudes (1986).

These same large-scale studies also found that the changes in teacher practices were encouraged through the ongoing technical assistance they received with the new strategies and skills, as well as the sustained support of the building and district administrators for the effective professional learning that led to successful implementation (Fullan, 1985; Huberman, 1981; Huberman & Miles, 1984). Because teacher and student outcomes are important and the order in which change occurs should be considered, these studies provide implications for designing and facilitating more effective professional learning programs (Guskey, 1986).

Guskey (1986) attributed the ineffectiveness of professional learning to two factors: 1) motivation or lack thereof, behind teachers' engagement in professional learning; and 2) the use

of a traditional model. When schools and systems use a more traditional model of professional learning, they may require teachers to participate in sessions that are not connected to their practice, which in turn may not motivate teachers and be viewed as a waste of time. By doing so, schools and districts might ignore the needs of teachers, such as providing them with skills and strategies designed to help with teaching content and differentiating instruction for students. Consequently, schools and systems that ignore Guskey's alternative model of teacher change are likely to be unsuccessful with designing effective professional learning for teachers that lead to individual and school-wide improvement (2002). The goal of professional learning should be to allow teachers to have the experience of successful implementation with new skills and strategies that result in better student outcomes. Fulfilling this goal will ultimately lead to teachers experiencing change with their attitudes and beliefs (Guskey, 2002).

Guskey acknowledged that his alternative model may seem to simplify the complex process of teacher change, and that the changes with teachers' practices, attitudes, and beliefs may be more of a cyclical than linear process at times. There are many variables involved in the teacher change process. He also acknowledged that there are reciprocal relationships between the different outcomes of the model, meaning that changes in practice can lead to changes in attitudes and beliefs, which then lead to even more changes in practice (Fullan, 1982; Guskey, 2002).

Guskey's alternative theory is supported by his own work and that of other researchers over several decades who have determined that the traditional model for professional learning might be inaccurate, especially with more experienced teachers (Crandall, et al., 1982, as cited in Guskey 1986 and 2002; Fullan, 1985; Huberman, as cited in Guskey, 1986 and 2002; Huberman & Crandall, as cited in Guskey, 1986 and 2002; Rush & Young, 2011).

Richardson (1994), with a more individualized view of the teacher change process, also agreed with the idea that teachers assess the quality and practicality of new strategies and skills by seeing how well they work with students. The idea of focusing on effective teacher practices in professional learning is also shared by Timperly, who devised 10 Key Principles for professional learning based on a synthesis of research on the topic. The first such principle is ensuring that professional learning experiences focus on “the links between particular teaching activities and valued student outcomes,” which can actually increase the chance that such positive outcomes will later occur (2008, p. 8). The agreement with Guskey is also summarized in the following quote:

Change appears to be promoted by a cyclical process in which teachers have their current assumptions challenged by the demonstration of effective alternative practice, develop new knowledge and skills, make small changes to practice, and observe resulting improvements in student outcomes. When this happens, teachers come to expect more of their students—that they will learn more quickly and or deeply than they had previously believed possible. (Timperly, 2008, p. 18)

Fullan (1985) also discussed redefining professional learning, using the belief that teachers have the opportunity to practice new skills first before changing their beliefs. In his view, one must start practicing with a new skill and/or strategy. In the learning process, teachers will make mistakes that will help them understand how to best use the new skill and/or strategy. According to Fullan (1985), it takes time for people to change their beliefs and attitudes; it is therefore necessary for them to learn bits and pieces of new information and try them out before

they will be able to innovate, relate the new knowledge and skills to what they do, and understand how everything fits together coherently.

Guskey's alternative theory of how teachers change has implications for designing professional learning. He advised those who provide professional learning to remember that change takes time because it is a developmental learning process. Guskey also pointed out the importance of teachers needing to have both regular feedback about the progress of their students, as well as continuous support and follow-up in their schools pertaining to the professional learning that was provided. If these points are taken into consideration when designing professional learning for teachers, then Guskey's model of teacher change is more likely to come to fruition (Guskey, 2002; Rush & Young, 2011).

Whereas Guskey's alternative model implies that changes in teachers' beliefs and attitudes are a result and not a cause of changes in students' outcomes and teacher practices, there are newer models that reflect more of the complexity in teacher change and focus less on a perceived order to the change process. One such model is promoted by Clarke and Hollingsworth (2002), who acknowledged such complexity and indicated that teacher change in one domain can be associated with changes in another. In other words, changes in beliefs can impact practices, and vice versa. The researchers pointed out that change sequences and growth networks are very individualized to each teacher. They also focused on the different perspectives people have for changing, including that which is more personal, or that which originates in required training from the school and/or district. While Clarke acknowledged a sequence of elements for teacher change, as did Guskey, Clarke emphasized using them more cyclically and allowing for teachers to have multiple entry points in the learning process (Clarke & Hollingsworth, 2002). Their model is based on the previous work of Clarke and Peter (as cited

in Clarke & Hollingsworth, 2002), which was later revised to become the Interconnected Model of Teacher Professional Growth (Teacher Professional Growth Consortium, 1994). This Interconnected Model promotes the idea that teacher change occurs in four specific domains: personal, practice, consequence, and external. These different teacher domains are mediated by the processes of reflection and enactment. They are similar and relatable but not identical to the four areas used in the Guskey model. The idea is that reflection and enactment link the four domains, serving as mediators and allowing teachers to have growth entry points amidst the complexity of teacher change. Again, this results in changes in one area possibly affecting change in another domain (Clarke & Hollingsworth, 2002).

Most recently, Learning Forward (2011), a national organization for professional learning in K-12 schools, advocated the use of a theoretical model for teacher change that reflects more of an integration between the different perspectives. Like the previous approaches, Learning Forward's stance on teacher change begins with professional learning, followed by changes in educator knowledge, skills, and dispositions. Learning Forward used the term dispositions instead of attitudes and beliefs. The organization, unlike previous approaches, emphasized the need for "standards-based" professional learning. Learning Forward (2011) emphasized changing a teachers' skills, dispositions, and understanding simultaneously rather than in a more temporal fashion as promoted by Guskey (2002). According to the organization's theory, doing such will hopefully lead to educators changing their practices and then experiencing subsequent changes in student results (see Figure 3 below). This particular model is also considered to be more cyclical in nature, but it is also fluid in that, depending on the needs of teachers and students, steps in the cycle can be revisited to reach goals and improve outcomes (Learning Forward, 2011).

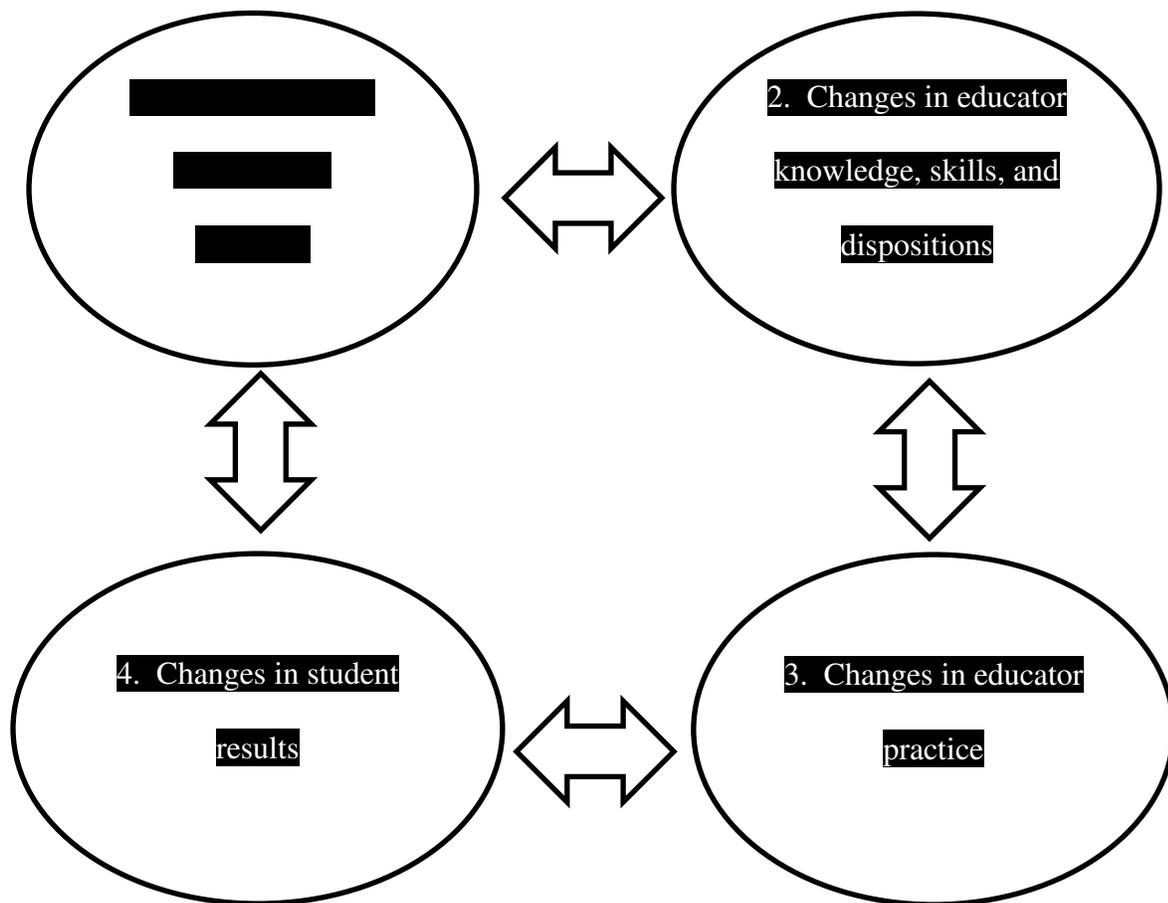


Figure 3 *Learning Forward's Diagram about the Relationship Between Professional Learning and Student Results*

All of the theoretical models presented here demonstrate how paradigms surrounding teacher change have evolved over time. There are similarities and differences between them, including terminology used and the specific order of steps in teacher change process. Furthermore, the different models are based, to some degree, on the idea that the change process begins with teachers experiencing some effective professional learning. Without effective professional learning taking place, based on best practices from the literature, the models suggest that teachers will be less likely to change and for students to benefit as a result.

The Concept of Professional Learning

Just as researchers hold different ideas about how teachers change, research also supports different concepts of professional learning. Professional learning means different things to different people, but research consistently supports the idea that continuing development for teachers is key to the improvement of schools in the United States (National Commission on Teaching and America's Future, 1997). There has been much debate as to whether there should be a framework or model for professional learning in K-12 education, as well as particular core components or characteristics of professional learning (Desimone, 2009) because professional learning can be interpreted very broadly and also very specifically. For example, Little (1987) defined professional learning as "any activity that is intended partly or primarily to prepare paid staff members for improved performance in present or future roles in the school districts," (p. 491). Learning Forward's more specific definition says professional development is a "comprehensive, sustained, and intensive approach to improving teachers' and principals' effectiveness in raising student achievement" (Learning Forward, 2014). Context is important and because of such, variations in professional learning do exist (Borko, 2004). Today's definition of professional learning would most likely include the job-embedded pieces of professional learning such as instructional coaching and the use of professional learning communities. It is argued that having a more refined definition of professional learning would help to define more clearly what is effective, measure effectiveness more precisely, and increase the chances of replicating success in the future with professional learning initiatives (Desimone, 2009).

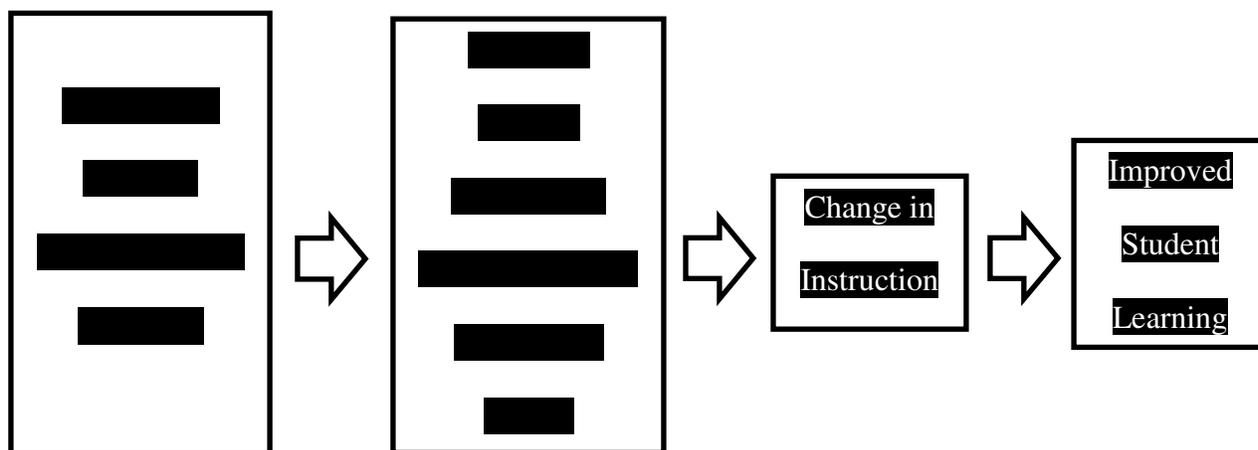
The different approaches to professional learning from the literature reflect the varying theories surrounding the teacher change process. All of the different professional learning

approaches incorporate to some degree what might be called effective characteristics of professional learning from the research or core features according to Desimone (2009). Richardson (1998) discussed how some professional learning is more traditional in its design. This type would include one-time trainings and workshops where teachers receive information but do not necessarily actively participate. This type of professional learning usually involves the use of an expert from outside the school and/or district. The content is usually based on a deficit approach, meaning that the topics of the training are based on something that the teachers and/or students are lacking and need. According to Richardson (1998), traditional types of professional learning can be effective, but this is based on the assumption that any skills and/or strategies presented in such trainings or workshops are of high quality and that teachers can successfully replicate them and make them a part of their practices. Traditional types of professional learning can also be effective if teachers consider any skills or strategies advantageous to them and their students (Richardson, 1998; Sparks & Loucks-Horsley, 1990).

Whereas the traditional type of professional learning might be seen as more directive at times, another type of professional learning Richardson discussed is the reflective/collaborative model based on her work and that of others (Gallagher, Goudvis, & Pearson, 1988; Richardson, 1994). This type of professional learning is more facilitative than directive, and involves teachers working in one-on-one and small group settings to improve their practice. This type of professional learning is more teacher directed based on needs and is not based on a deficit approach. Content in the reflective/collaborative model is more organic and arises from problem-based inquiry around daily practice. The cognitive coaching component of the model is used by facilitators to help teachers become better thinkers, problem solvers, decision makers and change agents (Gallagher, Goudvis, & Pearson, 1988; Richardson, 1994). A more balanced

model between the traditional and reflective/collaborative perspectives is that of the Community of Practice (COP). The COP model, adapted from Wenger (1998) and promoted by educators, provides balance between the needs for teachers to act both autonomously and collaboratively (Pendlebury, 1990). This happens when facilitators of professional learning ensure that teachers are not only receiving information about research-based best practices, but that they are also supported in one-on-one situations and in settings where groups of teachers work together towards a common goal for improving teaching and learning (Little, 1992; Richardson, 1998).

Desimone (2009) proposed a conceptual framework for studying the effects of professional development on teachers and students. This model reflected aspects of previously discussed models about how teachers change. Desimone proposed that there are core features of professional learning: duration, active learning, collective participation, content focus, and coherence. Professional learning based on these core features can lead to increased teacher knowledge and skill, as well as changes in attitudes and beliefs. This can lead to changes in the teachers' instruction and finally improved student learning. According to Desimone, this process is affected and mediated by the specific context in which the professional learning is occurring. Desimone (2009) stated that the "path model" (see Figure 4), is based on the links in the literature between teacher knowledge, practice, and student achievement, as well as the links between professional development and teachers' practice. This model also reflected the links between instruction and student achievement, and those between professional development and student achievement.



Context such as teacher and student characteristics, curriculum, school leadership, policy environment (Desimone, 2009)

Figure 4 *Desimone's Professional Learning Model*

Again, just as teacher change is a complex process that depends on situations and context, the use of different professional learning models, ranging from more traditional to reflective to collaborative, or a mixture thereof, also depends on the situation. This is demonstrated by the evolution of professional learning frameworks, as they have become more complex and specific over time.

Components of Effective Professional Learning

Just as there are multiple perspectives as to the definition of professional learning, there are also many ideas about what makes it most effective. The conceptual ideas discussed earlier about professional learning entail both broad and specific features of effective professional learning for teachers that are found repeatedly throughout the research and align with national professional learning standards (Darling-Hammond & McLaughlin, 1995; Darling-Hammond et

al., 2009; Griffin, 1986; Gulamhussein, 2013; Learning Forward, 2011). Again, Learning Forward's (2014) definition is targeted towards the improvement of teachers in order to bring about student achievement.

The Learning Forward (2011) Standards for Professional Learning state that effective professional learning should help teachers be more effective and improve results for students. Such a goal is achieved through schools and systems intentionally designing professional learning that is based on research such as the use of professional learning communities, as well as other ways to provide support to teachers when implementing new practices or changes (Learning Forward, 2014). There are also several prerequisites for effective professional learning according to this national organization. In order for effective professional learning to happen, teachers need to be committed to teaching all students. Teachers should also be life-long learners who are ready to learn and apply new skills and strategies to new situations, both individually and collaboratively with team members. Lastly, effective professional learning honors the idea that teachers are different in the rate and ways in which they learn (Learning Forward, 2014).

Regarding the specific features of professional learning that are more impactful, researchers have found that duration and intensity are two important characteristics of effective professional learning. Researchers found that the more time teachers are involved in professional learning, the more likely their teaching practices will change for the better (Quick, Holtzman, & Chaney, 2009; Yoon et al., 2007). The duration of the professional learning must be ongoing and significant in order for teachers to learn and use a new skill and/or strategy. There are a few studies that show a lack of causal inferences between duration and professional learning (National Mathematics Advisory Panel, 2008; Stein, Smith, and Silver, 1999). At the

same time, other studies show that intense professional learning experiences can have a positive impact on teachers and students, especially if there is some application to teacher planning and instruction (Knapp, 2003; Supovitz, Mayer, & Kahle, 2000; and Weiss & Pasley, 2006). Two evaluations also showed that the longer and more intense the professional learning, the bigger the achievement gains for students (Corcoran, McVay & Riordan, 2003; Supovitz & Turner, 2000). Teachers also reported in surveys that they believe the most effective professional learning is that which is ongoing and occurs over time (Garet, Porter, Desimone, Birman, & Yoon, 2001).

Effective professional learning involves other characteristics, such as job-embedded practice and significant support to the teachers (Darling-Hammond & McLaughlin, 1995; Hirsh, 2009; Gulamhussein, 2013). Teachers who received support with implementation after a skill specific training were more likely to use the skill in their classrooms than teachers who only went to the training and received no support (Cornett & Knight, 2009). Effective professional learning should allow for teachers to have active participation in making sense of new skills, concepts, or strategies in a real classroom. This would include using a variety of learning activities, such as modeling, peer observation, discussion, and collaboration that build strong working relationships between teachers (Darling-Hammond et al., 2009).

These same components of professional learning were summarized in research completed as a part of multiple national teacher survey studies. Researchers found that, according to teachers, there are five core features of professional development that could be hypothesized as being likely to improve teacher practice: duration, collective participation, content focus, active learning, and coherence (Desimone, 2009; Desimone, Porter, Garet, Yoon, & Birman, 2002). Besides verifying the importance of longer duration and intensity and active learning, the results of the survey studies showed that professional learning should be specific to the teachers' content

or grade level, connected to teacher practice, and focused on student learning and real world application (Desimone et al., 2002). Professional learning should also be connected to the school improvement plan and other initiatives taking place at the school (Gallucci, Van Lare, Yoon & Boatright, 2010). These five core features, each of which have been confirmed through the research studies of others, are a part of Desimone's conceptual framework about how to best study the effects of professional learning on teachers and students (see Figure 4 above).

Schools and systems are trying to implement promising forms of professional learning based on the effective components such as the core features from the research that will build teacher capacity and bring about enduring change. Not only will incorporating components such as duration and content focus, increase the chances of teachers having increased knowledge and skills, but providing job-embedded professional learning that includes adequate training, support, and follow up to teachers will sustain the use of new practices and promote long term change and improvement (Griffin, 1986; Stallings & Krasavage, 1986).

Instructional Coaching

Instructional coaching is one way to provide professional learning that can increase teacher capacity. Research has shown that coaching is key to improving teacher quality and student learning (Killion, 2010). In the literature on coaching, researchers explained how, over time, instructional coaching became increasingly popular, especially at the elementary level due to requirements of federal mandates in No Child Left Behind (NCLB) (Haager, Klinger, & Vaughn, 2007; Hasbrouck & Denton, 2009). Since then, funding through federal programs such as Title I and Race to the Top, have made it possible for more secondary schools to have instructional coaches who provide "job-embedded" staff development to teachers (Habegger & Hodanbosi, 2011).

The term instructional coach has been loosely defined as a school or district based professional learning developer who trains and supports teachers with learning and implementing research-based teaching practices (Knight, 2007). Coaching differs from mentoring in that it focuses on the more technical aspects of instruction and not the nonacademic or more personal aspects of teaching (Rowley, 2005). Coaching that includes teacher observation and feedback has been shown to help in applying new strategies within the classroom. Providing training and support to teachers are two of the basic roles and duties of an instructional coach (Blamey, Meyer, & Walpole, 2009; Haager, Klingner, & Vaughn, 2007).

Researchers presented an overview of different types of instructional coaching models used in schools and systems, such as change coaches and content coaches. The difference between the two forms is that change coaches work more with principals than teachers, and they usually work on issues that affect the entire school, whereas content coaches work more directly with teachers to improve instruction in a certain content area (Neufeld & Roper, 2003). There are other forms of coaching, such as literacy coaching, peer coaching, and cognitive coaching (McKenna & Walpole, 2008).

Instructional coaching incorporates the use of effective professional learning features (Darling-Hammond et al., 2009). To begin with, coaching is considered to be a professional learning model of longer intensity and duration as compared to traditional models, and researchers found that only 45% of teachers were participating in some kind of coaching program (Darling-Hammond et al., 2009). Secondly, instructional coaching can fulfill the needed support role of helping teachers with technical skill training to ensure they understand the skill and/or strategy as well as its research base, and that the teachers can successfully implement the practices in the classroom (Little, 1993).

Most coaches use a form of a coaching cycle of activities that encourages active participation on the part of teachers and includes steps such as pre-conferencing, observing, debriefing/giving feedback, modeling, and co-teaching. The idea is that coaching will be an ongoing form of professional learning, and this process may happen repeatedly over time for better results (Joyce & Showers, 1982).

Coaching as job-embedded professional learning also supports the intellectual role that teachers play by giving them time to discuss the use of strategies, which supports collaborative problem solving and creation of applications and innovations using the skill or strategy (Little, 1993). An instructional coach may lead professional learning communities (PLCs) in a school. Professional learning communities are defined as groups of teachers based on interests, grade level, and/or content who regularly convene to focus on improving their practices and improving student results through engaging together in authentic and collaborative learning based on teacher and/or student needs (Learning Forward, 2014). Teachers should ideally collaborate to discuss new strategies, try them out in their classes, and report their results (Hord, 1997). The combination of one-on-one instructional coaching along with PLCs is considered an effective training/support model for teachers (Gulamhussein, 2013).

Despite that coaching is considered to be an effective professional learning model for teachers, there are problems associated with instructional coaching that are presented in the literature. Researchers indicated that the different titles and expectations associated with coaching over the years have created confusion and ambiguity about the role and responsibilities of the instructional coach (Borman & Feger, 2006; Cornett & Knight, 2009). One of the success factors for instructional coaching discussed by Knight (2006) is that of time to work with teachers. Not only is lack of time an issue, but so is the focus of the time spent between the

teachers and the coach. Many times coaches are given the wrong work to do or too much work, which can interfere with their working with teachers to build capacity (Knight, 2006). In addition, too many initiatives at the school level can take away from coaches being intentional, targeted, and consistent (Fullan & Knight, 2011). Several researchers pointed out the variation involved with instructional coaching and any form of professional learning. There will be variation in implementation of instructional coaching because it is situational in nature and specific to the school context where the coach works (Gallucci, Van Lare, Yoon, & Boatright, 2010). Coaching activities tend to fall on a continuum from less to more intense depending on the situation (Walpole & Blamey, 2008; Bean, 2004). Furthermore, coaches also vary in their level of content expertise and ability to coach teachers (Gallucci et al., 2010).

Secondary Literacy Coaching

As mentioned earlier, there is an increasing focus in schools on instructional coaching at the secondary level, including literacy coaching, due to initiatives like Race to the Top. This may be due in part to low adolescent literacy rates where middle and high school students lack basic reading skills that affect their comprehension (ACT, 2006; Christenbury, Bomer, & Smagorinsky, 2009). Literacy coaches in grades 6-12 have unique roles and responsibilities based on their context. This role is evolving for the secondary coach (Stevens, 2011). The International Reading Association (2006) stated that a secondary literacy coach should be knowledgeable in literacy, adult learning, and other secondary curriculum. Moreover, secondary coaches need to be skilled with instructional strategies across all subjects. This involves utilizing comprehension strategies to enhance learning in all content areas (IRA, 2006). This kind of instructional/literacy coach assists content teachers to help students read and write better in a particular discipline (Heller & Greenleaf, 2007).

There are other important characteristics that set secondary literacy coaching apart from instructional coaching in general (Stevens, 2011). Secondary schools require that the coach understand adolescents and the culture of the schools in which they work (Sturtevant, 2003). In 2009, a national survey of secondary literacy coaches (grades 6-12) reviewed the specific roles and responsibilities of these coaches. Results showed that secondary literacy coaches participated in a variety of collaborative activities (e.g., analyzing student work, lesson planning, study groups) with teachers, but what were termed coaching activities with teachers (e.g., cognitive, reflective coaching) were fewer in number (Blamey et al., 2009). Campbell and Sweiss (2010) conducted a study that focused on the roles and responsibilities of high school literacy coaches. Again, results showed that the coaches use of more collaborative activities than coaching behaviors, and that the secondary literacy coaches spent most of their time with English Language Arts teachers (Campbell & Sweiss, 2010).

Coaching at the secondary level in education poses its own challenges (Sturtevant, 2003). Secondary teachers may not be as receptive to having a literacy coach assist them with training and/or support in a particular content area (O'Brien, Stewart, & Moje, 1995; Readence, Kile, & Mallette, 1998). Secondary content teachers need to be reminded about their responsibility to teach reading and writing in different content areas (Gross, 2010). In addition to exposing teachers to best-practice strategies, secondary instructional coaches are often simultaneously addressing the special circumstances that are part of this teaching and learning context, such as an increased focus on content (Christenbury et al., 2009).

Specific Literacy Coaching Activities

Coaches in all content areas and grade levels should train and support teachers with researched-based instructional practices that are shown to increase student achievement (Collett, 2012; Cornett & Knight, 2009; Hill & Rapp, 2012; Knight, 2006). Instructional coaches, especially secondary literacy coaches, should provide teachers with knowledge about these practices and demonstrate how such strategies and practices can be used effectively in the classroom (Collett, 2012; Hill & Rapp, 2012; Knight, 2006). Such knowledge and skills are considered worthwhile content for professional learning (Timperly, 2008). Marzano's High Probability Strategies are one example of research-based pedagogical strategies that teachers should use with students (Good & Brophy, 2007; Rosenshine, 2012; Zemelman, Daniels, Hyde, 2005). Marzano's strategies consist of nine instructional strategies that have been shown to increase student achievement in all subjects (Beesley & Apthorp, 2010). These teaching and learning strategies include finding similarities and differences, use of summarizing and notetaking, and making nonlinguistic representations, as well as others (Beesley & Apthorp, 2010; Dean, Hubbell, Pitler, & Stone, 2012; Marzano, 1998; Marzano, Pickering, & Pollock, 2001). The nine Marzano Strategies are utilized by many instructional coaches to support teachers in all subjects and grade levels.

Another example of instructional best practices known to help with literacy teaching and learning are the instructional shifts associated with the Common Core State Standards (CCSS) for Literacy (Common Core State Standards Initiative, 2014; School Achievement Partners, 2014). These strategies and shifts are being used by school districts to help guide the work of literacy coaches with teachers. In order to best implement the new CCSS, K-12 literacy teachers must intentionally shift their instruction so that students can meet the new expectations. The

shifts for literacy instruction include teachers and students focusing more on 1) regular practice with complex texts and their academic vocabulary, 2) reading, writing, and speaking grounded in evidence from texts, both literacy and informational, and 3) building knowledge through content-rich nonfiction (Common Core State Standards Initiative, 2014; School Achievement Partners, 2014). Integrating instructional best practices with core content areas like literacy have been shown to have a positive impact on both teacher and student outcomes (Marzano, 2003).

Because of the increased emphasis on teachers' changing their practices to reflect the new expectations of Common Core, literacy coaches at all levels are focusing on these instructional shifts in their work with teachers.

Impact of Coaching on Teachers

Comparison group studies have shown that teachers who receive coaching are more likely than teachers receiving traditional professional learning to utilize preferred teaching strategies (Knight, 2004; Neufeld & Roper, 2003). Coaching can help teachers reflect on their own teaching methods (Joyce & Showers, 2002) and has been shown to have a positive effect on teachers' perceptions of self-efficacy, how the coach is viewed in the school, as well as helping teachers to implement research-based strategies (Knight, 2007; L'Allier, Elish-Piper, & Bean, 2010; Toll, 2006; Tschannen-Moran, Hoy & Hoy, 1998).

Research from three studies on peer coaching produced mixed results, which indicated that teacher change was not necessarily a result of coaching activities, and that although coaching is viewed as positively impacting teacher change, it was not considered significantly impactful (Quick et al., 2009; Zwart, Wubbels, Bergen, & Bolhuis, 2007). One study found that coaching increased teacher confidence but not effectiveness (Veenman & Denessen, 2001). The amount of time spent coaching as well as the focus of the time spent with teachers can have an

impact on the effectiveness of a coaching program (Hasbrouck & Denton, 2009; Knight, 2006; Shidler, 2009). Research has not shown much empirical evidence linking instructional coaching to student achievement outcomes; much of the research is thus considered immature, and more peer-reviewed studies need to be conducted, although a limitation in the research may exist due to lack of experimental studies regarding coaching (Walpole & Blamey, 2008).

How coaching is perceived by teachers can have an impact on teachers' beliefs, attitudes, and practices (Rodgers & Rodgers, 2007; Rush & Young, 2011). In their coaching study that included self-reported teacher data, Rush and Young (2011) examined the focus and extent of coaching taking place with K-12 teachers after the implementation of a two year coaching program. They found that a large number of teachers reported spending a small amount of time with the instructional coach, while a small number of teachers spent a large amount of time with the instructional coach. Teachers also reported the coaching activities they experienced. The coaching activities that received the highest percentage of responses from all surveyed teachers were those that involved 1) supporting teachers with instructional strategies, and 2) participating in collaborative meetings with teachers (Rush & Young, 2011). These two reported activities were also the two activities that most teachers thought were effective in changing their practices. The activities receiving the lowest percentage of responses from all teachers included debriefing with the coach and participating in cohort study groups. There were differences in survey results when teaching levels of the respondents were compared (elementary, middle, and high). Overall, teachers from the different levels all reported relatively high responses regarding all activities, meaning that they felt there was some level of effectiveness in regards to the different activities changing their teaching practices (Rush & Young, 2011).

When high-quality coaching that incorporates clear coaching roles and responsibilities pertaining to the implementation of an initiative is in place, researchers have found there is more likelihood that there will be transfer of knowledge and skills to the classroom, thus building teacher capacity (Cornett & Knight, 2009; Joyce & Showers, 1982). On the other hand, when instructional coaching is implemented in a way that is not based on research, there can be issues with implementation of any reform and/or initiative (Fullan & Knight, 2011; Knight, 2006). For example, the amount of time a coach spends with a teacher and the focus of the time given are two factors related to coaching effectiveness (Hasbrouck & Denton, 2009). These factors can result in affecting teachers' understanding of the coaching program and the particular strategies or practices that were intended to be the focus of the coaching (Fullan & Knight, 2011). Coaches need time to work with teachers, and they need to focus on research-based best practices in order to be effective (Knight, 2006). In turn, coaching can have an impact on teachers' practices, beliefs, and attitudes (Guskey, 2002; Rodgers & Rodgers, 2007; Rush & Young, 2011).

Recommendations for Research

The literature provided many case studies and other types of qualitative research about coaching roles and responsibilities, but because of the sample sizes and methodologies used, as well as the variability of different coaching scenarios in schools, generalizability is difficult (Cornett & Knight, 2009). More research needs to be conducted regarding the change process with teachers, including the nature of the relationships between components such as professional learning and change in teachers' practices (Guskey, 2002). More studies need to be conducted about teachers' perceptions of the impact of coaching on teaching (Marsh et al., 2010). As mentioned earlier, more research is needed on the specific secondary literacy coaching role and responsibilities. In addition, more study needs to take place on secondary literacy teachers'

perceptions about the coaches' impact on their use of instructional best practices, as well as their perceptions of working with the literacy coach (Toll, 2007). Cornett and Knight (2009) noted that more research is needed regarding the most effective and efficient ways for coaches to work with teachers. Studies need to be conducted about teacher perceptions of the coach that involve all teachers and not just those who volunteer to be coached (Gross, 2010). More research needs to occur about the effectiveness of professional learning with teachers, such as instructional coaching, that incorporates best practices that are aligned with core components of professional learning (i.e., duration, collective participation, content focus, active learning, and coherence) (Desimone, 2009) and incorporates alternative theories of how teachers change their practices (Guskey, 2002).

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2 THE SELF-REPORTED IMPACT OF INSTRUCTIONAL COACHING ON MIDDLE SCHOOL TEACHERS' PRACTICES IN AN URBAN GEORGIA SCHOOL DISTRICT

Introduction

Many schools/districts are using coaching as a form of professional learning. Even though coaching is a promising practice, there is not much known about its impact on teachers and students (Campbell & Sweiss, 2010; Gross, 2010; Marsh, McCombs, & Martorell, 2010; Walpole & Blamey, 2008). The review of the literature began with discussing theories about teacher change, including Guskey's Model of Teacher Change (1986, 2002), which theorized that effective professional learning leads to changes in teachers' practices and eventually changes in student outcomes, followed by changes in teachers' attitudes and beliefs. The literature also discussed different conceptual approaches to professional learning and how effective professional learning has particular components (Darling-Hammond & McLaughlin, 1995; Darling-Hammond, Chung Wei, Andree, Richardson, & Orphanos, 2009; Desimone, 2009; Gullamhussein, 2013; Learning Forward, 2011). Effective professional learning tends to be of longer duration and intensity. Ongoing professional learning is significant to teachers learning new skills and strategies. Job-embedded practice and active participation are other important traits of effective professional learning, in addition to a content focus and coherence with other school/district initiatives (Desimone, Porter, Garet, Yoon, & Birman, 2002). Instructional coaching is considered a form of job-embedded professional learning that can incorporate these characteristics thought to be effective (Knight, 2007). Providing training and support with research-based practices and content are two basic roles of a coach (Blamey, Meyer, & Walpole, 2009; Haager, Klingner & Vaughn, 2007). Instructional coaching can fulfill the technical

support role in order to help teachers with implementing new strategies, as well the intellectual role needed by teachers that encourages them to innovate (Little, 1993).

There are particular implications for coaching, including the importance of having a specific focus to coaching and time with the coach (Fullan & Knight, 2011; Knight, 2006). The way teachers view their coaching experiences can have an impact on their practices, attitudes, and beliefs (Rush & Young, 2011). Clear coaching roles/responsibilities can have an influence on the transfer of knowledge and skills to the classroom (Hasbrouck & Denton, 2009; Knight, 2006; Shidler, 2009). Coaching can have an impact on teachers in both individual and small group settings. Certain coaching activities are perceived to be more impactful than others to teachers (Rush & Young, 2011). The behaviors used in the coaching cycle can have a perceived influence on teachers' beliefs and practices (Joyce & Showers, 2002; Knight, 2007; L'Allier, Elish-Piper, & Bean, 2010; Toll, 2006; Tschannen-Moran, Hoy & Hoy, 1998). Teachers who receive coaching are more likely than teachers receiving traditional professional learning to utilize preferred teaching strategies (Knight, 2004; Neufeld & Roper, 2003).

There were mixed results about coaching in the literature. Teacher change is not always necessarily due to coaching activities. Coaching may not be significantly impactful according to the literature (Quick, Holtzman, & Chaney, 2009; Zwart, Wubbels, Bergen, & Bolhuis, 2007). Coaching may increase teacher confidence but not necessarily teacher effectiveness (Veenman & Denessen, 2001). There was a lack of empirical evidence linking instructional coaching to student achievement outcomes. Much of the research was considered "immature" and suggested that more peer-reviewed studies are needed, especially regarding the effectiveness of coaching, the role and purpose of coaching, and the coaching activities in which teachers participate (Walpole & Blamey, 2008). The difficulty of generalizing about coaching was also noted, due to

the variation involved in different scenarios and contexts (Cornett & Knight, 2009). More research is needed on the specific coaching contexts, such as secondary literacy coaching situations (Blamey, Meyer & Walpole, 2009; Campbell & Sweiss, 2010). More research is needed about teachers' perceptions of coaches and the impact of coaching on teachers' practices (Gross, 2010; Marsh et al., 2010). More studies are needed regarding the teacher change process that involves instructional coaching as a form of professional learning, that incorporates critical features and aspects which make the biggest impact with teachers (Knight & Cornett, 2009). This includes studying instructional coaching using alternative theoretical models, such as the one by Guskey (Guskey, 2002).

Purpose of this Study

The purpose of this study was to identify relationships between the amount and types of content specific instructional coaching received and any reported changes in teacher practice, as measured by reported overall teacher growth and overall growth due to coaching.

An additional purpose was to investigate the coaching activities that were intended to be a part of a district-wide coaching program and to what degree these activities were experienced by secondary-level English Language Arts and social studies teachers. This study also involved investigating any relationships between these specific district-wide coaching activities and changes in teachers' practices. The research-based coaching activities that were a part of this coaching program and used with teachers included behaviors from the coaching cycle (i.e., observing, modeling, co-teaching, and feedback), as well as instructional best practice strategies like Marzano's High Probability Strategies, and the instructional shifts associated with the

Common Core State Standards for Literacy in ELA. These specific coaching activities were designed to assist teachers with changing their instructional practices.

This study sought to find out more about the importance of both the “extent” of working with the instructional coach, as well as the “focus” of working with the coach, and if these variables might be related to teachers’ growth. This study also sought to find out more about coaching as a form of professional learning and its impact on changing teachers’ practices.

Significance of this Study

This study built on the previous descriptive study done on the impact of instructional coaching on teachers’ practices by Rush & Young (2011). As Rush and Young did in their study, this study reports descriptive data about the amount and type of coaching activities experienced by teachers. This study adds to Rush and Young’s research by including correlational analysis to investigate the relationships between the reported amount and type of coaching activities experienced and reported overall teacher growth. This study also adds to the research by including correlational analysis to investigate the relationships between the reported amount and type of coaching activities experienced and estimated teacher growth due to coaching. This study investigated coaching in a specific context, secondary literacy coaching across two content areas.

In addition to adding to the informing literature, this research study also can inform schools and districts as they make decisions about how to best help teachers become more effective through professional learning. Like so many school districts, the district that was part of this study has been struggling over the years to assist teachers with improving their practice, as measured by their evaluations and student test results. Having effective teachers, or a lack thereof, has been a problem (Partee, 2014).

This study investigated how one district implemented particular instructional initiatives within and across schools using a highly developed, research-based coaching program, which is also based on Guskey's theoretical framework about professional learning and teacher change. In addition to the coaching program emphasizing Guskey's model about teachers changing their practices prior to changing their beliefs, the coaching program also incorporated other aspects of theories about how teachers change and what constitutes effective professional learning. This included an emphasis on instructional coaches assisting teachers with improving their technical expertise and ability to use strategies effectively and independently. Another major emphasis of the coaching program in the school district was facilitating the use of structures and processes with teachers that encouraged their collaboration and innovation (i.e., professional learning communities).

The findings from the sample studied provide important information about the amount and type of coaching activities being experienced and the reported impact on teacher practices. Findings indicate how this particular instructional coaching program using these coaching activities is working across the district in similar schools. This allows district leaders to gauge how much coaching is occurring, as well as what types of coaching activities are taking place across schools and with the understanding that variation will be a part of any implementation. This study allows the district to see if there are any relationships between the amount and type of coaching activities being received by teachers and the coaching's degree of impact on changing teachers' practices in order to ultimately help them become more effective. Such a study also may provide insights into how this and other coaching programs, especially those based on Guskey's model, can be improved as a form of professional learning for similar schools and districts based on the teachers' perspectives.

Research Questions

The research questions and hypotheses for the study were as follows:

1. What is the relationship between the amount of instructional coaching reported by teachers and their reported changes in practice?
2. What is the relationship between the types of instructional coaching activities reported by teachers and their reported changes in teacher practice?

Hypotheses

1. There will be a statistically significant positive relationship between the amount of instructional coaching reported by teachers and their reported changes in practice.
2. There will be a statistically significant positive relationship between the types of coaching activities reported by teachers and their reported changes in practice.

Methodology

Overview

Survey research is an efficient and effective way to evaluate teachers' perceptions of professional learning (Desimone, 2009). Based on the nature of the problem to be studied, individual teacher self-reported data were collected about the training and support received from instructional coaches over one school year (2013-14) in the teachers' respective schools. The data collected about training and support received by teachers was specific to the professional learning initiatives emphasized in one school district, including use of the coaching cycle, and the focus on the Marzano Strategies and Common Core State Standards. The aim was to gather teacher data from schools across the district through online survey research at the end of the 2013-14 year and then analyze the data to give the teachers' collective views about the training

and support received as part of the district-wide coaching program. This program had been in place for two consecutive school years prior to the data collection.

Because the study's purpose was to see if there was a relationship between the reported amount and type of coaching activities and the reported change in teachers' practices, the most efficient way to do such an investigation with teachers district-wide was through survey research and statistical analysis. Also, critical features of effective professional learning can be measured well with surveys (Desimone, 2009).

This study used descriptive and inferential statistics to examine the impact of two independent variables on changes in teacher's practices, as reported by teachers in a survey. This study utilized correlational analyses to assess the main effects of 1) coaching "extent" or amount, and 2) coaching "focus" or types of activities on changes in teachers' practices. Coaching "extent," or the amount of coaching, was defined as the reported duration and frequency of instructional coaching in different settings (one-on-one, small group/PLCs, and in total). Coaching "focus" was defined as the reported types of coaching activities associated with the instructional coaching. Changes in teacher practice, was represented by two dependent variables: 1) the reported overall teacher growth score, and 2) the estimated teacher growth due to coaching score. The estimated teacher growth due to coaching resulted from a calculation which involved the individual teacher's overall growth score and the individual teacher's coaching impact mean score. Statistical significance was assessed with an alpha level of 0.05, and the direction of the relationships, meaning positive, negative or no relationship was noted.

Lastly, additional analyses were conducted to see if there were any significant differences in group means pertaining to teachers' growth due to coaching scores. Groups for comparison were based on subjects taught by respondents, as well as total years of respondents'

teaching experience. Such group information originated from responses gathered through demographic questions that were included in the survey instrument for the study.

Participants

The survey research was conducted in a large urban district in Georgia that had been utilizing a highly developed instructional coaching program to assist with professional learning initiatives over the past two school years. The coaching program was based on Guskey's Model of Teacher Change and other research-based best practices, such as job-embedded training/support and the Community of Practice (COP). The research study was conducted with a sample of English language arts (ELA) and social studies middle school teachers from ten Title I campuses across the district. All of the English language arts and social studies middle school teachers were considered to be part of the potential sample for the study. The sample included only those middle school ELA and social studies teachers who completed the survey after satisfying both of the following demographic requirements: 1) they were employed in their middle school as an ELA and/or social studies teacher for the 2013-14 school year, and 2) they received instructional coaching from their school-based coach, at least once during that time.

The sample of ELA teachers included any teacher who taught at least one period of English language arts, which entailed reading, writing, or a combination thereof. The sample also included any teacher who taught at least one period of social studies, including history courses, and any teacher who instructed both ELA and social studies subjects throughout the school day. Also, the sample included regular education, special education, and gifted ELA teachers. Finally, the sample included teachers who volunteered to work with an instructional coach as well as those teachers who were required to do so by administration.

The initial survey pool of teachers to be included in this district-wide survey was 176. The respondents included 57 ELA and social studies teachers who gave consent to take the online survey. Of the 57 teachers who gave consent, 52 teachers reported that they had worked with an English language arts/social studies instructional coach at least one time in the 2013-14 school year (either in a small group or one-on-one situation). Based on this data, the survey response rate was 30%. The final sample of 52 teachers was comprised of 46.2% ELA teachers (n=24), 44.2% social studies teachers (n=23), and 9.6% teachers who taught both ELA and social studies in the 2013-14 year (n=5).

Other demographics of the sample include gender, student population taught, and years of experience. Females comprised 81% of the teachers in the final sample were female (n=42), while 6% were male (n=3) and 14% of the sample did not report gender (n=7). The teachers in the final sample also reported the student population they primarily served during the school day. Seventy-one percent of the teachers reported that they mainly served regular education students (n=37). Eight percent of teachers responded that they served mostly gifted students during the typical school day (n=4), while eight percent of teachers also reported that they taught mainly special education students (n=4). Fourteen percent of the sample did not report on student population served (n=7). Teachers also reported their total number of years of teaching experience, as well as their number of years teaching in the district and the number of years taught in their current school, all of which included the 2013-14 school year. Sixty-seven percent (n=35) of the participants had ten or more total years of teaching experience. Fifty-two percent (n=27) of the participants had 10 or more total years of teaching experience in the district. Table 1 below shows more information about years of experience.

Table 1 *Frequency and Percent for Years of Teaching Experience for Study Participants (n=52)*

Experience	Frequency	Percentage
Total Years Teaching		
1	1	2
2-3	1	2
4-9	8	15
10-15	13	25
More than 15	22	42
No Response	7	14
Total Years in District		
1	3	6
2-3	5	10
4-9	10	19
10-15	14	27
More than 15	13	25
No response	7	13
Total Years in Current School		
1	6	12
2-3	11	21
4-9	16	31
10-15	9	17
More than 15	3	6
No Response	7	13

Other demographic information gathered about the teachers in the sample included the type of teacher preparation program in which they participated, as well as the nature of the working relationship they had with the instructional coach most of the time. The majority of teachers in the sample participated in a traditional four-year preparation program as seen in Table 2 below. Thirty-nine percent of teachers in the sample reported that the amount of time spent voluntarily with the instructional coach and the amount of time they were required to work with the instructional coach were about equal as seen in Table 3 below.

Table 2 *Frequency and Percent for Type of Teacher Preparation Program of Study Participants (n=52)*

Teacher Preparation Program	Frequency	Percentage
Traditional Four Year	25	48
Master of Arts in Teaching	8	15
Alternative Certification/Entry	4	8
Teacher for America	3	6
Other	4	8
No Response	8	15

Table 3 *Frequency and Percent Regarding Relationship Between Teacher and Instructional Coach (IC) (n=52)*

Time Spent with Instructional Coach	Frequency of Teachers	Percentage of Teachers
Mostly Required	16	31
Mostly Voluntary	9	17
Equally Required and Voluntary	20	39
No Response	7	14

Instrumentation

An existing survey tool, the Wyoming Instructional Facilitator Survey, which was developed at the University of Wyoming (Rush & Young, 2011), was the basis for a new survey to answer the research questions in this study. The authors granted permission to use all or parts of their survey design. The purpose of the Rush and Young survey was to gauge the impact of a two-year statewide coaching program on teacher practice and was administered in an online format across every district in the state of Wyoming. The Rush & Young survey was based on the researchers' prior survey work with one district in the state (Rush & Young, 2007), as well as existing research in the field of coaching (Knight, 2004; Knight, 2006; Neufeld & Roper, 2003). Rush and Young's survey measured both the amount and types of coaching activities as self-

reported by teachers, and also asked teachers to describe the impacts such coaching had on their practices, attitudes, and beliefs.

For the purposes of this study, a new survey was developed and administered to the teacher sample in the school district (see Appendix A). The new survey used in this study included categorical, numerical, and Likert scale questions like those found in the original survey, although the number of Likert scale questions were fewer in comparison with Rush and Young's survey (Rush & Young, 2011). Similar to Rush and Young's survey, the new survey created for this ex post facto study asked teachers to report specific information about the amount (or the extent) of coaching received and types of coaching activities (or focus) experienced.

Whereas the Rush & Young survey investigated the impact of instructional coaching on changing teachers' practices, attitudes, and beliefs, this new survey only focused on the teachers' reported changes in their practices; this is a major difference between the Rush & Young survey and the new survey. Another major difference between the Rush & Young survey and the new survey is that Rush & Young did not investigate relationships between the amount and type of coaching reported and the reported changes in teacher practices.

The survey for this study consisted of a total of 30 questions. At the beginning of the survey, teachers were asked for their consent to participate in the survey. They were then asked two questions which qualified them to take the survey and be included in the final sample. The first question asked the teachers to identify themselves as a teacher of ELA, social studies, or both. The second qualifying question asked the teachers to indicate that they had worked with an instructional coach at least once in either a one-on-one or small group setting to be included in the sample and proceed with all other survey questions.

The new survey also asked teachers to provide basic demographic information about themselves (i.e., gender), but some of the questions were specific to this research context (i.e., number of years employed at their current school, number of years in the district, etc.). Teachers were also asked about their teacher preparation program, as well as the nature of their working relationship with the instructional coach. The new survey had a total of 7 demographic questions.

In the new survey, teachers were asked 16 questions about the amount or type of coaching received. Teachers had to estimate how much time they spent with a coach in both one-on-one and small group/PLC settings in a typical month. They also were asked to report the specific activities they experienced with the coach in both one-on-one and small group/PLC situations. Teachers were given a list of coaching activities that were intended to be focused on as part of the district coaching model. Teachers marked the activities that they experienced with the coach over the last year. The survey included specific questions and possible answer choices as they related to the relevant professional learning initiatives in the district (i.e., use of coaching cycle and best practice instructional strategies such as the Marzano Strategies and Common Core State Standards literacy shifts).

In order to examine the dependent variable of reported overall teacher growth, teachers were asked one question that was directly related to their positive growth or change in practice. This question asked teachers to report the degree of positive change they made in their practices during the 2013-14 school year. Areas of change in practice were based on the ten performance standards that are part of the Teacher Keys Effectiveness System (TKES), which is Georgia's state-wide teacher evaluation system. Teachers were trained by administrators in the district on these specific standards, officially called Teacher Assessment of Performance Standards (TAPS)

which included the following areas: 1) Professional Knowledge, 2) Instructional Planning, 3) Instructional Strategies, 4) Differentiated Instruction, 5) Assessment Strategies, 6) Assessment Uses, 7) Positive Learning Environment, 8) Academically Challenging Environment, 9) Professionalism, and 10) Communication (Georgia Department of Education, 2014). Using a Likert scale of 1-5, teachers rated the degree of positive changes or growth in their teaching practices over the last school year for each TAPS area.

Next, teachers were asked to indicate to what degree instructional coaching had an impact on positively changing their practices in the TAPS areas where they indicated they had experienced positive growth. Using a Likert scale of 1-5, teachers rated the degree of coaching impact on their changes in practice. The information collected from this question about coaching impact would then be utilized, along with teachers' overall growth, in later estimating the second dependent variable, the amount of growth due to coaching.

Lastly, there was one question that asked teachers to comment on the effectiveness of their instructional coach. This specific question asked the teachers to indicate their level of agreement with the following statement, "I had an effective coach." Teachers were asked to rate their level of agreement by using a scale of 1-5. There was also an open-ended question that allowed teachers to provide any additional information.

Teacher surveys that ask descriptive and behavioral questions about their professional learning have been shown to have good reliability and validity (Mayer, 1999). To evaluate how a sample from the survey population might respond to the new instrument, the survey was reviewed by a focus group of ELA and social studies teachers at a middle school where the primary researcher served in a district support role. Therefore, the responses of these teachers were used for feedback about the survey's validity and were not included in the actual data

collection. The teacher focus group completed the survey and then filled out a feedback form about the questions, indicating if changes should be made to the survey. Additional changes were made to the draft survey based on the feedback of the focus group (Fink, 2013; University of Wisconsin Survey Center, 2010). To further strengthen the validity of survey questions, the survey was reviewed and revised based on feedback from a panel of national literacy coaching experts, including several former district-level ELA curriculum directors/supervisors. Several meetings, both virtual and in-person, occurred with panel members during the week of April 19-26, 2014. All questions and answer choice options related to the amount and type of coaching received by teachers are aligned with the core components of professional learning according to the best practice research done by Desimone and colleagues (Desimone, 2009; Desimone, et al., 2002).

Procedures

All of the 2013-14 Title I middle school English Language Arts and social studies teachers in the district received an email through the district webmail asking for their participation in the survey. The email stated that this was a study approved by the district, and the purpose of the study was outlined. Moreover, it was shared with the potential sample that the information collected would be used to help the district improve the instructional coaching program and the overall professional learning provided to teachers. It was explained to teachers that their responses would be anonymous and confidential, and that their participation was completely optional and not required. Teachers were told that this survey was not meant to be an evaluation of any particular instructional coach. Teachers were made aware that all data would be pooled from different schools and would be analyzed as a whole, at the district level, not by individual school. The online link to the survey was provided to teachers in the email. Once

teachers accessed the survey link, they were directed to the study survey. There was a short review of the information in the original email, and teachers were asked to give their consent for participation in the survey. Survey directions then followed, which included informing the teachers that they would need about 10 minutes to take the survey. The survey window was open for three weeks during May, 2014 and the first week of June, 2014. Three reminder emails were sent to ELA and social studies teachers. All online surveys that were completed by qualifying teachers on or before June 7, 2014, were included in the analysis.

Data Analysis

Quantitative data analysis of survey results using the Statistical Package for the Social Sciences (SPSS) version 21 took place to investigate the relationships between the reported amount and type of reported coaching activities received and teachers' reported overall teacher growth. SPSS was also used to investigate the relationships between the reported amount and type of coaching activities experienced and estimated teacher growth due to coaching. In regards to analyzing and interpreting the data, frequencies and percentages were reported for teacher responses about categorical questions referencing the amount and/types of coaching activities experienced by teachers, including both in individual and small group coaching settings. Means and standard deviations were also reported for the numerical scale questions about the amount of coaching experienced. This part of the statistical data analysis was similar to that in the Rush & Young survey, and it yielded information such as trends and patterns about coaching and its self-reported impact on teachers across the district.

Pertaining to the first dependent variable, overall teacher growth, frequencies, and percentages were reported for each TAPS area and the corresponding degree of positive change as indicated by teachers. Means were reported for each of the TAPS areas. An overall total

growth score was determined for each participant by adding up their individual scaled scores for each of the TAPS areas. The mean overall teacher growth score and standard deviation were determined.

Frequencies and percentages were also used to report the degree to which teachers reported the impact of instructional coaching on their reported growth in the different TAPS areas. A coaching impact mean score was determined for each participant by adding an individual's coaching impact scores for each of the ten TAPS areas and then dividing by 10 to determine a mean coaching impact score. The mean and standard deviation were reported for the coaching impact mean scores.

Estimated teacher growth due to coaching scores were based on calculation that involved the reported overall teacher growth scores (A) and mean coaching impact scores (B). The growth due to coaching score was calculated in SPSS using the formula $(B/5) \times A$. The mean and standard deviation for estimated teacher growth due to coaching was determined, as well as the percentage of growth due to coaching. The percentage of estimated teacher growth due to coaching was calculated by using the following formula in SPSS: $(\text{estimated teacher growth due to coaching score} / \text{teacher overall growth score}) \times 100$. The mean and standard deviation for percentage of estimated teacher growth due to coaching were reported.

For the additional correlational component in this research study, Pearson or Point-Biserial correlational analyses were conducted to describe the relationships between independent variables (reported amount and types of coaching activities received) and the dependent variables (reported overall teacher growth and estimated teacher growth due to coaching) (Fink, 2013; Minium, Clarke & Coladarci, 1999).

Pearson correlation was used to evaluate the relationships between the amount of coaching (both one-on-one and small group settings, as well as in total) and the overall teacher growth and estimated teacher growth due to coaching scores. Pearson correlation was used to evaluate the relationships between the total number of coaching activities reported (both one-on-one and small group settings) and the overall teacher growth and estimated teacher growth due to coaching scores. Pearson correlation was used to evaluate the relationships between the total number of specific district coaching activities reported and the overall teacher growth and estimated teacher growth due to coaching scores.

Point-Biserial correlation was used to evaluate the relationship of each separate one-on-one coaching activity (dichotomous variable) with the overall teacher growth and estimated teacher growth due to coaching scores. Point-Biserial correlation was used to evaluate the relationship of separate small group coaching activities (dichotomous variable) reported with the overall teacher growth score and estimated teacher growth due to coaching scores. Point-Biserial correlation was used to evaluate the relationship of separate specific district coaching activities reported and the overall teacher growth and estimated teacher growth due to coaching scores (Minium, Clarke & Coladarci, 1999).

For all correlational analyses in this study, the term “significant” refers to relationships that are statistically significant at either the 0.05 or 0.01 alpha levels. Analysis of Variance (ANOVA) was used to see if there were any significant differences in group means pertaining to estimated teacher growth due to coaching scores. For the first comparison, two groups were formed based on subject(s) taught by the respondents (see Appendix A for Question 1 in the survey). The groups were as follows: 1) ELA teachers, and 2) social studies teachers. There was no third group for comparison (those teaching both ELA and social studies) because the

number of those respondents teaching both subjects was much smaller than the number of those teaching only ELA or only social studies. The second ANOVA was based on total years of teaching experience (see Appendix A for Question 23 in the survey). The groups for comparison were as follows: 1) 1-9 years of experience; 2) 10-15 years of experience; and 3) more than 15 years of experience.

An additional Pearson correlation was conducted to assess the relationships between the respondents' level of agreement with the statement, "I had an effective coach" (see Appendix A for Question 22 in the survey) and the reported overall teacher growth score, as well as the relationships between their level of agreement with the statement and their estimated teacher growth due to coaching score. Lastly, the percentage of the amount of growth due to coaching was determined. This was calculated by using the following formula in SPSS: (estimated teacher growth due to coaching score/reported teacher overall growth score) X 100.

Results

The results section is organized as follows. First, there is a summary of the data collected and analyzed concerning the first research study question regarding the "extent" or amount of coaching reported by participants. Descriptive data about the amount of coaching reported is included. Any descriptive data involving the dependent variables, reported overall teacher growth, and estimated teacher growth due to coaching, is also presented. This summary also explains the relationships that exist between the reported amount of coaching received and the reported overall teacher growth score, as well as the relationships that exist between the reported amount of coaching received and the estimated teacher growth due to coaching score.

Next, there is a summary of the data collected and analyzed concerning the second research study question regarding the "focus" or types of coaching activities reported by

participants. Descriptive data about the types of coaching activities reported is included. This summary also details the relationships that exist between the types of coaching activities reported and the reported teacher growth score, as well as the relationships between the reported types of coaching activities experienced and the estimated teacher growth due to coaching.

Last, there is a section that focuses on other important information from the study, such as the comparison of group means in growth due to coaching, as well as the relationship between how teachers rate their level of agreement with coaching effectiveness and the growth due to coaching score. This section will also include information about the estimated percent of teacher growth due to coaching.

Extent of Work with Instructional Coaches

All of the participants in the survey (n=52) reported that they had worked with an instructional coach at least one time over the course of the school year. Teachers were asked to estimate the “extent” or amount of time they spent with a coach during a typical month over the school year. They were asked to estimate how much time they spent with the coach in both one-on-one and small group/PLC situations. Figures 5 and 6 below show the percentage of teachers’ responses to these questions. The mean for the amount of one-on-one time spent with an instructional coach in a typical month was 3.81 hours (SD=2.90). Almost 50 percent of teachers reported receiving between three and six hours of one-on-one coaching per month. The mean for the amount of time spent with an instructional coach in small group/PLC situations during a typical month was 4.48 hours (SD=3.05). Almost 50 percent of teachers reported receiving between three and four hours of small group/PLC coaching per month. Teachers were also asked questions about how often they met with the instructional coach, both in one-on-one and small group/PLC situations during a typical month. The mean number of times teachers met with a

coach in one-on-one situations during a typical month was 3.58 (SD=2.85). The mean number of times teachers met with a coach in small group/PLC situations during a typical month was 4.28 (SD=2.56). The mean total duration of time spent with coaching (both one-on-one and small group/PLC settings combined) was 8.22 hours (SD=4.67). The median number of hours of total coaching time was 7.0 hours. About 30 percent of teachers reported receiving between seven and ten total hours of coaching each month. See Figure 7 below for more information about reported total amount of coaching received.

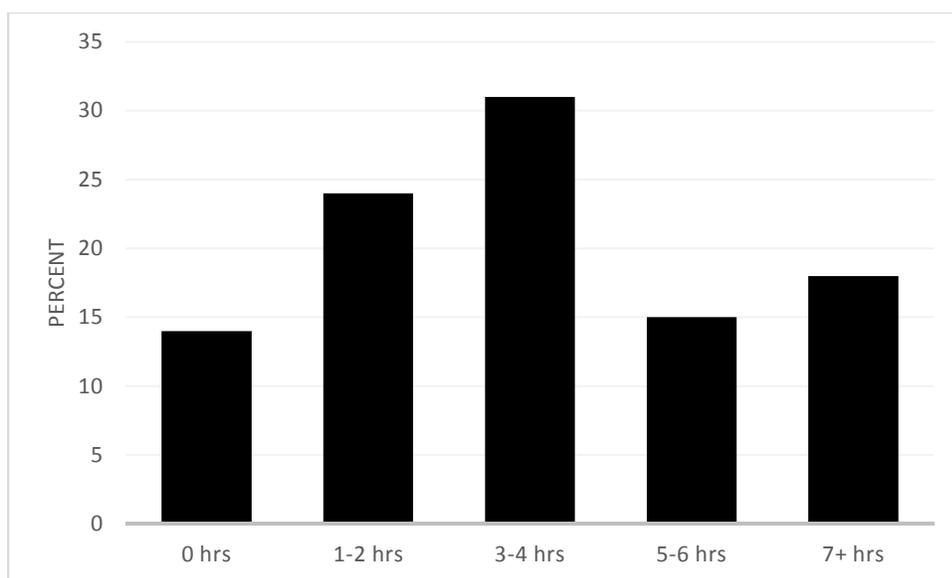


Figure 5 *Percent of Reported Time Spent in One-On-One Coaching*

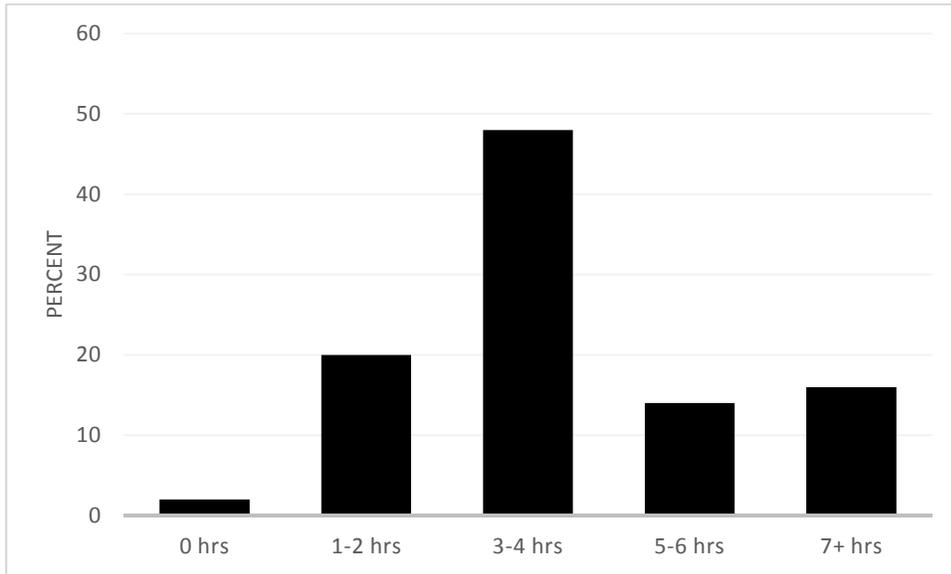


Figure 6 *Percent of Reported Time Spent in Small Group/PLC Coaching*

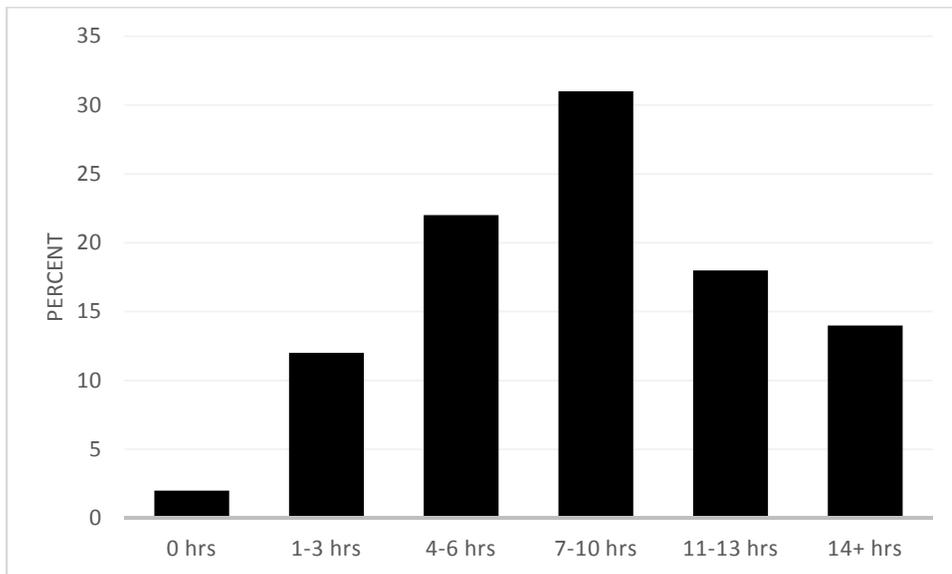


Figure 7 *Percent of Reported Total Time Spent in Coaching (Both 1-1 and Small Group/PLC)*

Overall Teacher Growth

In terms of the first dependent variable, overall teacher growth, teachers first answered a survey question about the degree of positive change or growth that they experienced over the school year. Using a scale of 1-5, with 1 meaning “no growth,” 3 meaning “some growth” and 5 meaning “significant growth,” the teachers were asked to report their own growth for each of the ten standard areas of TAPS in Teacher Keys. Table 4 below shows the frequencies and percentages reported for growth in all of the TAPS areas. The majority of teachers reported having growth on the higher end of the 5 point scale (either a 4 or 5) for all of the TAPS areas. The TAPS areas in which the most teachers reported “significant growth,” a “5” on the scale were the following: 1) Professionalism (31%) and 2) Communication (31%). The TAPS areas in which teachers reported having a “4” on the scale were the following: 1) Professional Knowledge (42%), 2) Instructional Planning (40%), 3) Academically Challenging Environment (39%), 4) Instructional Strategies (39%), and 5) Assessment Uses (37%).

Table 4 *Frequency and Percent of Reported Teacher Growth in TAPS Areas (n=52)*

TAPS Area	N	Growth					Mean
		1	2	3	4	5	
Professional Knowledge	45	1 (2%)	0 (0%)	13 (25%)	22 (42%)	9 (17%)	3.84
Instructional Planning	46	2 (4%)	1 (2%)	10 (19%)	21 (40%)	12 (23%)	3.87
Instructional Strategies	46	1 (2%)	0 (0%)	14 (27%)	20 (39%)	11 (21%)	3.87
Differentiated Instruction	46	1 (2%)	3 (6%)	17 (33%)	17 (33%)	8 (15%)	3.65
Assessment Strategies	45	3 (6%)	3 (6%)	14 (27%)	16 (31%)	9 (17%)	3.56
Assessment Uses	46	2 (4%)	3 (6%)	10 (19%)	19 (37%)	12 (23%)	3.78
Positive Learning Environment	46	3 (6%)	3 (6%)	12 (23%)	16 (31%)	12 (23%)	3.67
Academically Challenging Environment	46	3 (6%)	0 (0%)	12 (23%)	20 (39%)	11 (21%)	3.78
Professionalism	46	3 (6%)	0 (0%)	13 (25%)	14 (27%)	16 (31%)	3.87
Communication	46	2 (4%)	1 (2%)	13 (25%)	14 (27%)	16 (31%)	3.89

Note. Percentages based on n=52

Also, a total change in practice or growth score was calculated for each participant by adding the individual scaled scores for each of the ten TAPS areas shown in Table 4. The mean overall individual teacher change or growth score was 37.7 out of a possible 50 (SD=8.16) (n=45). The median teacher change in practice or growth score was 40 out of a possible 50. See Figure 8 below for more information about the distribution of the percentages of overall teacher growth scores.

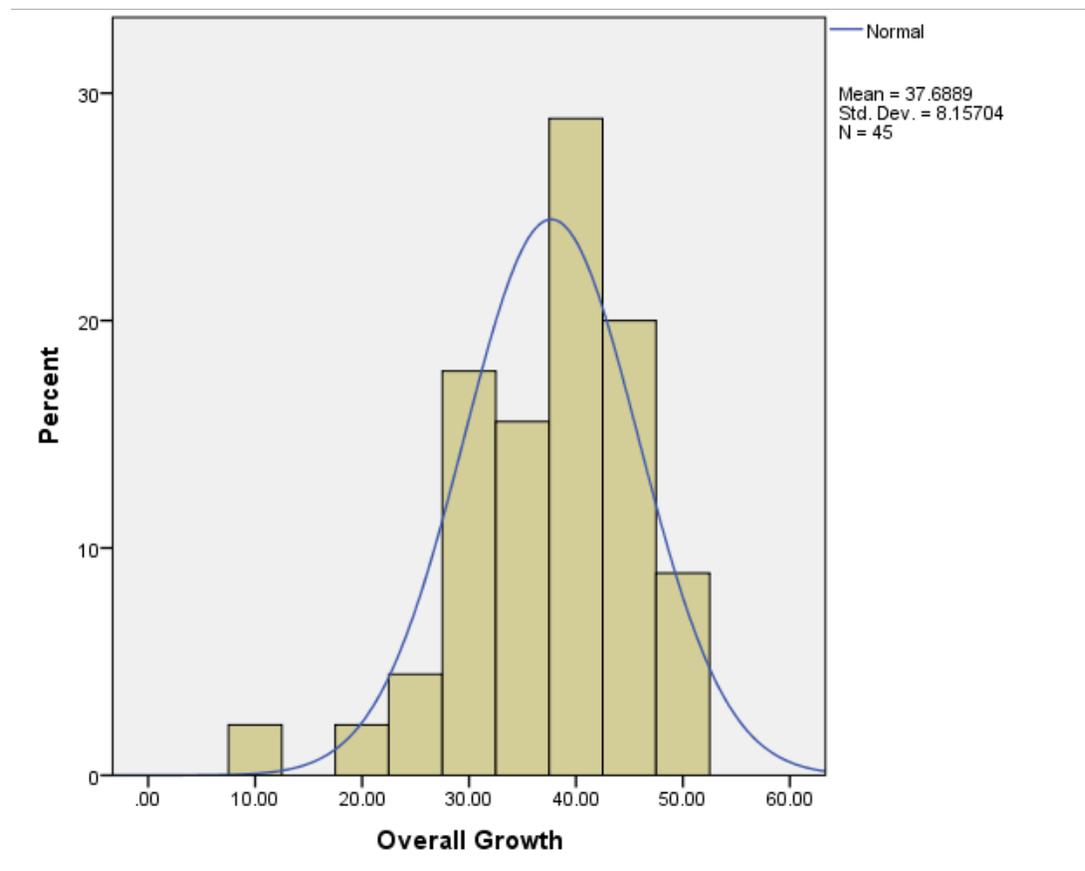


Figure 8 *Percent of Reported Overall Teacher Growth Scores (n=45)*

Next, teachers had to rate the degree of coaching impact on their growth, using a scale of 1-5, with 1 meaning “no impact,” 3 meaning “some impact,” and 5 meaning “significant impact.” They were asked to do this for coaching received that helped them grow in any of the TAPS areas. If they did not receive coaching in a particular domain, they were asked to mark “not applicable” for that domain. Table 5 below summarizes the frequency and percentages of responses given by participants. The majority of teachers reported that their coaches’ impact on their growth was at the middle to higher end of the 5 point scale (either a 3, 4, or 5) for each of the TAPS area. The TAPS areas where the most teachers reported that coaching had “significant” impact on changing their practices, or a “5,” were the following: 1) Professionalism (23%), 2) Assessment Uses (23%), 3) Communication (23%), 4) Professional Knowledge (21%) and 5) Assessment Strategies (21%). Teachers reported that coaching had an impact level of “4”, in the following TAPS areas: 1) Differentiated Instruction (27%), 2) Instructional Planning (25%), and 3) Instructional Strategies (25%).

Table 5 *Frequency and Percent for Reported Coaching Impact on Changing Practices in TAPS Areas (n=52)*

TAPS Area	N	N/A	Growth				
			1	2	3	4	5
Professional Knowledge	43	4 (8%)	4 (8%)	5 (10%)	9 (17%)	10 (19%)	11 (21%)
Instructional Planning	43	3 (6%)	5 (10%)	2 (4%)	11 (21%)	13 (25%)	9 (17%)
Instructional Strategies	44	2 (4%)	4 (8%)	4 (8%)	12 (23%)	13 (25%)	9 (17%)
Differentiated Instruction	43	2 (4%)	4 (8%)	6 (12%)	11 (21%)	14 (27%)	6 (12%)
Assessment Strategies	41	2 (4%)	5 (10%)	3 (6%)	10 (19%)	10 (19%)	11 (21%)
Assessment Uses	43	3 (6%)	4 (8%)	3 (6%)	13 (25%)	8 (15%)	12 (23%)
Positive Learning Environment	42	4 (8%)	5 (10%)	5 (10%)	8 (15%)	9 (17%)	11 (21%)
Academically Challenging Environment	42	3 (6%)	6 (12%)	5 (10%)	9 (17%)	11 (21%)	8 (15%)
Professionalism	43	6 (12%)	5 (10%)	3 (6%)	9 (17%)	7 (14%)	12 (23%)
Communication	43	6 (12%)	5 (10%)	5 (10%)	6 (12%)	9 (17%)	12 (23%)

Note. N/A means that coaching was not reported by teachers for that particular TAPS area.

Note. Percentages based on n=52

A mean coaching impact score was determined by adding the individual coaching impact ratings for each of the ten TAPS areas shown in Table 5 and then dividing by 10. The mean coaching impact score was 3.20 (SD=1.39). The median coaching impact score was 3.30.

Figure 9 below summarizes the distribution of the percentages for mean coaching impact scores.

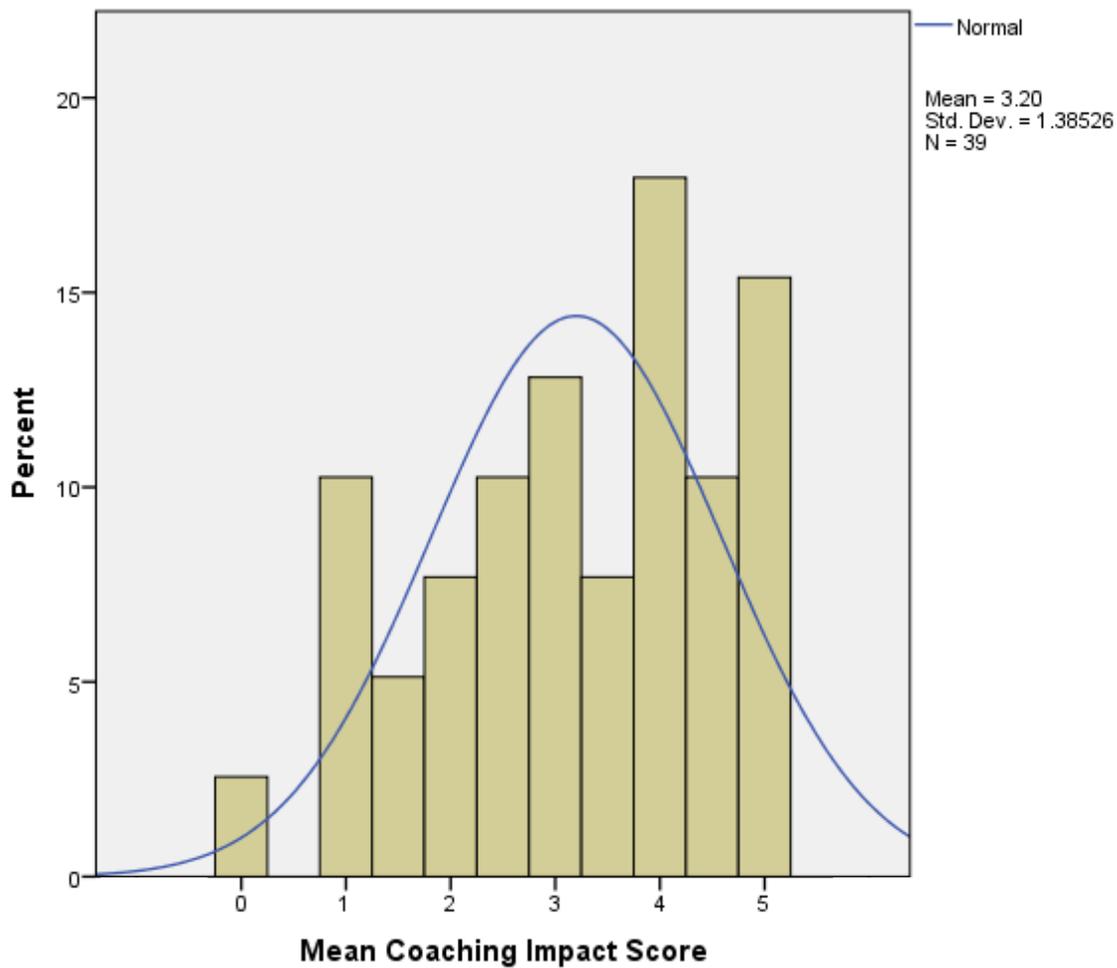


Figure 9 Percent for Mean Coaching Impact Scores (n=39)

The degree of coaching impact on changing teachers' practices differed depending on the TAPS area. See Figure 10 below for more information. Again, the majority of respondents reported that coaching had an impact that was at the middle to higher end of the rating scale (3, 4, or 5) with 3 meaning "some impact," and 5 meaning "significant impact." TAPS areas where more teachers reported either a 1 ("no impact") or a 2 ("little to no impact") were the following: 1) Academically Challenging Environment, 2) Positive Learning Environment, 3) Communication, and 4) Differentiated Instruction. TAPS areas where more teachers reported that coaching impact was not applicable were: 1) Communication and 2) Professionalism. Again, teachers reported certain areas as "not applicable" because coaching was not received in those particular areas.

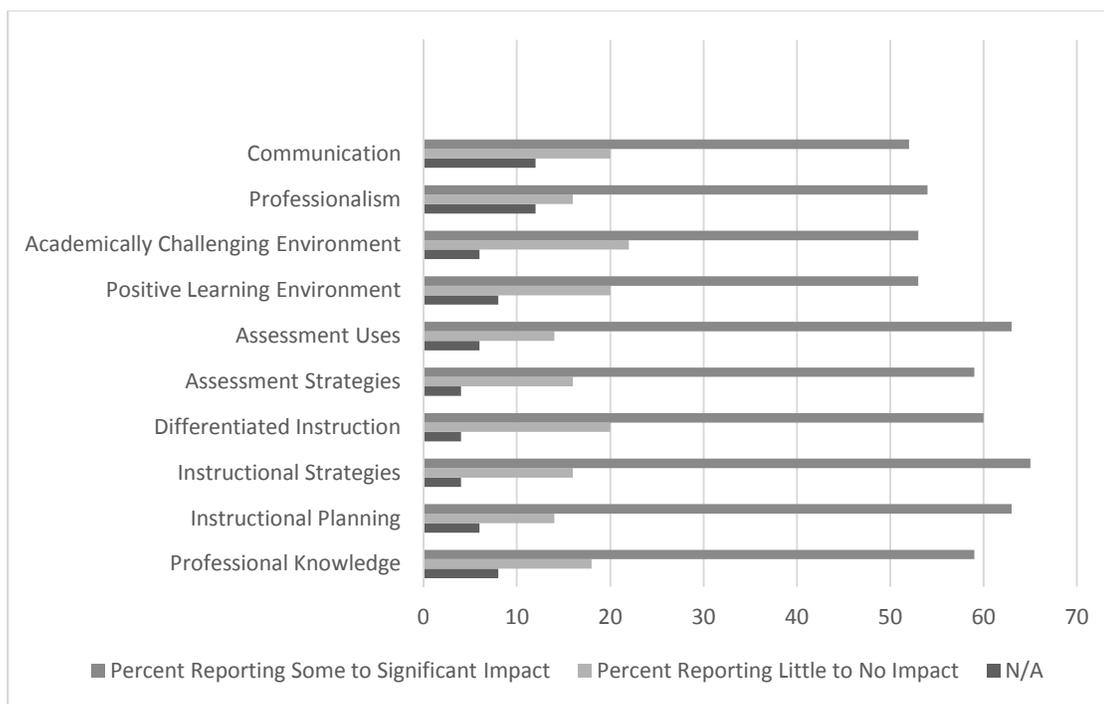


Figure 10 Comparison Between Percent of Teachers Reporting Different Levels of Coaching Impact on Changing Practices in TAPS Areas

Many of the areas where teachers reported growth or positive changes in their practices according to TAPS were the same areas that they reported coaching impact. However, the total percentage of teachers reporting some changes, to significant changes in practices, was greater than the total percentage of teachers reporting some impact, to significant impact of coaching on teachers' growth in the TAPS areas. See Figure 11 below that shows the comparison between percent of teachers reporting significant overall growth in TAPS areas and the percent of teachers reporting significant impact of coaching on teachers' growth in the TAPS areas.

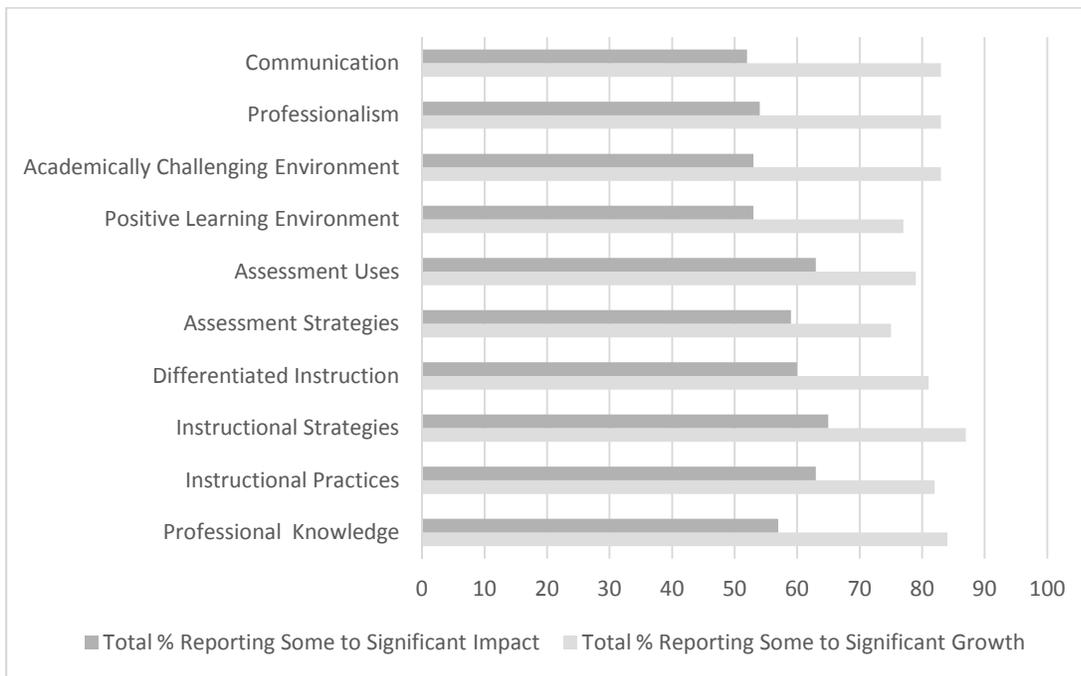


Figure 11 *Comparison Between Percent of Teachers Reporting Overall Growth and Percent of Teachers Reporting Coaching Impact*

Growth Due to Coaching

For the second dependent variable, the mean ($n=39$) estimated teacher growth due to coaching score was 25.49 (SD=13.05). The median estimated teacher growth due to coaching score was 24.60. The minimum estimated teacher growth due to coaching score was 0.00, and the maximum was 50.00. The majority of teachers had estimated growth due to coaching scores between 15.00 and 35.00. The estimated teacher growth due to coaching scores mean was less than the mean for the overall teacher growth scores. See Figure 12 below for the distribution of the estimated teacher growth due to coaching scores.

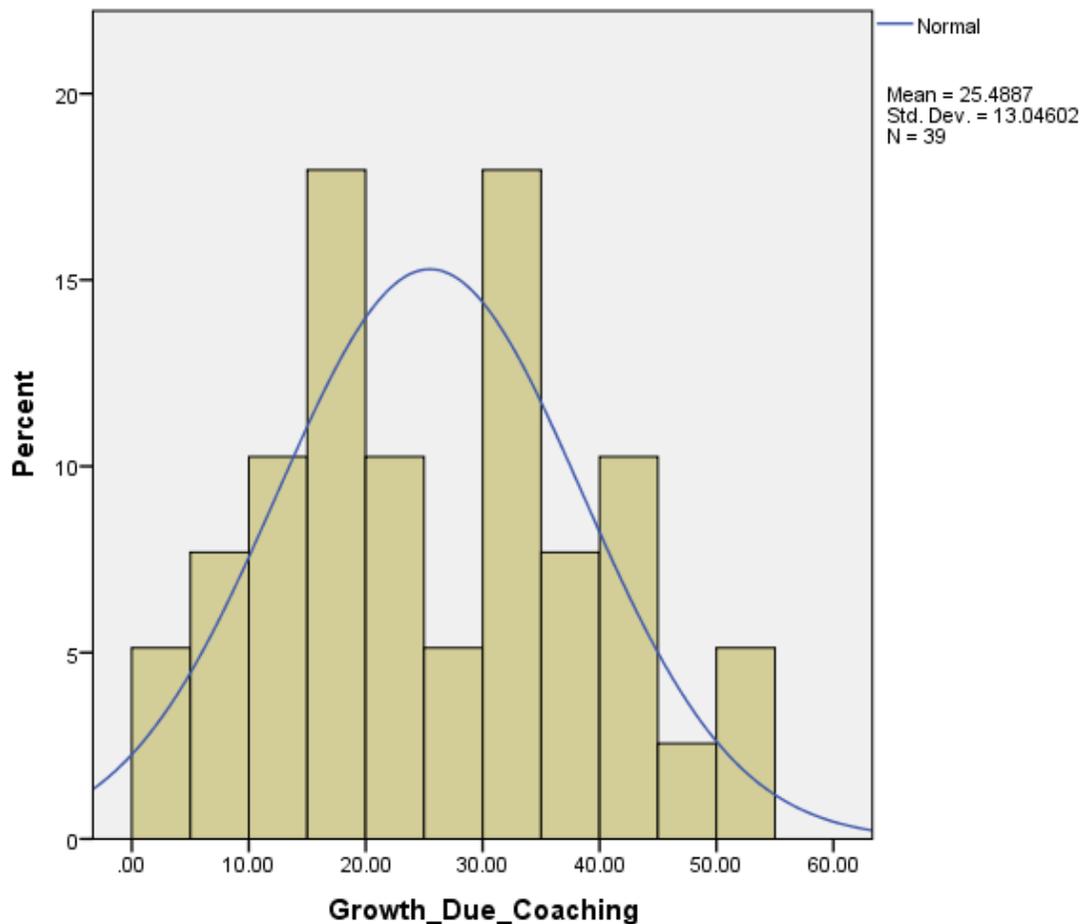


Figure 12 *Estimated Teacher Growth Due to Coaching Scores (n=39)*

In addition to using descriptive statistics, correlational analyses were conducted to determine the relationship between the amount of coaching reported by teachers and the overall teacher growth score. First, Pearson correlations were utilized to determine the relationships between the self-reported amount of coaching received in one-on-one and small group/PLC situations respectively, as well as total duration of time, with the overall teacher growth score. Table 6 below, shows the Pearson correlations and significance levels. There was no significant correlation between the self-reported amount of coaching received in one-on-one situations and the reported overall teacher growth score. There was also no significant correlation between the self-reported amount of coaching received in small group/PLC situations and the reported overall teacher growth score. When considering the total amount of time reported, meaning both one-on-one and small group/PLC settings together, there was no significant correlation between the total self-reported amount of coaching received and the reported overall teacher growth score.

Table 6 *Pearson Correlation Between Reported Amount of Coaching Received and Reported Overall Teacher Growth Score*

	One-on-One Amount (n=52)	Small Group/PLC Amount (n=52)	Total Amount (n=45)
Pearson Correlation	.018	.225	.154
Sig. (2-tailed)	.905	.137	.313

Next, Pearson correlation analysis was used to examine the relationships between the self-reported amount of coaching received in total and in different settings, with the estimated teacher growth due to coaching score. There was a positive and significant relationship between the reported amount of one-on-one coaching received and the estimated teacher growth due to

coaching score ($r=.326$, $p=.043$). There was also a positive and significant correlation between the reported amount of small group/PLC coaching received and the estimated teacher growth due to coaching score ($r=.398$, $p=.012$). There was a positive and significant relationship between the self-reported total amount of coaching received and the estimated teacher growth due to coaching score ($r=.473$, $p=.002$). Table 7 below summarizes this information.

Table 7 *Pearson Correlation Between Reported Amount of Coaching Received and Estimated Teacher Growth Due to Coaching Score*

	One-on-One Amount (n=52)	Small Group/PLC Amount (n=50)	Total Amount (n=50)
Pearson Correlation	.326*	.398*	.473**
Sig. (2-tailed)	.043	.012	.002

**Note.* Correlation is significant at .05 level (2-tailed).

***Note.* Correlation is significant at the .01 level (2-tailed).

Pearson correlations were also conducted to see if there were any significant relationships between reported growth in each of the TAPS areas and the reported amount of coaching received in total and within different settings. Assessment Strategies was the only TAPS area where there was a positive and significant correlation between the amount of coaching reported in small group/PLC settings and reported growth. There was also a positive and significant correlation between the amount of coaching reported in total and reported growth in Assessment Strategies. Table 8 below summarizes the results of those tests.

Table 8 *Pearson Correlation Between the Reported Amount of Coaching Received and Reported Growth in TAPS Areas*

TAPS Area	<u>One-On-One</u>		<u>Sm. Group/PLC</u>		<u>Total Amount</u>	
	Pearson r	Sig.	Pearson r	Sig.	Pearson r	Sig.
Professional Knowledge	-.096	.529	.111	.466	.009	.951
Instructional Planning	.005	.972	.235	.116	.153	.310
Instructional Strategies	-.055	.719	.020	.895	-.022	.887
Differentiated Instruction	-.023	.878	.008	.957	-.009	.951
Assessment Strategies	.209	.168	.441**	.002	.411**	.005
Assessment Uses	.154	.306	.264	.076	.266	.074
Positive Learning Environment	.051	.738	.199	.184	.159	.291
Academically Challenging Environment	-.008	.955	.177	.239	.108	.476
Professionalism	-.089	.555	.128	.396	.026	.866
Communication	-.043	.778	.201	.181	.101	.504

***Note.* Correlation is significant at the 0.01 level (2-tailed).

Pearson correlations were also conducted to see if there were any significant relationships between reported coaching impact in each of the TAPS areas and the reported amount of coaching received in total and different settings. Table 9 below, summarizes the results of these tests. There was a positive and significant correlation between the reported amount of one-on-one coaching received and the reported coaching impact in the following TAPS areas: 1) Instructional Planning, 2) Positive Learning Environment, 3) Academically Challenging Environment, 4) Professionalism, and 5) Communication. There was also a positive and significant correlation between the reported amount of small group/PLC coaching received and the reported coaching impact in all of the TAPS areas except for Professional Knowledge. There was a positive and significant correlation between the total reported amount of coaching received and the reported coaching impact in all of the TAPS areas.

Table 9 Pearson Correlation Between the Reported Amount of Coaching Received and Reported Coaching Impact in TAPS Areas

TAPS Area	One-On-One		Sm. Group/PLC		Total Amount	
	Pearson r	Sig.	Pearson r	Sig.	Pearson r	Sig.
Professional Knowledge	.223	.150	.288	.061	.324*	.034
Instructional Planning	.347*	.023	.477**	.001	.522**	.000
Instructional Strategies	.289	.057	.476**	.001	.483**	.001
Differentiated Instruction	.253	.102	.375*	.013	.398**	.008
Assessment Strategies	.258	.103	.346*	.027	.393*	.011
Assessment Uses	.289	.060	.440**	.003	.465**	.002
Positive Learning Environment	.365*	.018	.348*	.024	.452**	.003
Academically Challenging Environment	.391*	.010	.370*	.016	.483**	.001
Professionalism	.420**	.006	.358*	.020	.494**	.001
Communication	.469**	.002	.447*	.003	.574**	.000

*Note. Correlation is significant at the 0.05 level (2-tailed).

**Note. Correlation is significant at the 0.01 level (2-tailed).

Focus of the Work with Instructional Coaches

Teachers were also asked to report the types of coaching activities they experienced over the school year with the instructional coach, including those activities that were the focus of both one-on-one and small group/PLC situations. Frequencies and percentages were reported for each of the one-on-one and small group/PLC coaching activities.

The one-on-one coaching activities with the highest reported frequencies and percentages among respondents were: 1) lesson/unit planning support (65%), 2) observing me (65%), 3) providing oral and written feedback (64%), 4) providing teaching and learning resources (64%), and 5) analyzing student data with me (54%). The one-on-one coaching activities with the lowest reported frequencies and percentages were 1) co-teaching a lesson with me (10%), 2) modeling a lesson for me (15%), 3) facilitating one-on-one peer observation for me (19%), 4) providing support in classroom management (19%), 5) analyzing student work with me (25%), and 6) coaching me in my class (25%). See Table 10 below, for a summary of this information.

Table 10 *Frequency and Percent for Coaching Activities Reported in One-On-One Situations (n=52)*

Coaching Activity	Frequency	Percent
Lesson/unit planning support	34	65%
Observing me teaching	34	65%
Providing teaching and learning resources	33	64%
Providing me with oral/written feedback	33	64%
Analyzing student data with me	28	54%
Debriefing with me	24	46%
Following up about next steps from feedback	21	40%
Pre-conferencing	18	35%
Coaching me in my classroom	13	25%
Analyzing student work with me	13	25%
Providing support in classroom management	10	19%
Facilitating one-on-one peer observation for me	10	19%
Modeling a lesson for me	8	15%
Co-teaching a lesson with me	5	10%
None of the above	3	6%

As for small group/PLC coaching activities, those with the highest reported frequencies and percentages among respondents were: 1) facilitating collaborative planning meetings with content areas (79%), 2) providing teaching and learning resources to the group (65%), 3) analyzing student data as a group (64%), and providing training in instructional strategies (62%). Those small group/PLC coaching activities with the lowest reported frequencies and percentages were 1) providing classroom management support (17%), 2) facilitating small group peer observation (25%) and 3) analyzing student work as a group (39%). See Table 11 below, for a summary of this information.

Table 11 *Frequency and Percent for Coaching Activities Reported in Small Group/PLC Situations (n=52)*

Coaching Activity	Frequency	Percent
Facilitating collaborative planning meetings	41	79%
Providing teaching and learning resources	34	65%
Analyzing data as a group	33	64%
Providing training in instructional strategies	32	62%
Providing follow up about content training	26	50%
Providing training in CCSS	25	48%
Providing follow up about strategies training	23	44%
Analyzing student work as a group	20	39%
Facilitating small group peer observation	13	25%
Providing support in classroom management	9	17%
None of the above	1	2%

Pearson correlations were used to investigate the relationships between the total number of coaching activities reported by participants and the reported overall teacher growth score. Table 12 below, summarizes the findings pertaining to the relationships for one-on-one coaching activities versus small group/PLC coaching activities and the reported overall teacher growth score. No significant relationship existed between the total number of self-reported one-on-one coaching activities and the reported overall teacher growth score ($r=.149$, $p=.328$). Also, there was no significant relationship between the total of self-reported small group/PLC coaching activities and the reported overall teacher growth score ($r=.092$, $p=.549$).

Table 12 *Pearson Correlation Between Reported Total Number of Coaching Activities and Reported Overall Teacher Growth Score*

	One-on-One Activities (n=52) Total Number	Small Group/PLC Activities (n=45) Total Number
Pearson r Correlation	.149	.092
Sig. (2-tailed)	.328	.549

Next, Pearson correlation analysis was used to investigate the relationships between the reported type of coaching received in different settings with the estimated teacher growth due to coaching score. There was a positive and significant relationship between the reported total of one-on-one coaching activities and the estimated teacher growth due to coaching score ($r=.423$, $p=.007$). There was also a positive and significant correlation between the reported total number of small group/PLC coaching activities reported and the estimated teacher growth due to coaching score ($r=.479$, $p=.002$). Table 13 below summarizes this information

Table 13 *Pearson Correlation Between Reported Total Number of Coaching Activities and Estimated Teacher Growth Due to Coaching Score*

	One-on-One Activities (n=52)	Small Group/PLC Activities (n=52)
Pearson r Correlation	.423**	.479**
Sig. (2-tailed)	.007	.002

***Note.* Correlation is significant at the 0.01 level (2-tailed).

Point-Biserial correlations were conducted to see if there were any significant relationships between separate reported coaching activities in different settings and the reported overall teacher growth score. There were no significant relationships between any of the separate one-on-one coaching activities reported and the reported overall teacher growth score as seen in Table 14. There were also no significant relationships between any of the separate small group/PLC coaching activities reported and the reported overall teacher growth score as seen in Table 15.

Table 14 *Point-Biserial Correlation Between Separate One-On-One Coaching Activities Reported and the Reported Overall Teacher Growth Score (n=52)*

Coaching Activity	Point-Biserial Correlation	Sig. (2-tailed)
Pre-conferencing	.219	.149
Lesson/unit planning support	.045	.767
Teaching/learning resources	.278	.065
Coaching me in my class	.253	.094
Modeling lessons for me	-.173	.254
Co-teaching lesson with me	.057	.708
Observing me teaching	-.037	.811
Providing oral/written feedback	.022	.888
Follow up about next steps	.267	.076
Debriefing with me	-.019	.901
Facilitating 1-1 peer observation	.116	.449
Analyzing data with me	.038	.806
Analyzing student work with me	.067	.663
Classroom management support	-.046	.766

Table 15 *Point-Biserial Correlation Between Separate Small Group/PLC Coaching Activities and Reported Overall Teacher Growth Score (n=52)*

Coaching Activity	Point-Biserial Correlation	Sig. (2-tailed)
Facilitating collaborative meetings	-.014	.929
Training in CCGPS	-.113	.458
Training in instructional strategies	.230	.129
Follow up about content training	.146	.340
Follow up about strategies training	.120	.431
Teaching/learning resources	.113	.461
Facilitating group peer observation	-.182	.231
Analyzing data as a group	.091	.553
Analyzing student work as a group	-.060	.697
Support in classroom management	.164	.282

Pearson correlations were also conducted to see if there were any significant relationships between the total number of reported coaching activities in different settings and the reported growth in each of the TAPS areas. There was a positive and significant correlation between the reported total number of one-on-one coaching activities and the reported teacher growth in

Assessment Strategies ($r=.318$, $p=.003$). There were no other significant relationships between the total numbers of reported one-on-one or small group/PLC coaching activities and reported growth in TAPS areas. Table 16 below, summarizes this information.

Table 16 *Pearson Correlation Between the Reported Total Number of Coaching Activities and the Reported Growth in TAPS Areas*

TAPS Area	One-On-One Total of Activities		Sm. Group/PLC Total of Activities	
	Pearson r	Sig.	Pearson r	Sig.
Professional Knowledge	.057	.708	-.027	.858
Instructional Planning	.132	.381	.159	.290
Instructional Strategies	-.019	.902	-.004	.977
Differentiated Instruction	.124	.410	.056	.709
Assessment Strategies	.318*	.003	.228	.131
Assessment Uses	.202	.179	.022	.886
Positive Learning Environment	.066	.662	.020	.896
Academically Challenging Environment	.005	.972	.030	.843
Professionalism	.095	.530	.083	.582
Communication	.266	.130	.120	.425

*Note. Correlation is significant at the 0.05 level (2-tailed).

Pearson correlations were also conducted to see if there were any significant relationships between reported coaching impact in each of the TAPS areas and the coaching activities reported in different settings. Table 17 below, summarizes the results of these tests. There was a positive and significant correlation between the reported total number of one-on-one coaching activities and the reported coaching impact in all of the TAPS areas except for Positive Learning Environment. There was a positive and significant correlation between the reported total number of small group/PLC coaching activities and the reported coaching impact score in all of the TAPS areas.

Table 17 Pearson Correlation Between the Reported Total Number of Coaching Activities and Reported Coaching Impact in TAPS Areas

TAPS Area	One-On-One Total of Activities		Sm. Group/PLC Total of Activities	
	Pearson r	Sig.	Pearson r	Sig.
Professional Knowledge	.428**	.004	.466**	.002
Instructional Planning	.496**	.001	.554**	.000
Instructional Strategies	.596**	.000	.625**	.000
Differentiated Instruction	.524**	.000	.671**	.000
Assessment Strategies	.472**	.000	.462**	.002
Assessment Uses	.488**	.001	.539**	.000
Positive Learning Environment	.303	.051	.381*	.013
Academically Challenging Environment	.328*	.034	.391*	.010
Professionalism	.394**	.010	.401**	.009
Communication	.459**	.002	.438**	.003

*Note. Correlation is significant at the 0.05 level (2-tailed).

**Note. Correlation is significant at the 0.01 level (2-tailed).

Point-Biserial correlations were conducted to assess the relationships between the separate one-on-one coaching activities and the estimated teacher growth due to coaching score as seen in Table 18. There were positive and significant relationships between the following reported one-on-one coaching activities and the estimated teacher growth due to coaching score: 1) lesson/unit planning support, 2) coaching me in my class, 3) observing me teach, 4) follow up about next steps, and 5) facilitating peer observation. In other words, teachers reporting that they experienced these particular activities was significantly and positively correlated with the estimated teacher growth due to coaching score. Point-Biserial correlations were also conducted to examine the relationships between the separate small group/PLC coaching activities reported and the estimated teacher growth due to coaching score as seen in Table 19. There were positive and significant relationships between the following reported small group/PLC coaching activities and the estimated teacher growth in coaching scores: 1) training in instructional strategies, 2) follow up about content training, 3) teaching and learning resources, and 4) analyzing data as a

group. Again, teachers reporting that they experienced these particular activities was significantly and positively correlated with the estimated teacher growth due to coaching score.

Table 18 *Point-Biserial Correlation Between Separate One-On-One Coaching Activities Reported and the Estimated Teacher Growth Due to Coaching Score (n=52)*

Coaching Activity	Point-Biserial Correlation	Sig. (2-tailed)
Pre-conferencing	.315	.051
Lesson/unit planning support	.439**	.005
Teaching/learning resources	.061	.714
Coaching me in my class	.461**	.003
Modeling lessons for me	.116	.483
Co-teaching lesson with me	.263	.106
Observing me teaching	.401*	.011
Providing oral/written feedback	.178	.278
Follow up about next steps	.388*	.015
Debriefing with me	.104	.530
Facilitating 1-1 peer observation	.369*	.021
Analyzing data with me	.259	.111
Analyzing student work with me	.211	.198
Classroom management support	.079	.630

**Note.* Correlation significant at the 0.05 level (2-tailed).

***Note.* Correlation significant at the 0.01 level (2-tailed).

Table 19 *Point-Biserial Correlation Between Separate Small Group/PLC Coaching Activities and Estimated Teacher Growth Due to Coaching Score (n=52)*

Coaching Activity	Point-Biserial Correlation	Sig. (2-tailed)
Facilitating collaborative meetings	.221	.176
Training in CCGPS	.299	.065
Training in instructional strategies	.501**	.001
Follow up about content training	.412**	.009
Follow up about strategies training	.292	.071
Teaching/learning resources	.478**	.002
Facilitating group peer observation	.235	.150
Analyzing data as a group	.332*	.039
Analyzing student work as a group	.076	.647
Support in classroom management	.273	.092

**Note.* Correlation significant at the 0.05 level (2-tailed).

***Note.* Correlation significant at the 0.01 level (2-tailed).

Specific Coaching Activities

In addition to looking at general coaching activities, such as use of the coaching cycle and other best practice coaching behaviors, this study considered certain coaching activities specific to the coaching program being used in the district. One of the priorities for the district was to have coaches provide training and support to the teachers in Marzano's Strategies. The district also expected the instructional coaches to train and support teachers with the instructional shifts for literacy according to the Common Core State Standards. Tables 20 and 21 below, summarize the reported frequencies and percentages for these instructional strategies and shifts as reported by teachers in the survey. Overall, the Marzano Strategies reported most often were 1) summarizing and notetaking (48%), 2) cooperative learning (44%), 3) similarities and differences (40%), and 4) questions, cues, and advance organizers (37%). As for the Common Core literacy shifts, the two highest reported were 1) text dependent questions (65%) and 2) using textual evidence (56%).

Table 20 *Frequency and Percent of Marzano Strategies Activities Reported in One-On-One and/or Small Group/PLC Situations*

Marzano Strategy	Frequency	Percent
Summarizing and Notetaking	25	48%
Cooperative Learning	23	44%
Similarities and Differences	21	40%
Questions/Cues/Advance Organizers	19	37%
Setting Objectives/Providing Feedback	18	35%
Nonlinguistic Representations	11	21%
Generating/Testing Hypotheses	11	21%
Reinforcing Effort/Providing Recognition	9	17%
Providing Homework/Practice	9	17%
None of the Above	7	14%

Table 21 *Frequency and Percent of Common Core Literacy Shifts Activities Reported in One-On-One and/or Small Group/PLC Situations*

Common Core Literacy Shift	Frequency	Percent
Text Dependent Questions	34	65%
Using Textual Evidence	29	56%
Building Academic Vocabulary	27	52%
Reading Complex Text	25	48%
None of the Above	8	15%

Pearson correlation was used to examine the relationship between the total number of the Marzano Strategy coaching activities reported by participants and the reported overall teacher growth score. Pearson correlation was also used to see if there was any relationship between the total number of the Common Core literacy shifts coaching activities self-reported by participants and the reported overall teacher growth score. There were no significant relationships to report.

Table 22 below, summarizes this information.

Table 22 *Pearson Correlation Between Reported Total Number of Marzano Strategy and CCSS Shifts Activities and Reported Overall Teacher Growth Score*

	Marzano Strategy Activities Total Number	CCSS Shifts Activities Total Number
Pearson r Correlation	.104	.011
Sig. (2-tailed)	.497	.945

Pearson correlation was used to examine the relationship between total number of the Marzano Strategy coaching activities reported by participants and the estimated teacher growth due to coaching score. Pearson correlation was also used to investigate the relationship between the total number of the Common Core literacy shifts coaching activities reported by participants and the estimated teacher growth due to coaching score. There were positive and significant relationships between the total number of Marzano Strategy activities (.501, $p=.001$) reported

and the estimated teacher growth due to coaching scores, as well as the total number of the CCSS literacy shifts activities (.621, $p < .001$) reported and the estimated teacher growth due to coaching scores. Table 23 below, summarizes this information.

Table 23 *Pearson Correlation Between Reported Total Number of Marzano Strategy and CCSS Shifts Activities and Estimated Teacher Growth Due to Coaching Score*

	Marzano Strategy Activities Total Number	CCSS Shifts Activities Total Number
Pearson r Correlation	.501**	.621**
Sig. (2-tailed)	.001	.000

***Note.* Correlation is significant at 0.01 level (2-tailed).

Point-Biserial correlations were conducted to see if there were any significant relationships between the overall teacher growth score and the separate Marzano Strategy and Common Core literacy shifts activities. There were no significant relationships to report.

Tables 24 and 25 below, summarize this information.

Table 24 *Point-Biserial Correlation Between the Separate Marzano Strategy Coaching Activities and Reported Overall Teacher Growth Score*

Marzano Strategy	Point-Biserial Correlation	Sig. (2-tailed)
Similarities and Differences	.057	.712
Summarizing and Notetaking	-.042	.786
Nonlinguistic Representations	.021	.893
Reinforcing Effort/Providing Recognition	.129	.397
Providing Homework/Practice	-.167	.274
Cooperative Learning	.148	.332
Setting Objectives/Providing Feedback	.121	.427
Generating/Testing Hypotheses	.125	.415
Questions/Cues/Advance Organizers	.099	.518
None of the Above	-.006	.967

Table 25 *Point-Biserial Correlation Between the Separate CCSS Shifts Coaching Activities Reported and Reported Overall Teacher Growth Score*

Common Core Literacy Shift	Point-Biserial Correlation	Sig. (2-tailed)
Text Dependent Questions	-.048	.753
Reading Complex Text	.135	.376
Using Textual Evidence	-.104	.497
Building Academic Vocabulary	.042	.786

Point-Biserial correlations were also conducted between the separate Marzano Strategy activities and Common Core literacy shifts activities and the estimated teacher growth due to coaching score. There were positive and significant relationships between several of the separate Marzano Strategy activities and the estimated teacher growth due to coaching score. Those Marzano Strategy activities were the following: 1) Reinforcing Effort and Providing Recognition, 2) Cooperative Learning, 3) Setting Objectives and Providing Feedback, 4) Generating and Testing Hypotheses, and 5) Questions, Cues, and Advance Organizers. There was a negative and significant relationship between the choice “none of the above” and the estimated teacher growth due to coaching score. Each of the separate Common Core literacy shifts activities had a positive and significant relationship with the estimated teacher growth due to coaching score. Tables 26 and 27, summarize this information.

Table 26 *Point-Biserial Correlation Between the Separate Marzano Strategy Coaching Activities Reported and Estimated Teacher Growth Due to Coaching Score*

Marzano Strategy	Point-Biserial Correlation	Sig. (2-tailed)
Similarities and Differences	.257	.114
Summarizing and Notetaking	.266	.102
Nonlinguistic Representations	.073	.658
Reinforcing Effort/Providing Recognition	.451**	.004
Providing Homework/Practice	-.025	.878
Cooperative Learning	.521**	.001
Setting Objectives/Providing Feedback	.394*	.013
Generating/Testing Hypotheses	.463**	.003
Questions/Cues/Advance Organizers	.442**	.005
None of the Above	-.450**	.004

Table 27 *Point-Biserial Correlation Between the Separate CCSS Shifts Coaching Activities Reported and Estimated Teacher Growth Due to Coaching Score*

Common Core Literacy Shift	Point-Biserial Correlation	Sig. (2-tailed)
Text Dependent Questions	.351**	.028
Reading Complex Text	.535**	.000
Using Textual Evidence	.489**	.002
Building Academic Vocabulary	.629**	.000

*Note. Correlation is significant at the 0.05 level (2-tailed).

**Note. Correlation is significant at the 0.01 level (2-tailed).

Group Comparisons

Analyses of Variance (ANOVA) were conducted to see if there were any significant differences in group means pertaining to the second dependent variable, growth due to coaching score. For the first comparison, two groups were formed based on the subject(s) taught by the respondents (see Appendix A for question 1 in the new survey). The groups were as follows: 1) ELA teachers, and 2) social studies teachers. There was no third group for comparison because the number of teachers who taught both subjects was so small in comparison to those teachers who taught only ELA or only social studies. Levene's Test was not significant, indicating that

the assumption of homogeneity of variance was met across the two groups. There were no significant differences in group means for groups based on subject taught by teachers [F (1, 34) = .034, $p = .855$]. The results for this group comparison are below in Tables 28 and 29.

Table 28 *Group Means for Estimated Teacher Growth Due to Coaching Score Based on Subject Taught (n=36)*

Subject Taught	N	Mean	Standard Deviation
English Language Arts	19	26.6295	12.37406
Social Studies	17	25.8259	13.79677
Total	36	26.2500	12.88135

Note. Dependent variable = growth due to coaching

Table 29 *ANOVA Results for Comparison Between Groups Based on Subject Taught (n=36)*

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	5.794 ^a	1	5.794	.034	.855
Intercept	24687.647	1	24687.647	144.678	.000
Q1_Recode	5.794	1	5.794	.034	.855
Error	5801.730	34	170.639		
Total	30613.774	36			
Corrected Total	5807.524	35			

Note. a. R Squared = .001 (Adjusted R Squared = -.028). Dependent variable = growth due to coaching.

A second ANOVA test was done based on participating teachers and their years of experience. The groups were created based on how teachers responded to the survey question (see Appendix A for question 23 in the survey) about their total number of years of teaching experience. The groups to be compared were as follows: 1) teachers having 1-9 years of experience (n=10), 2) teachers having 10-15 years of experience (n=13), and 3) teachers having more than 15 years of experience (n=22). Levene's Test was not significant, meaning that the assumption of homogeneity of variance across the three groups was met. There were no

statistically significant group mean differences to report for groups based on teachers' years of experience [$F(2, 36) = 3.152, p = .055$]. See Tables 30 and 31 below, for more information.

Table 30 *Group Means for Estimated Teacher Growth Due to Coaching Scores Based on Total Years of Teaching Experience (n=39)*

Years of Experience	N	Mean	Standard Deviation
< 10	9	17.7378	10.50299
10-15	12	31.4250	12.25474
> 15	18	25.4067	13.21629
Total	39	25.4887	13.04602

Note. Dependent variable = growth due to coaching.

Table 31 *ANOVA Results For Comparison Between Groups Based on Years of Experience (n=39)*

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	963.688 ^a	2	481.844	3.152	.055
Intercept	22242.408	1	22242.408	145.485	.000
Q23_Recode	963.688	2	481.844	3.152	.055
Error	5503.862	36	152.885		
Total	31804.865	39			
Corrected Total	6467.550	38			

Note. a. R Squared = .149 (Adjusted R Squared = .102). Dependent variable = growth due to coaching.

Agreement with Coaching Effectiveness

A Pearson correlation was conducted to assess the relationships between the respondents' level of agreement with the statement, "I had an effective coach" (see Appendix A for question 22 in the survey) and the teachers' reported overall growth score, as well as any relationships between their level of agreement with the statement and their estimated teacher growth due to coaching score. In this particular question, teachers were asked to rate their level of agreement using a scale of 1-5, with 1 meaning "strongly disagree," 2 meaning "disagree," 3 meaning

“neither agree nor disagree,” 4 meaning “agree,” and 5 meaning “strongly agree.” Table 32 below, shows the reported frequency and percentages of their answer choices. The majority of teachers (60%) either agreed or strongly agreed with the statement about having an effective coach.

Table 32 *Frequency and Percent of Responses for Agreement with Coaching Effectiveness (n=45)*

Response	Frequency	Percent
Strongly Agree	19	37%
Agree	12	23%
Neither Agree nor Disagree	10	19%
Disagree	1	2%
Strongly Disagree	3	6%

Pearson correlation was conducted to see if there was a significant relationship between the teachers’ level of agreement with the statement, “I had an effective coach,” and the dependent variable of overall teacher growth score. There was no significant relationship (.283, $p=.060$). Last, Pearson correlation was conducted to see if there was any relationship between the teachers’ agreement with the statement and the estimated teacher growth due to coaching score. There was a positive and significant correlation between the teachers’ level of agreement with coaching effectiveness and the growth due to coaching (.621, $p<.001$).

Percent of Growth Due to Coaching

In summary, the first dependent variable of reported overall teacher growth score was determined by adding an individual teacher’s scaled growth scores for each of the 10 TAPS areas. Next, a coaching impact mean score was assessed for each respondent by adding an individual teacher’s reported degree of coaching impact on their growth in each of the 10 TAPS areas and then dividing by 10. The second dependent variable, estimated teacher growth due to

coaching score, was calculated by using the following formula in SPSS: (coaching impact mean score /5) X overall teacher growth score.

Lastly, the percent growth due to coaching was calculated by using the following formula in SPSS (estimated teacher growth due to coaching score divided by reported overall growth score, then multiplying the answer by 100). The mean percent growth due to coaching was 64.00 (SD=27.71). In other words, on average 64% of a teacher's overall growth was due to coaching. The median percent growth due to coaching was 66. About 30 percent of teachers had estimated percentages of growth due to coaching between 60.01 and 90.00. See Table 33 and Figure 13 below, for more information about the percent growth due to coaching.

Table 33 *Descriptive Statistics about Percent Growth Due to Coaching*

N		Mean	Median	Std. Deviation	Percentiles		
Valid	Missing				25	50	75
39	13	64.0000	66.0000	27.70522	44.0000	66.0000	88.0000

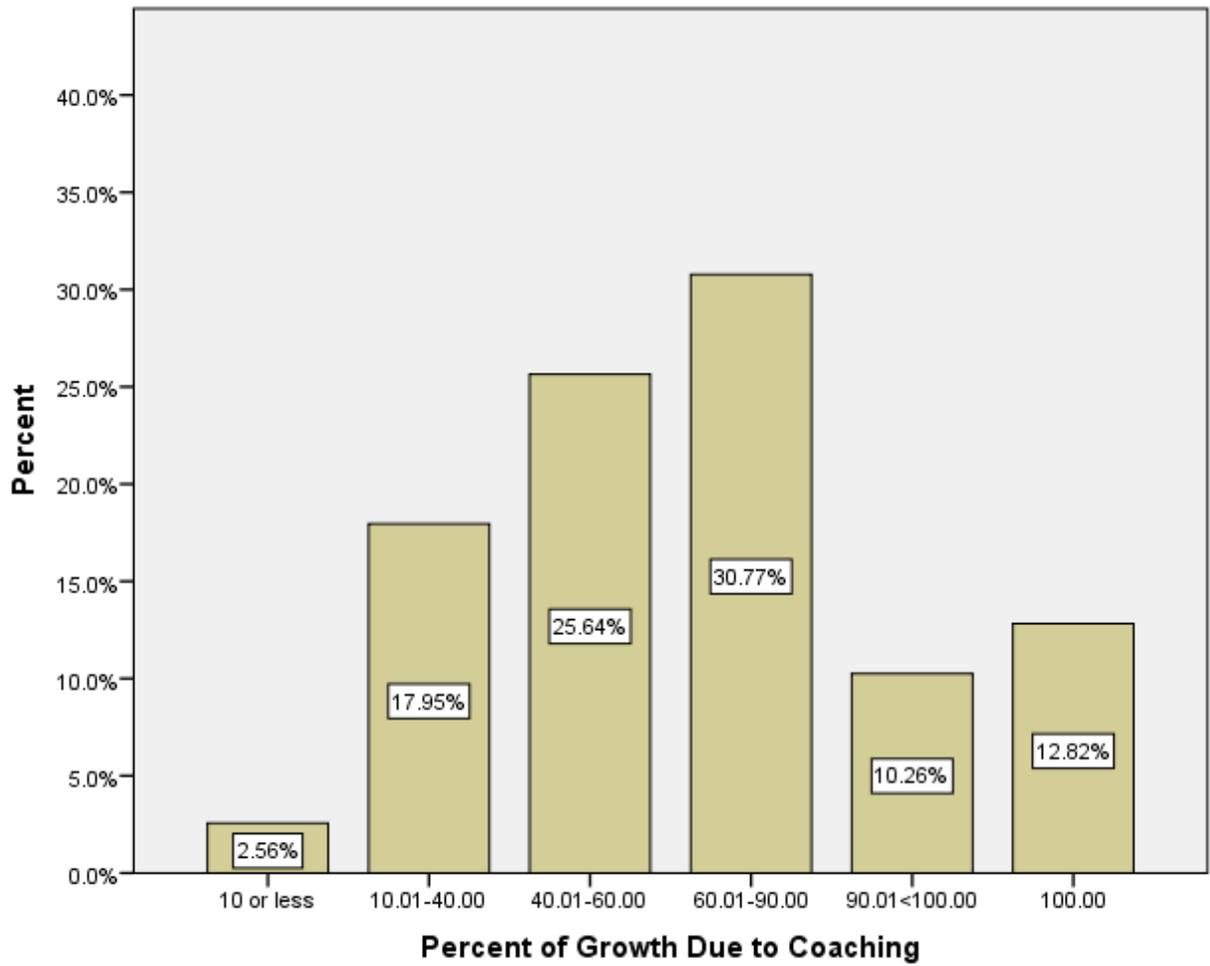


Figure 13 *Percent Growth Due to Coaching Distribution*

Conclusions

This study sought to identify relationships between the amount and types of coaching activities reported by a sample of middle school teachers and any reported changes in their practices. Changes in practice were measured by two dependent variables: 1) reported overall teacher growth score and 2) estimated teacher growth due to coaching score. This section is organized by looking at each of the two specific research study questions separately with hypotheses and relevant findings. In addition, findings for each research question will be related to theory and discussion of explanations offered from the research literature. This will then be followed by implications of this study and recommendations for future research.

Extent of Work with Instructional Coaches

The first research question was What is the relationship between the amount of instructional coaching reported by teachers and their reported changes in teacher practice? The hypothesis for this particular question was that there would be a statistically significant and positive relationship between the amount of instructional coaching reported by teachers and their reported changes in practice as measured by overall teacher growth score and the growth due to coaching score. Relevant findings include the following.

First, it was found that there was no significant relationship between the amount of coaching reported in different settings (one-on-one and small group/PLC settings) and the overall teacher growth score. There was also no significant relationship between the reported total amount of time spent with the coach and the reported overall teacher growth score.

However, there was a positive and significant relationship between the reported amount of one-on-one coaching received and the estimated teacher growth due to coaching score. There was also a positive and significant correlation between the reported amount of small group/PLC

coaching received and the estimated teacher growth due to coaching scores. There was a positive and significant relationship between the self-reported total amount of coaching received and the estimated teacher growth due to coaching score.

These results seem to concur with what the literature says about coaching's impact on teachers. The results are mixed in the literature. In this study, the results were also inconsistent. There was a significant and positive relationship between the amount of coaching and changes in practice as measured by estimated teacher growth due to coaching score, but not so when overall teacher growth is considered.

These results also seem to reflect what is known about survey research in the literature. Survey respondents do tend to view themselves more positively when answering questions (Fink, 2013). This may explain why the distributions for amount of coaching reported, as well as growth in TAPS areas and overall growth seem quite positive and on the higher end of the scales used. Moreover, the teachers' responses about coaching impact tend to be more on the higher end of the scales used. Such positive views of growth and impact may have affected the estimated teacher growth due to coaching score and how much growth could be attributed to coaching.

The results also reflect what the research says about effective professional learning and instructional coaching. Shidler discussed the importance of duration in professional learning (Shidler, 2009). In addition, studies by Desimone and colleagues included duration as one of the five critical features of professional learning, and yet some of their studies have questioned whether or not duration should be included because of mixed results in studies (Desimone, et al., 2002; Garet, et al., 2001). This study's mixed results show that the amount of coaching is significantly related to estimated teacher growth due to coaching, but not teacher growth overall.

The more time spent with the coach is positively and significantly correlated with teachers having a higher estimated growth due to coaching score

In terms of the relationship between amount of coaching and estimated growth due to coaching, the amounts of coaching in different settings (one-on-one, small group/PLC, and in total) are all significantly related to estimated teacher growth due to coaching. This is aligned with the research on the importance of teachers receiving support and training in different settings for greatest impact (Gullamhussein, 2013). Teachers need the technical support with implementing new strategies that is provided by coaches in one-on-one settings. At the same time, teachers need intellectual support with the problem solving and innovation that takes place while implementing new strategies, which is also provided by coaches in small group/PLC settings (Little, 1993). There is a higher number of significant relationships between the amount of coaching reported in small group/PLC settings and the reported coaching impact in TAPS areas when compared with the number of significant relationships between coaching amount in one-on-one situations and coaching impact in TAPS areas. This finding is aligned with the research on professional learning communities and how can they positively impact teachers' growth (Hord, 1997).

Focus of Work with Instructional Coaches

The second research question was, What is the relationship between the types of instructional coaching activities reported by teachers and their reported changes in teacher practice? The hypothesis for this particular question was that there would be a statistically significant and positive relationship between the types of instructional coaching activities reported by teachers and their reported changes in practice as measured by overall teacher growth score and growth due to coaching score. Relevant findings included the following.

There was no significant relationship between the total of one-on-one coaching activities reported by teachers and their reported changes in practice, as measured by overall teacher growth score. There was also no significant relationship between the total of small group/PLC activities reported by teachers and their overall teacher growth score.

However, there was a positive and significant relationship between the reported total of one-on-one coaching activities reported and the estimated teacher growth due to coaching score. There was also a positive and significant correlation between the reported total of small group/PLC coaching activities reported and the estimated teacher growth due to coaching score.

Pearson correlation revealed that there was a positive and significant correlation between the reported total number of one-on-one coaching activities and the reported coaching impact in all of the TAPS areas except for Positive Learning Environment. There was also a positive and significant correlation between the reported total number of small group/PLC coaching activities and the reported coaching impact in all of the TAPS areas.

As for Point-Biserial correlations, there were no significant relationships between any of the separate small group/PLC coaching activities reported and the reported overall teacher growth score. There were also no significant relationships between any of the separate one-on-one coaching activities reported and the reported overall teacher growth score.

Point-Biserial correlations also revealed that there were positive and significant relationships between the following reported one-on-one coaching activities and the estimated teacher growth due to coaching scores: 1) lesson/unit planning support, 2) coaching me in my class, 3) observing me teach, 4) follow up about next steps, and 5) facilitating peer observation. Point-Biserial correlations also showed that there were positive and significant relationships between the following reported small group/PLC coaching activities and the estimated teacher

growth due to coaching scores: 1) training in instructional strategies; 2) follow up about content training; 3) teaching and learning resources, and 4) analyzing data as a group.

As for specific district coaching activities, there were positive and significant relationships between the total number of Marzano Strategy activities reported and the estimated teacher growth due to coaching score, as well as the total number of the CCSS shifts activities reported and the estimated teacher growth due to coaching score. However, there were no significant relationships between the total number of Marzano Strategy activities reported and the overall teacher growth scores. Also, there were no significant relationships between the total number of the Common Core literacy shifts activities reported and the overall teacher growth scores.

Point-Biserial correlations revealed that there were positive and significant relationships between several of the separate Marzano Strategy activities and the growth due to coaching score. Those Marzano Strategy activities were the following: 1) Reinforcing Effort and Providing Recognition, 2) Cooperative Learning, 3) Setting Objectives and Providing Feedback, 4) Generating and Testing Hypotheses, and 5) Questions, Cues, and Advance Organizers. There was a negative and significant relationship between the choice “none of the above” and the growth due to coaching score. Each of the separate Common Core literacy shifts activities had a positive and significant relationship with the growth due to coaching score.

In the Rush and Young study (2011), teachers reported two coaching activities as being highest in perceived effectiveness: 1) providing support in choosing appropriate instructional strategies; and 2) participating in collaborative meetings. In this study, there was a positive and significant relationship found between training in instructional strategies and estimated teacher growth due to coaching scores. There was also a positive and significant correlation between the

reported total of Marzano Strategy activities and estimated teacher growth due to coaching score, as well as a positive and significant correlation between the reported total of Common Core literacy shifts activities and estimated growth due to coaching score. There was not a significant relationship between facilitating collaborative meetings and estimated teacher growth due to coaching score. In the Rush and Young study, modeling and coaching in the classroom activities were not ranked very highly with secondary teachers for perceived effectiveness. Similarly, in this study, these same coaching activities were not reported by many teachers (25% or less). There was a positive and significant relationship between coaching in the classroom and estimated teacher growth due to coaching scores. There was no significant relationship found between modeling and estimated teacher growth due to coaching scores.

Just as there was an inconsistency with the correlational results between the amount of coaching and teacher change in practice, a similar inconsistency persisted pertaining to the relationship between coaching activities and teacher change in practice. This study showed that there are positive and significant relationships between the reported total number of small group/PLC coaching activities and estimated teacher growth due to coaching, but not overall teacher growth. This study also showed that there are positive and significant relationships between the reported total number of one-on-one coaching activities and estimated teacher growth due to coaching, but not overall teacher growth. There were also significant relationships between particular one-on-one and small group/PLC coaching activities and the estimated teacher growth due to coaching. This study's results show that the more coaching activities teachers are involved in, both small group and one-on-one, the more likely they will have a higher estimated teacher growth due to coaching score .

The results from this study confirm the importance of designing coaching activities for use with teachers that are based on core features of professional learning like content focus, coherence, active learning, and collective participation (Desimone, et al. 2002). Many studies point out best practice coaching activities that can have a positive impact on changing teacher practice, such as the coaching cycle and job-embedded coaching specifically used in one-on-one coaching situations (Cornett & Knight, 2009; Joyce & Showers, 1982; Rush & Young, 2011). This study showed that there was a significant and positive relationship between coaching cycle behaviors like coaching teachers in the classroom and observing them teach with estimated teacher growth due to coaching. The same applies to coaching activities that have been shown to be effective in small group settings like professional learning communities (Gulamhussein, 2013; Hord, 1997; Learning Forward, 2011). This study showed that there was a positive and significant relationship between group activities like analyzing data and providing content area training with estimated teacher growth due to coaching. The results of this study also confirm the importance of using specific research-based best practices such as the Marzano Strategies and the Common Core literacy shifts (Beesley & Apthorp, 2010; School Achievement Partners, 2014). These district-wide professional learning initiative activities had significant and positive relationships with estimated teacher growth due to coaching.

Implications

This study provides several implications for future practice by schools and districts. First, it suggests that coaching is a promising practice for professional learning because of the significant relationships between the amount and type of coaching activities reported and the estimated teacher growth due to coaching. As the data suggest, district-wide coaching programs like the one in this study, that are intended to help teachers change their practices through

training and support, can be impactful. By supporting teachers with new strategies through the use of a coaching program that relies on Guskey's theoretical model, schools and districts may be helping their teachers to grow and change their practices, which can lead to better student outcomes and long-term changes in teachers' attitudes and beliefs (Guskey, 2002).

Time with the coach, as well as having a focus for the work with a coach, are important according to the research (Fullan & Knight, 2011; Knight, 2006). This study points out the importance of "extent" of working with the coach, or the amount of time. It seems that the more time spent with the coach, both in small group and one-on-one settings, is positively and significantly correlated to teachers having a higher estimated teacher growth due to coaching score. The study also suggests that the more activities that teachers participate in with the coach, both in small group and one-on-one settings, is also positively and significantly correlated to teachers having a higher estimated teacher growth due to coaching score. Correlations also show that particular one-on-one and small group coaching activities are positively and significantly related to growth due to coaching scores. Therefore schools and districts should be very intentional in designing coaching programs that include a variety of best practice coaching activities that are similar in focus to those in this study and based on the components of effective professional learning. Schools and districts should also work towards ensuring that there are many opportunities for teachers to work with the coach in both small group/PLC and individual settings. At the same time, it is important for schools and districts to remember that the quantity of time with the coach or number of coaching activities is not more important than the quality of the time spent or the quality of the coaching activity. Again, this correlational study found an association, not causation, between the amount and type of coaching activities reported and the estimated teacher growth due to coaching. Moreover, it is also not known how much time

teachers spent with the coach on particular strategies or activities because teachers did not report such in the survey.

The way that teachers view their coaching experience can have an impact on their practices, attitudes, and beliefs (Rush & Young, 2011). This study suggests that it is very important for schools and districts to employ coaches whom teachers view as being effective. There was a strong and positive relationship between the teachers' level of agreement with the statement, "I had an effective coach," and the estimated teacher growth due to coaching. Schools and districts should consider that, if a coach is working with teachers for greater periods of time and in different settings and using best practice activities, then teachers may be more likely to think that the coaching is having a positive impact on them. This in turn could have an effect on how much growth teachers then attribute to coaching received and experienced. The teachers' perception of coaching effectiveness points out that there may be other variables that are interacting with the main effects of reported amount and type of coaching on the dependent variables, overall teacher growth and estimated teacher growth due to coaching.

Limitations

Several limitations of this study are due to the way the study was designed. Since this study utilized only survey research, a limitation was not having additional data that could have been collected through other methods. There was a lack of data from coach and/or teacher observation to support any claims made by teachers about the amount and/or types of coaching received, as well as the self-reported impact of the coaching on their practices (Blamey, Meyer, & Walpole, 2009). However, the quantitative data collected does provide adequate information to support descriptive and inferential analyses and to sufficiently answer the research study questions.

The survey used in this study was based on a survey was used by Rush and Young, in a Wyoming study (Rush & Young, 2011). For the current study, a focus group of teachers was utilized to provide feedback about the survey. In addition, feedback was gathered from a panel of professionals with expertise in secondary literacy coaching. These efforts were made in order to help ensure the validity of the questions and answer choices used in the survey. Factor and reliability analyses were not conducted on the Rush and Young survey or the survey used in the current study. Despite that, a focus group of teachers was utilized to provide feedback about the survey, as well as feedback from a panel of professionals with expertise in secondary literacy coaching.

Retrospective questioning was used in the survey, which could be a limitation. At the end of the 2013-14 school year, teachers were asked reflective questions regarding what occurred over the course of the year. The survey did not use forced-choice questions, thus resulting in some missing data because of questions unanswered by respondents.

Another limitation of this study pertains to not being able to answer certain questions about the sample involved. For example, it is not possible to know whether the teachers who were coached and chose not to take the survey were any different from those who did take the survey.

This study includes Pearson r correlations between the independent variables (amount and type of coaching activities reported) and dependent variables (overall teacher growth and estimated teacher growth due to coaching). Such correlational analyses only tell how the dependent and independent variables relate to one another. For example, this study tells whether significant relationships exist, as well as their direction using an alpha level of 0.05 or 0.01. This

study does not provide explanations for any relationships or lack thereof, as it was designed to investigate correlations rather than show causation.

Another possible limitation of the results has to do with the use of a mean score to determine the degree of coaching impact, which is then used to calculate a dependent variable, growth due to coaching. Teachers were asked in the survey to report the degree of impact that coaching had on changing their practices in each of ten different TAPS areas. Their ratings in each of the ten areas were then added and the sum was divided by ten to calculate a coaching impact mean score. Using the mean as a measure of central tendency typically has disadvantages, including that means are sensitive to extreme values and outliers (Minium, Clarke, & Coladarci, 1999). However, due to the use of questions that involved scaled answer choices, all values should be within the scale and thus not extreme. This was the case with answer choices used in this study. Also, using the mean was an efficient way to achieve a measure of central tendency about coaching impact across all TAP areas that could then be utilized to estimate a growth due to coaching score.

Another limitation of the results from this study is due to the inherent variation that exists in implementation between and within schools. As a result, any findings from this study give an indication about the experiences of the teachers with coaches across the school district, but making generalizations would be difficult (Cornett & Knight, 2009).

Future Research

In general, more studies need to take place that directly measure teacher growth and change in practices through the use of approaches other than self-reported data. In regards to this particular study and its results, more survey research should be conducted with larger sample sizes to confirm the results in this study that showed positive and significant relationships

between the reported amount and type of coaching activities and the estimated teacher growth due to coaching. More study needs to occur on the reasons and explanations for these significant relationships, which will provide more insight into the steps involved in the teacher change process and how that is impacted by a coaching program.

In addition, more study needs to occur regarding the coaching activities that teachers reported experiencing in different settings, especially those having significant correlations with growth due to coaching. More information is needed about which activities teachers found to be more impactful on changing their practices, as well as how they changed their practices. More study needs to take place on the amount of coaching reported in small group and/or one-on-one settings and the significant and positive relationships between the amount of coaching reported and estimated teacher growth due to coaching. This would include finding out more information about which settings are more impactful to teachers. In addition, more information is needed, not only about duration and its relevant importance as a component of effective professional learning, but also the frequency of coaching as a form of professional learning and its effects on teacher change.

More research needs to be done regarding the teachers' reported changes in practice, both overall and any estimated teacher growth due to coaching. At this point, all that is known involves whether teachers reported significant growth, some growth, or little to no growth. This would include finding out more details about the teachers' reported growth in the TAPS areas, especially those that were significantly related to coaching impact and estimated teacher growth due to coaching. More information is needed about how the teachers grew as a result of time with the coach and/or being a part of particular coaching activities, instead of just their perceptions of their growth.

As mentioned earlier, more study needs to take place about other variables that may interact with independent and dependent variables. These variables, like the teachers' level of agreement with coaching effectiveness, should be investigated to see if they have any effects on significant relationships between amount and type of coaching reported and estimated teacher growth due to coaching. A future study may include regression analysis methods to find out if significant relationships between amount and type of coaching activities reported and estimated teacher growth due to coaching still exist when other factors are controlled for, such as years of teaching experience and teachers' level of agreement with coaching effectiveness. More research is needed to see if there are any other relevant and significant group mean differences, and if any regression analysis would account for other factors and cause any group mean differences to no longer be significant. A larger sample size would also assist with comparison of any group mean differences.

Future studies might include using mixed methods to triangulate any data collected about coaching program implementation and its impact on teachers changing their practices. In addition to survey research, sources of rich data may involve teacher interviews and focus groups to find out more details about their reported coaching experiences. Since 60% of the teachers said that they had an effective coach, it would be advantageous to find out more from the teachers about what made their coach effective. Future studies might also include teacher observations to validate teachers' responses to questions about their reported changes in practice and growth. Future studies may need to take place at the cluster level or school site level, rather than at a district-wide level. Doing so may allow for more exploration about variation in coaching implementation between schools and within schools.

The results from this study showed that 64% of teacher growth can be attributed to coaching, but more research needs to be done about the 36% of teacher growth that is due to something else besides coaching. Such research would involve comparing the growth of teachers who received coaching with the growth of teachers who did not receive coaching. Such research would also involve finding out more about the other sources of professional learning that teachers deemed impactful to their growth besides coaching.

Overall, more information needs to be known about the impact of coaching on changing teachers' practices, especially through peer reviewed and empirical studies. This includes looking more closely at the roles and responsibilities of secondary literacy coaches and how they are incorporating particular district initiatives within a school specific context. More study needs to take place about coaching as a form of professional learning, and especially how coaching involves other effective components besides focus and duration. Last, more research could take place regarding the changes in student outcomes and teachers' attitudes and beliefs. This includes studying other theoretical models besides that of Guskey (1986, 2002), including those which point out the simultaneous changes that take place with teacher practices, student outcomes, attitudes, and beliefs and how they influence one another (Learning Forward, 2011; Clarke & Hollingsworth, 2009).

Summary

The purpose of this study was to examine the relationships between the "extent" or the amount of coaching and the "focus" or the type of coaching activities reported and the changes in teacher practice, as measured by the reported overall teacher growth score and estimated teacher growth due to coaching score. It was hypothesized that there would be positive and significant relationships between the reported amount and type of coaching activities reported and the

changes in practice. The results of the correlational analyses were mixed. There were no significant relationships found between the reported amount and type of coaching and the first dependent variable, the reported overall teacher growth score. However, there were significant and positive relationships found between the reported amount and type of coaching activities received and the second dependent variable, the estimated teacher growth due to coaching score. Point-Biserial correlations were also conducted, and it was found that there were specific coaching activities that had positive and significant relationships with the estimated teacher growth due to coaching score, but not the overall teacher growth score.

This correlational study confirms that the amount of time with the coach, as well as the number of activities teachers experience with the coach, are both very important. The study found that the more coaching time teachers received, the more likely they were to attribute their growth and changes in practice to coaching. This correlational study also found that the more coaching activities in which teachers participated, the more likely they were to attribute their growth and changes in practice to coaching.

This study adds to the descriptive research done previously on the focus and the extent of coaching and the impact on changing teachers practices (Rush & Young, 2011). The results confirm the importance of teachers having time to work with the coach and having a focus for their work with the coach in order for coaching to be most effective (Knight, 2007). The results from this study also confirm what researchers have said about best practices in coaching, including the importance of activities used in individual and small group settings, such as the coaching cycle and the work of professional learning communities (Hord, 1997; Joyce & Showers, 1982). The results from this study also confirm what researchers have said about the importance of core components of effective professional learning, such as, duration, content

focus, and coherence (Desimone, 2009). This study also adds to the literature by investigating relationships between instructional coaching and its impact on teachers in a specific context, which involved urban Title I schools and across two content areas

The mixed results from this correlational study suggest the amount and type of coaching activities reported are significantly and positively related to estimated teacher growth due to coaching but not overall teacher growth. This inconsistency is similar to findings in other studies in the literature, and therefore the reason more empirical studies are needed about coaching impact. Although the results are inconclusive, they do suggest that a job-embedded coaching program that is based on best practices and Guskey's theory of how teachers change (1986) may contribute to teachers changing their practices, especially in light of the growth due to coaching. More study is needed to confirm these results and to delve deeper into the impact of coaching on teacher growth.

This study provides evidence that a highly developed coaching program used across a district in similar schools can have a reported positive impact on teachers changing their practices. The results from this study confirm that coaching is indeed a promising practice and form of professional learning that can help teachers to grow. Schools and districts need to consider the importance of time with the coach, as well as coaching activities in different settings when designing professional learning.

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APPENDICES

Appendix A

Middle School Teacher Survey About Instructional Coaching

You are invited to participate in a research study about the impact of instructional coaching on middle school teachers' practices. The purpose of the study is to investigate relationships between the amount and types of coaching received by teachers and their own reported changes in practice. You are being asked to participate because the sample in the study involves only English Language Arts and social studies teachers in the district. Approximately 150 teachers will be recruited for this study. Your participation will take about 10 minutes. If you decide to participate, you will be completing an online survey that asks specific questions about the amount and types of coaching activities that you received over the 2013-2014 academic school year.

In this study, you will not have any more risks than you would in a normal day of life. Overall, we hope to gain information about the impact of instructional coaching on teachers' practices. Participation in research is voluntary. You do not have to be in this study. If you decide to be in the study and change your mind, you have the right to drop out at any time. You may skip questions or stop participating at any time. Any information that you provide will be confidential and anonymous. Data sent over the Internet may not be secure; however, all data will be protected through encryption and there will be no collection of IP addresses through the survey program being utilized called Qualtrics.

This survey will provide information about instructional coaching as a whole across the district. All data collected from teachers across [REDACTED] will be pooled and analyzed together and no individual data from teachers at any school will be analyzed separately. All findings will be summarized and reported in group form. No survey data will be traceable to any specific teacher, Instructional Coach, or school. This survey is not an evaluation of any teacher or Instructional Coach in [REDACTED]. Your participation or non-participation in this study will have no impact on your employment.

Contact [REDACTED] if you have questions, concerns or complaints about this study. You can also call if you think you have been harmed by the study. Call [REDACTED] if you want to talk to someone who is not part of the study team. You can talk about questions, concerns, offer input, obtain information, or make suggestions about the study. You can also contact [REDACTED] if you have questions or concerns about your rights in this study. You may want to print a copy of this information for your records.

1. If you are willing to volunteer for this research, please click on “yes” below. You will then proceed to the survey by clicking on the next button in the lower right corner.

- Yes (1)
- No (2)

2. Do you currently teach English Language Arts (ELA) or social studies?

- English Language Arts (including reading and writing) (1)
- Social studies (including history) (2)
- Both ELA and social studies (3)
- None of the above (4)

3. Did you work with an English Language Arts/social studies Instructional Coach at least one time during this school year (either in a small group/Professional Learning Community or one-on-one situation)?

- Yes (1)
- No (2)

4. In a typical month, how much total time do you spend working one-on-one with an Instructional Coach? Please select the one best answer. Please estimate the total time by rounding to the nearest hour.

- None
- 1 hour
- 2 hours
- 3 hours
- 4 hours
- 5 hours
- 6 hours
- 7 hours
- 8 hours
- 9 hours
- 10 hours
- More than 10 hours

5. In a typical month, how many different times do you work one-on-one with an Instructional Coach?

- More than 8 times
- 8 times
- 7 times
- 6 times
- 5 times
- 4 times
- 3 times
- 2 times
- 1 time
- None

6. In a typical month, how much total time do you spend working in a group setting/Professional Learning Community with an Instructional Coach? Please select the one best answer. Please estimate the total time by rounding to the nearest hour.

- None
- 1 hour
- 2 hours
- 3 hours
- 4 hours
- 5 hours
- 6 hours
- 7 hours
- 8 hours
- 9 hours
- 10 hours
- More than 10 hours

7. In a typical month, how many different times do you work in a group setting/Professional Learning Community with an Instructional Coach?

- More than 8 times
- 8 times
- 7 times
- 6 times
- 5 times
- 4 times
- 3 times
- 2 times
- 1 time
- None

8. Please mark all the coaching activities that the Instructional Coach has worked on with you one-on-one during the 2013-14 school year. Check all that apply.

- Pre-conferencing with me (1)
- Providing support to me during lesson/unit planning (2)
- Providing teaching and learning resources to me (3)
- Coaching me in my classroom (4)
- Modeling a lesson for me (5)
- Co-teaching a lesson with me (6)
- Observing me teaching (7)
- Providing me with oral or written feedback about my teaching (8)
- Following up with me about my next steps for teaching based on feedback (9)
- Debriefing with me (10)
- Facilitating one-on-one peer observation for me (11)
- Analyzing student data with me (12)
- Analyzing student work with me (13)
- Providing support in classroom management (14)
- None of the above (15)

9. On which of these coaching activities that you marked did you spend the most amount of time? Please choose only one answer.

10. On which of these coaching activities that you marked did you spend the least amount of time? Please choose only one answer.

11. Please mark all coaching activities that the Instructional Coach has worked on with you in a group setting/Professional Learning Community during the 2013-14 school year. Check all that apply.

- Facilitating collaborative planning meetings with grade level/content area group (1)
- Providing training to group in Common Core Georgia Performance Standards (2)
- Providing training to group in instructional strategies (3)
- Providing follow up meetings to group about content/subject matter training (including next steps) (4)
- Providing follow up meetings to group about instructional strategies training (including next steps) (5)
- Providing teaching and learning resources to the group (6)
- Facilitating small group peer observation (7)
- Analyzing data as a group (8)
- Analyzing student work as a group (9)
- Providing support to the group in classroom management (10)
- None of the above (11)

12. On which of these coaching activities that you marked did you spend the most amount of time? Please choose only one answer.

13. On which of these coaching activities that you marked did you spend the least amount of time. Please choose only one answer.

14. Please mark all specific instructional strategies that the Instructional Coach has worked on with you in an individual or group setting/Professional Learning Community during the 2013-14 school year. Check all that apply.

- Similarities and differences (1)
- Summarizing and notetaking (2)
- Nonlinguistic representations (3)
- Reinforcing effort and providing recognition (4)
- Providing homework and practice (5)
- Cooperative learning (6)
- Setting objectives and providing feedback (7)
- Generating and testing hypotheses (8)
- Questions, cues, and advance organizers (9)
- None of the above (10)

15. On which of these strategies that you marked did you spend the most amount of time? Please choose only one answer.

16. On which of these strategies that you marked did you spend the least amount of time? Please choose only one answer.

17. Please mark all instructional strategy activities for literacy that the Instructional Coach has worked on with you in an individual or group setting/Professional Learning Community during the 2013-14 school year. Check all that apply.

- Text dependent questions (1)
- Reading complex texts (2)
- Using textual evidence (3)
- Building academic vocabulary (4)
- None of the above (5)

18. On which of these strategies that you marked did you spend the most amount of time? Please choose only one answer.

19. On which of these strategies that you marked did you spend the least amount of time? Please choose only one answer.

20. Over the 2013-14 school year, to what degree do you feel that you demonstrated positive changes or growth in your teaching practices? On a scale of 1-5, with 1 meaning "no growth," 3 meaning "some growth" and 5 meaning "significant growth," please rate the degree of growth that you experienced in each of the following areas:

	1 or "No Growth" (1)	2 (2)	3 or "Some Growth" (3)	4 (4)	5 or "Significant Growth" (5)
Professional Knowledge (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Instructional Planning (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Instructional Strategies (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Differentiated Instruction (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assessment Strategies (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assessment Uses (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Positive Learning Environment (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Academically Challenging Environment (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professionalism (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communication (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

22. Please indicate your agreement with the following statement: I had an effective coach. Please rate your level of agreement by using a scale of 1-5, with 1 meaning "strongly disagree", 2 meaning "disagree," 3 meaning "neither agree nor disagree," 4 meaning "agree," and 5 meaning "strongly agree,"

	1 or "Strongly Disagree" (1)	2 or "Disagree" (2)	3 or "Neither Agree nor Disagree" (3)	4 or "Agree" (4)	5 or "Strongly Agree" (5)
"I had an effective coach." (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

23. Please indicate your gender.

- Male (1)
- Female (2)

24. Please indicate which student population you primarily serve during the school day.

- Regular education (1)
- Special education (2)
- Gifted education (3)

25. Please indicate how many years of total teaching experience you currently have (including the current 2013-14 school year).

- 1 year (1)
- 2-3 years (2)
- 4-9 years (3)
- 10-15 years (4)
- More than 15 years (5)

26. Please indicate how many years of teaching experience you currently have in the district (including the current 2013-14 school year).

- 1 year (1)
- 2-3 years (2)
- 4-9 years (3)
- 10-15 years (4)
- More than 15 years (5)

27. Please indicate how many years of experience you have in your current school (including the current 2013-14 school year).

- 1 year (1)
- 2-3 years (2)
- 4-9 years (3)
- 10-15 years (4)
- More than 15 years (5)

28. Please indicate the nature of your working relationship with the Instructional Coach most of the time.

- I volunteered to work with the Instructional Coach most of the time. (1)
- I was required to work with the Instructional Coach most of the time. (2)
- The amount of time I volunteered to work with the Instructional Coach and the amount of time I was required to work with the Instructional Coach were about equal. (3)

29. Please indicate the type of teacher preparation program in which you participated. Please choose only one answer.

- Traditional four year program (1)
- Alternative certification/entry program (2)
- Teach for America (3)
- Master of Arts in Teaching (M. A. T.) (4)
- Other (5)

30. Additional comments:

Appendix B

Abbreviations

ANOVA	Analysis of Variance
CCSS	Common Core State Standards
COP	Community of Practice
ELA	English Language Arts
NCLB	No Child Left Behind
PLC	Professional Learning Community
RTTT	Race to the Top
SPSS	Statistical Package for Social Sciences
TAPS	Teacher Assessment of Performance Standards
TKES	Teacher Keys Effectiveness System