ABSTRACT OF CAPSTONE

Cassandra H. Webb

The Graduate School
Morehead State University
March 22, 2016
IMPLEMENTATION OF COACHING MODELS
AT ELEMENTARY LEVELS

Abstract of capstone

A capstone submitted in partial fulfillment of the
Requirements for the degree of Doctor of Education in the
College of Education
At Morehead State University

By

Cassandra H. Webb
Louisa, Kentucky

Committee Chair: Dr. Michael W. Kessinger, Assistant Professor
Morehead, Kentucky
March 22, 2016

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ACCOUNTABILITY for teachers and administrators in education has increased over the last decade and continues to grow. Teacher effectiveness and the need for teachers to have support and opportunities to grow are imperative in order for student achievement to rise to the levels accountability systems require. In order to do so, administrators must shift the purpose of evaluation to include teacher growth and support to reach the expectations set for student results. Principals must have the competencies in diagnosing teacher practice and be able to provide feedback that will appropriately provide the teacher the guidance and support to growth and improve through instructional coaching. This study explored the coaching models used by two elementary principals, examined the impact of instructional coaching at the elementary level on student achievement and analyzed teacher perceptions on instructional coaching.

KEYWORDS: coaching, teacher effectiveness, feedback, student achievement, teacher perception
IMPLEMENTATION OF COACHING MODELS AT ELEMENTARY LEVELS

By

Cassandra H. Webb

Approved by

___________________________
Robbie L. Fletcher, EdD
Committee Member   Date

___________________________
Shane C. Shope, EdD
Committee Member   Date

___________________________
Michael W. Kessinger, EdD
Committee Chair   Date

___________________________
Christopher T. Miller, EdD
Department Chair   Date
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DEDICATION

To my girls, Eden Adair and Adrian Paige, who make the world go around for me each day. Words cannot express how much you have supported me, cheered me on when I was frustrated, and sacrificed your time to complete the household chores for me to study and write. You are my life, my loves, my girls.

To my mother, Doris Rejean Hayes, who is my rock, my best friend, and always on my side. I thank you for always telling me I can do anything. I thank you for the countless meals you have prepared for my family to allow me time to study. If I am only half the educator you have been, I will have succeeded.

To my husband, Billy Ray, who will always be the love of my life and for supporting me to achieve this goal. Anything I have ever wanted to do, you have told me to pursue it without question.

To my father, Bert Hayes, who believes I can do anything. Thanks for being a role-model for my life and for being a foundation on which my life is centered.

To my God from which all good flows and for my salvation.
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I would like to thank the two principals who agreed to be a part of this study Mrs. Debbie Delong, principal of Louisa West Elementary School, and Mrs. Mary Hall, principal of Louisa East Elementary School. They selflessly allowed me to include school data and to survey their staff about their work with instructional coaching. For that I am extremely grateful. In addition, I thank the staff members of both schools for completing perception surveys for the study.

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Chapter One

The No Child Left Behind (NCLB) legislation in 2001 mandated high-stake accountability benchmarks measured by student achievement results (U.S. Department of Education, 2004). NCLB was a bipartisan measure to improve the nation’s education system. “The goal of the legislation was to create an educational system that is more inclusive, responsive, and fair” (U.S. Department of Education, 2004, p. 13). There are five specific goals of the initial NCLB, which include:

1. All students will reach high standards, at a minimum attaining proficiency or better in reading and mathematics;
2. All limited English proficient students will become proficient in English;
3. All students will be taught by highly qualified teachers;
4. All students will be educated in a safe, drug-free environment which is conducive to learning;
5. All students will graduate from high school (No Child Left Behind, 2002, p. 10167).

In order to reach these goals, NCLB requires all schools to make “adequate yearly progress” (AYP) in reading and math. The targets for determining adequate yearly progress are set by federal and state benchmarking processes.

Since 2001, NCLB has undergone changes and reauthorization. In 2011, the goals were adjusted to include the disaggregation of student data by race/ethnicity, students with disabilities, and English-language learners (Bell & Meinett, 2011). In addition, eliminating AYP, targeting school improvement interventions on the lowest-performing five percent of schools with consistent achievement gap, and requiring states to create College and Career Ready standards have been highlighted in the
reauthorization of this law. “The nation’s economic future and the success of American democracy are dependent on every student in the nation achieving high levels of success in schools” (Powell, Higgin, Aran, & Freed, 2009, p. 19).

NCLB brought about a national focus on education and set national standards for student achievement, which was unprecedented. The intent of the law was to “hold school officials accountable – to parents, students, and the public – for achieving results” (No Child Left Behind, 2002, p. 10166). In December 2015, the Every Student Succeeds Act was passed and largely replaces NCLB. “The new legislation ends both NCLB’s 100 percent-proficiency target and the waivers’ performance-target framework” (Smarick, 2015). However, the new law does not eliminate accountability related to student outcomes. This new legislation allows states to set targets versus the federal government setting the benchmarks (Smarick, 2015).

As greater accountability for improved student outcomes continues, increased pressure to raise student achievement is placed on school administrators and teachers. Marzano (2013) asserts that “since Race to the Top legislation, teacher evaluation systems across the United States have emphasized measures of student learning – precisely because Race to the Top requires the inclusion of such measures in a teacher’s evaluation” (p. 82). Teachers are on the front line of this high-stakes accountability. Instructional effectiveness of the teacher is the single most important factor in student achievement.
“One conclusion regarding effective teachers is abundantly clear: The common denominator in school improvement and student success is the teacher” (Stronge, Ward, & Grant, 2011, p. 351). Stronge et al. provides an operational definition for effectiveness by stating it is “an elusive concept to define when we consider the complex task of teaching and the multitude of contexts in which teachers work” (p. 340). Teachers are the most important factor in producing student results; however, it is the job and responsibility of the instructional leader, the principal, to provide timely, supportive, and research-based guidance to enhance teacher instructional practice. The ability of the teacher to respond to student needs with appropriate pedagogical skill and differentiate according to individual student data must be present in order for all students to achieve at high levels. “Central to effective teaching is the teacher! Although school culture, instructional leadership, and professional development opportunities are important, in the classroom itself the teacher is the central element” (Bedard, 2005, p. 22).

Student achievement is typically measured by results from standardized testing. “In many states and school districts across the United States, large-scale assessments help parents, community members, administrators, policy makers, and educators gauge how well students are meeting high standards” (Wood-Garnett & Warger, 2001, p. 26). Both state and federal government determine if schools and districts are measuring up to accountability benchmarks using these large-scale assessment results.
Much debate has occurred over accountability systems that primarily use test results, which are solely multiple-choice assessments, to measure student success. “An accountability system that contains test scores alone, without the context of additional accountability information about teaching practices and curricula, is incomplete” (Reeves, 2000, p. 11). Even though standardized assessments are primarily multiple-choice, some argue that alignment to standards is the primary concern.

Holloway and Pearlman (2000) state “State and national standards provide just such a mechanism if the assessments used to measure student achievement and if the standards are aligned with what students are being taught; otherwise, this accountability movement can be considered a travesty” (p. 41). Despite the debate on the student achievement measures to be included in the accountability systems across school districts, “teachers are highly pressured by parents and administrators to keep students’ test scores high, and their jobs, principals’ raises, and even the value of real estate in school districts are affect by test scores” (Williams, 2001, p. 24).

Increasing teacher effectiveness in an effort to raise student achievement must be a priority for schools and districts. In order for teachers to improve, school administrators must provide opportunities for professional learning and support for teacher growth. “Effective professional development is a missing link in efforts to address the demands of assessment, a standards-based curriculum, and accountability” (Holloway & Pearlman, 2001, p. 42). Principals should match professional development to the growth areas in teacher’s practice, which are
specific, by individual. However, this type of individualized professional learning requires principals to understand the practices occurring in the classroom, to coach, and provide performance feedback to the teacher in order to provide appropriate support.

Statement of the Problem

Few studies have been conducted on how a system of coaching and performance feedback fosters and promotes professional growth that effectively impacts teacher and student performance (Hellrung & Hartig, 2013). The purpose of this study was to examine structured coaching models used in two elementary schools to determine the impact on student achievement. This study examined the impact of two different instructional coaching models on student achievement and also analyzed teacher perception of instructional coaching.

Significance of the Problem

The teacher is the most important factor in student achievement (U.S. Department of Education, 2004). The National Commission on Teaching and America’s Future (1996) asserts, “What teachers know and do is the most important influence on what students learn” (p. 6). Since we know the teacher is the single greatest factor regarding student achievement in the classroom, increasing teacher effectiveness should be a primary goal for school administrators. In order to increase teacher effectiveness, teachers must be provided quality professional learning experiences that are individualized to meet the needs of the instructor. In order to provide individualized growth opportunities, principals must observe the teaching
practice, be able to diagnose the growth areas, and then provide the appropriate coaching which leads to professional growth for the instructor.

Teacher ineffectiveness may result in poor student achievement. Poor student achievement results in poor student growth, which negatively affects the lives of students. The results from this study provided data and support for principals in regard to the instructional coaching of teachers. Results from this study assisted principals in supporting teachers by outlining a model for coaching as they provided professional learning on instructional practice.

**Background of the Problem**

Currently the primary system, which lends itself to focusing specifically on teacher effectiveness or teacher performance, is the evaluation system. Marzano (2012) noted that “teacher evaluation systems have not accurately measured teacher quality and have not aided in developing a highly skilled teacher workforce” (p. 15). The teacher evaluation system has historically served as merely a human resource tool for personnel matters, versus a model for growing and supporting teachers. Evaluation typically includes an observation of the teacher followed by a conference between the teacher and the principal centered on the principal’s judgment of the observation.

Weisberg, Sexton, Mulhern, and Keeling (2009) conducted a study on teacher evaluation, which included 12 school districts, 15,000 teachers, and 1,300 administrators across four states. The result of this study demonstrates the background of the problem, lack of coaching received by teachers to increase
effectiveness. This study revealed that “73% of teachers stated their most recent evaluation did not identify any development areas and only 45 percent of teachers who did have development areas identified said they received useful support to improve” (Weisberg et al., 2009, p. 6).

Teacher evaluations have been used primarily for two reasons: teacher remediation or dismissal versus a process centered on increasing teacher effectiveness (Weisberg et al, 2009). Increased and intense accountability brought about by the No Child Left Behind legislation has created a need for a significant rise in student achievement in a short period of time annually. The mode of evaluation must shift and serve a dual role, one that determines personnel issues and another that supports teacher growth leading to increased effectiveness.

Kentucky Professional Growth and Effectiveness System. The Commonwealth of Kentucky has just recently supported and guided the implementation of the Charlotte Danielson’s Framework for Teaching adapted for Kentucky as a model for evaluation (Kentucky Department of Education, 2015). This framework centers on four domains including Planning and Preparation, Classroom Environment, Instruction, and Professional Responsibilities. The system has been titled as the Professional Growth and Effectiveness System (PGES) indicating a focus on teacher effectiveness and increased results.

The PGES system proposes support and guidance for the teacher, and PGES training encourages the use of teacher self-reflection through conferences with the principal to support the teacher in professional learning and growth. The Kentucky
Department of Education provides training modules on the conferencing portion of the system. The system perpetuates the use of “collaborative conferencing” and asks trainers to have audiences identify the role of the principal and the role of the teacher during these sessions. This focus on professional growth and the emphasis on conferencing is a major shift in a pivotal role which evaluation may play on student achievement. Given this focus on growth, teachers are accountable to student growth goals, which they collaboratively develop with their principals. Therefore, the accountability for PGES remains high-stakes.

Given the change of paradigm regarding the evaluation of teachers and the focus on support by the principal, no structured coaching model or coaching protocol has been provided as a support for those administrators implementing this system. Therefore, this creates a greater need for principals to have protocols and systems in place for instructional coaching in order to achieve the goal of PGES, which is increased student achievement.

**Local Context**

Located in Eastern Kentucky, Lawrence County, according to the United States Census Bureau (2014), has an estimated population of 15,804. According to the Kentucky Department of Education School Report Card 2013-2014, the school system has an approximate enrollment of 2300 students. According to the US Census Bureau (2007-2011), about 25% of persons are below the poverty level as compared to 18% nationally. As of 2012, only 6.6% of Lawrence County residents age 25 and older hold a bachelor’s degree or more, according to the Kentucky Cabinet for
Economic Development.

According to the Lawrence County Infinite Campus Eligibility report (2016), 70% of students in the Lawrence County School system meet the guidelines for the free/reduced lunch program. The high poverty rate and scarcity of employment opportunities in this area magnify the need for students to be well-educated, trained, and ready to enter the world of college and/or career. The district is comprised of six schools with varying configurations (see Table 1).

Table 1

<table>
<thead>
<tr>
<th>School</th>
<th>Grade Levels</th>
</tr>
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<tbody>
<tr>
<td>Blaine Elementary School</td>
<td>Preschool – 8th grade</td>
</tr>
<tr>
<td>Fallsburg Elementary School</td>
<td>Preschool – 8th grade</td>
</tr>
<tr>
<td>Louisa East Elementary School</td>
<td>2nd – 5th grade</td>
</tr>
<tr>
<td>Louisa Middle School</td>
<td>6th – 8th grade</td>
</tr>
<tr>
<td>Lawrence County High School</td>
<td>9th – 12th grade</td>
</tr>
<tr>
<td>Louisa West Elementary School</td>
<td>Preschool – 1st grade</td>
</tr>
</tbody>
</table>

According to the Kentucky Department of Education, in 2010 Lawrence County High School (LCHS) was designated as a "Persistently Low-Achieving" school. The district was labeled as a “focus district” in 2010 due to low student achievement levels at the high school and low-performance in other schools as well. In response to this designation, a district-wide approach in improvement efforts was enacted to bring about increased student achievement results. The district’s goal is to provide the high school with a student population ready to learn and succeed - ready
to achieve college and career readiness as they exit LCHS. District-wide systems and protocols and high leadership expectations guide all work at the district and school level to provide Lawrence County students with the best opportunities for success, including equitable experiences for students and teachers in the outlying areas. The district and the six schools have embraced the mission of "Every Child College and Career Ready".

**Focus schools of the study.** Two elementary schools in the Lawrence County School District served as the focus of this study. Principals at these two schools implemented a particular coaching model with their teachers following classroom observations as a formative piece to the overall teacher evaluation process. Louisa West Elementary School (LWES) serves preschool, kindergarten, and first grade students. According to the Lawrence County Schools Director of Personnel *Personnel by Site/Category* (2016), in the 2015-2016 school year, there were 28 full-time certified staff members employed at Louisa West serving approximately 438 students. Louisa East Elementary School (LEES) consisted of second through fifth grades. There were approximately 35 full-time staff members in LEES. In 2015, according to Lawrence County Schools Infinite Campus attendance report, the approximate enrollment at LEES was 558.
Principals at LEES and LWES have implemented a structured coaching model utilized with teachers following classroom observations. LWES utilized a reflective coaching model, which allowed teachers to self-reflect on teaching practices by answering a series of guided reflective questions during the coaching session. The LWES coaching model that included reflection but guided the teacher to collaboratively determine next steps with the principal during the coaching session.

The principal at Louisa East Elementary utilized a Plus-Delta-Next steps tool with teachers during the instructional coaching session.

**Efforts to increase teacher effectiveness.** In the last five years Lawrence County Schools has focused upon the need for structures, or “systems”, to build a foundation for the work of increasing teacher effectiveness. When Lawrence County High School was identified as a persistently low-achieving (PLA) high school in 2010, the district became a “focus” district in the state of Kentucky. Since then, the district has maintained a focus on teacher and administrator effectiveness within the district. As required by Board of Education policy, evaluation plans and timelines
have been followed, but increasing staff effectiveness requires more than following an evaluation timeline. Therefore, providing training to principals on coaching and providing feedback to teachers has been an ongoing process for approximately the last four years (2011-2015) in this district.

Monthly, central office staff reviews coaching and feedback records based on teacher observations conducted by the principals. Data from the analysis of coaching and feedback records indicate limited instructional coaching from principals to teachers. Table 3 indicates the data collected from all six schools in the Lawrence County School District the last three (3) years of systems monitoring focusing on instructional coaching:

Table 3

<table>
<thead>
<tr>
<th>Year</th>
<th>% of teachers receiving coaching</th>
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<tr>
<td>2012-2013</td>
<td>66%</td>
</tr>
<tr>
<td>2013-2014</td>
<td>61%</td>
</tr>
<tr>
<td>2014-2015</td>
<td>54%</td>
</tr>
</tbody>
</table>

Instructional coaching occurs as a face-to-face conference between the principal serving as instructional coach with the teacher following a classroom observation where the teacher’s practice or performance is discussed as the focus of the session.

These data indicate instructional coaching has not been occurring with consistency with a significant number of teachers in our district. These data focuses
on the percentage of those teachers who receive a classroom observation receiving a post-observation face-to-face coaching session by the principal. Therefore, these percentages do not reflect whether each teacher is receiving a classroom observation over a certain period of time. They only reflect that once a classroom observation has occurred the principal meets with the teacher for a coaching session. The findings reveal a need for an emphasis on instructional coaching and providing support to increase teacher effectiveness.

**Research Questions and Hypotheses**

The research questions and null hypotheses which guided the study are:

Research Question 1: How was instructional coaching implemented in two Lawrence County School elementary schools which were focused upon in this study?

Research Question 2: How do teachers perceive the effectiveness of instructional coaches in terms of improving teacher practice?

Research Question 3: What impact has elementary instructional coaching had upon student achievement?

To examine Research Question 3, 12 null hypotheses were examined. The 12 null hypotheses were:

H₀₁: There is no significant difference in the performance of kindergarten students on the MAP reading RIT scores after the implementation of coaching at
LWES compared to the RIT scores of the same group of students before coaching.

$H_02$: There is no significant difference in the performance of kindergarten students on the MAP math RIT scores after the implementation of coaching at LWES compared to the RIT scores of the same group of students before coaching.

$H_03$: There is no significant difference in the performance of first grade students on the MAP reading RIT scores after the implementation of coaching at LWES compared to the RIT scores of the same group of students before coaching.

$H_04$: There is no significant difference in the performance of first grade students on the MAP math RIT scores after the implementation of coaching at LWES compared to the RIT scores of the same group of students before coaching.

$H_05$: There is no significant difference in the performance of second grade students on the MAP reading RIT scores after the implementation of coaching at LEES compared to the RIT scores of the same group of students before coaching.

$H_06$: There is no significant difference in the performance of second grade students on the MAP math RIT scores after the implementation of coaching at LEES compared to the RIT scores of the same group of students before coaching.

$H_07$: There is no significant difference in the performance of third grade students on the MAP reading RIT scores after the implementation of coaching at LEES compared to the RIT scores of the same group of students before coaching.
H\textsubscript{o}8: There is no significant difference in the performance of third grade students on the MAP math RIT scores after the implementation of coaching at LEES compared to the RIT scores of the same group of students before coaching.

H\textsubscript{o}9: There is no significant difference in the performance of fourth grade students on the MAP reading RIT scores after the implementation of coaching at LEES compared to the RIT scores of the same group of students before coaching.

H\textsubscript{o}10: There is no significant difference in the performance of fourth grade students on the MAP math RIT scores after the implementation of coaching at LEES compared to the RIT scores of the same group of students before coaching.

H\textsubscript{o}11: There is no significant difference in the performance of fifth grade students on the MAP reading RIT scores after the implementation of coaching at LEES compared to the RIT scores of the same group of students before coaching.

H\textsubscript{o}12: There is no significant difference in the performance of fifth grade students on the MAP math RIT scores after the implementation of coaching at LEES compared to the RIT scores of the same group of students before coaching.

**Definition of Terms**

Following is a listing of terms essential to understanding the study:

*Instructional coaching*: a face-to-face conference session between the principal and teacher following a classroom observation. During this session, the principal and teacher discuss the classroom observation, which has occurred including feedback on the observation from the principal and a focus on teacher growth.
*Classroom observation*: an observation of the classroom conducted by the principal utilizing a classroom observation instrument that identifies teacher practice “look-fors”. This observation is conducted for a minimum of 15 to 20 minutes.

*Feedback*: information provided to the teacher from the instructional coach based on a formal observation typically as part of the evaluation system. Feedback may include principal’s judgment of teacher performance on the teaching practice “look-fors’ on the observation instrument or principal feedback on general classroom practices.

*Teacher effectiveness*: the degree to which teachers have an “effect” on student achievement. The “effect” in this study will be measured by rate of change in student results between two testing administration windows.
Chapter Two

Review of Literature

With the onset of high-stakes accountability, attention to teacher effectiveness has increased. Federal grant opportunities, such as Race to the Top (RTT), have brought about an increased connection between teacher evaluation and student achievement outcomes. Evaluation systems are moving from human resource instruments to systems focused upon teacher growth being tied to achievement results with multiple measures. Teacher effectiveness is measured by multiple measures in some states, while others rely on primarily state standardized tests results (Kane, Taylor, Tyler & Wooten, 2011).

With these changes comes the need for principals to provide feedback on classroom observations that bring about improved teacher practice. This need forces principals to be true instructional leaders with skills in coaching and performance feedback. “Principals need to push through the force field and be regular visitors to all classrooms in their buildings, observing thoughtfully and giving teachers perceptive and helpful feedback” (Marshall, 2005, p. 29). Barriers to principals providing coaching and feedback include lack of competency in diagnosing instructional practice, lack of culture conducive to growth mindset of coaching, and lack of structured coaching protocols to provide a framework for individualized professional development.
Evaluation System

The current system in place to specifically observe and discuss teacher instructional practice is the evaluation system of teachers. The implementation of evaluation systems is a complex process that has received much attention since the Race to the Top (RTT) initiative put in place by the Obama administration. RTT is a competitive grant program funded under the American Reinvestment and Recovery Act of 2009 “to encourage and reward states that are implementing significant reforms” (U.S. Department of Education, 2010, p. 3). The four major components of RTT include teacher and administrator effectiveness, collection and use of data, equity in teacher distribution, and turnaround for struggling schools, according to the U.S. Department of Education (2010).

The RTT grant program requires accountability of teachers and administrators to be tied to student outcomes through the evaluation process. The U.S. Government Accountability Office (2013) reports, “By school year 2012-13, 6 of 12 Race to The Top (RTT) states fully implemented their evaluation systems” (p. 1). According to Bradley (2014), “implementing teacher evaluation systems across the United States has created both challenges and opportunities to improving teacher quality” (p. 10). There is now a shift from the evaluation system as a human resource model to one that focuses on teacher effectiveness grounded in teacher growth.

Patrick (2014) states, “While the topic of evaluation conjures mixed reactions from both teachers and administrators, the new focus on teacher growth – rather than
solely rating teachers’ competence – is gaining momentum and sparking new interest in this challenging topic” (p. 14). This shift of paradigm has presented an intensive focus on instructional practice, which has never been at the forefront of the evaluation discussion until now. Patrick states that evaluations must be more than merely compliance checklists but must include meaningful feedback and support to teachers.

**Student Achievement**

Student achievement is measured and defined in various ways across states and districts. To satisfy the requirements of Race to the Top, “state departments of education commonly use state test scores to calculate measures of student learning, which we refer to as growth scores or value-added measures” (Marzano, 2013, p. 82). In Kentucky, the state accountability system, Unbridled Learning, classifies school and district student achievement results according to the following measures:

- Achievement (content areas are reading, mathematics, science, social studies, and writing.)
- Gap (percentage of proficient and distinguished) for the Non-Duplicated Gap Group for all five content areas
- Growth in reading and mathematics (percentage of students at typical or higher levels of growth)
- College/Career-Readiness Rate as measured by ACT benchmarks, college placement tests, and career measures
- Graduation Rate (Kentucky Department of Education, 2015)
The Lawrence County (LC) School District has designed and approved its own district accountability benchmarking system in 2010 to measure student achievement. The LC Accountability System contains summary school and district data of reading, language, and math progress resulting from district-wide administration of nationally-normed assessments, Measures of Academic Performance (MAP) in math and reading, STAR Reading and STAR Math, and College Readiness data. Three categories are included in the LC Accountability System: percentage of students at or above grade level, percentage of students at or above the 70th percentile, and percentage college ready (Lawrence County Schools Comprehensive District Improvement Plan Executive Summary, 2015).

Measures of Academic Progress (MAP) is used to predict college readiness by percentage of students at or above 70th percentile reported in reading and math for kindergarten through 11th grades. Non-duplicated gap group reporting on this same measure is conducted in order to provide projected achievement levels on the state non-duplicated gap group achievement percentage of proficient students. STAR assessment for reading and math is used to determine grade level equivalency in reading and math for grades K-8. Non-duplicated gap group reporting on this grade level measure is also conducted in order to provide a narrow focus on gap achievement. In addition, schools report on program review progress in writing, arts/humanities, and practical living/career studies which provided operational data for these programs versus student outcomes.
A final prong to the district accountability system used to measure student achievement is the development and implementation of district common assessments in reading, language, and mathematics. District common assessments are teacher assessments that have been developed collaboratively by grade-level, content-area teachers. All students in the same grade across the district are administered the same common assessment. Reporting of common assessment data occurs on three levels, classroom, school, and district. Teachers collect the data, completing an item analysis and determining the number of students who fall in the following categories: Master, Meeting, Approaching, and Not Meeting. School leadership collected the same data for those categories per grade level per common assessment. District leadership collects the same data for those categories per grade level for each school to yield district common assessments results for each grade level in reading, math, and language.

**Teacher Effectiveness**

In 2009, Kentucky legislators passed historic legislation with Senate Bill 1, which included a comprehensive system of education reform known as Unbridled Learning (Kentucky Council on Postsecondary Education, 2016). This system called for “new, more rigorous standards, a new assessment and accountability system, and a focus on student readiness” (Kentucky Department of Education, 2015). House Bill 130 in 2013 brought about the new statewide Professional Growth and Effectiveness System (PGES) to be used as the evaluation system for all certified personnel. PGES incorporates multiple sources of data including student growth, student voice, peer
observation, and evaluator professional practice ratings to determine teacher effectiveness.

Locally, districts develop and implement a certified evaluation plan that follows the parameters set forth by the Kentucky Department of Education. Lawrence County Schools has adopted an evaluation plan which requires two local student growth goals for certified teachers. One goal is to be centered on a teacher-identified enduring skill assessed by a pre- and post-test during the beginning and end of the school year. In addition, teachers are asked to work collaboratively with their principal to develop a local goal connected to the Lawrence County Schools Accountability System. This local goal is based upon one of the two standardized benchmark assessments occurring three times during the school year in order to mark progress. Teachers may choose to set their local goal based on the Renaissance Learning STAR assessment or Measures of Academic Progress (MAP). Finally, the state outlines a mandate for teachers who teach reading and math in grades 4-8 to be held accountable for state student growth goals measured on a student growth percentile on state standardized assessments. Kentucky allows local districts and Boards of Education to determine the calculation formulas for determining teacher effectiveness as it pertains to attainment of both local and state goals. Teacher effectiveness is ultimately determined by calculating the overall performance from both the professional practice and student growth measures.

Professional practice ratings are determined from evaluator observation of the teacher in the classroom and the review of artifacts, which are provided by the teacher.
for additional evidence of the effectiveness indicators. Each school district in Kentucky adopts an “evaluation cycle” for teachers that best fit their needs. The evaluation timeline or cycle determines how often teachers receive classroom observations which constitutes district policy for evaluation. When observed, teachers are provided a rating based upon a four-point Likert-type scale, which spans from Ineffective, Developing, Accomplished, to Exemplary.

Rating overall student growth is a result of a combination of professional judgment and the district-developed instrument for summative student growth ratings. Student growth goal rating is classified as Low, Expected, or High depending on the local district’s decision (KDE, 2014). This growth goal rating is based upon the district’s guidelines or scoring guide for determining the rating on student growth goals. Once the student growth rating has been determined, the teacher’s overall professional practice rating is determined.

Rating overall professional practice concludes with the evaluator’s analysis of evidence and the final assessment of practice in relation to performance described under each domain at the culmination of an educator’s evaluation cycle. Following the teacher being rated on both student growth goal attainment and professional practice, an overall performance category is determined using the local district formula for determining a teacher’s performance as Ineffective, Developing, Accomplished, or Exemplary (KDE, 2014). Therefore, it is apparent that multiple measures are considered and calculated when determining teacher effectiveness not only in Lawrence County but all over the state of Kentucky. This process is complex,
and also includes student voice perception survey results, peer observation feedback, and self-reflection.

**Feedback**

Evaluation systems centered on teacher growth to increase effectiveness requires the principal to serve as the instructional leader in order to provide professional growth support through thoughtful and differentiated feedback. Feedback is information or reaction provided by the instructional coach following a teacher observation. Childress (2014) states, “research has shown that teachers are the most important factor in student achievement, principals are key to successful teacher practice” (p. 9). According to Patrick (2014), “In order for principals to provide support, growth, and guidance to teachers on an ongoing basis, they will have to devote more time to being in classrooms, observing students and teachers, giving feedback to teachers, exploring new effective methods with teachers, and monitoring the feedback provided” (p. 16). Feedback allows individuals to critically analyze their practice by receiving input from an outside source. Wohlking (1967) writes, “Experimental data has consistently indicated that knowledge of performance enhances performance” (p. 1).

In addition, Wohlking (1967) stated two factors that influenced the ability of the teacher to increase effectiveness: information on performance (feedback) and time lag, or how soon the feedback was provided following the performance.
Therefore, we have understood for some time that in order for teachers to improve practice or performance, feedback is essential. Donaldson (2013) writes,

…the real challenge is providing teachers with the necessary support and professional development to implement these practices accurately, consistently, and contextually and to relinquish ineffective and inefficient practices. One promising strategy for addressing this challenge is providing teachers with performance feedback that would inform their practice and increase the accurate and sustained use of effective instructional strategies. (p. 95)

Research on teacher evaluation models cites quality feedback as a critical attribute missing in the evaluation systems, besides the fact that most evaluations are conducted as compliance in nature. Colvin, Flannery, Sugai, & Monegan (2009) conclude:

Because of the national focus on improved student outcomes and increased accountability for adopting and using effective instructional and classroom practices, schools must establish assessment and feedback systems that give educators specific information on what they are doing and what effect their actions have on student performance. This information must be formative (ongoing) and contextualized to reflect the conditions under which instruction is occurring and students are expected to learn and perform. (p. 100)

Feedback is much more than merely providing evaluator ratings to the teacher. Feedback aimed at teacher growth is the information provided back to the teacher
from the instructional coach that identifies areas of strength and also areas of needed growth. With the new evaluation system (PGES) being put in place, much emphasis has been on the education of administrators and teachers on the rubric utilized to provide ratings for the evaluation. Hart, Healey, and Sporte (2014) assert districts have spent substantial amounts of time training individuals on the rating of teacher practice and considerably less time and attention on the communication, training and support to improve teacher practice. This study states “reliable ratings alone won’t improve teacher practice” (Hart et al, 2014, p. 63).

Scheeler, Ruhl, and McAfee (2004) state, “In order to provide effective feedback to teachers, supervisors and others involved in teacher preparation must first know the attributes of effective feedback” (p. 397). Feedback can take on different forms or purposes.

Feedback content (what is communicated) can be organized into five nonexclusive categories: (a) corrective feedback—the type and extent of error and specific ways to correct the error are suggested; (b) noncorrective feedback—the type and extent of error to the learner are identified; (c) general feedback—vague and nonspecific, but evaluative feedback is uttered (e.g., “Okay”); (d) positive feedback—praise contingent on demonstration of a specific teaching behavior is provided; and (e) specific feedback—objective in formation related to predetermined specific teaching behaviors is offered.

(Scheeler, Ruhl, & McAfee, 2004, p. 400-401)

Feedback can be viewed through various lenses, with most researchers
concentrating on the content of the feedback message itself (Brookhart & Moss, 2015). Feedback may be examined by looking at the feedback itself to see whether it resulted in a desired effect; by looking at the feedback event to evaluate if learning occurred or finally to see if the feedback actually resulted in improvement (Brookhart & Moss, 2015).

Brinko (2004) compiled several research findings regarding the practice of feedback by looking at the source and the recipient. Brinko’s study on feedback asserted feedback is effective when certain characteristics of the source of feedback are present or true: (1) data comes from multiple sources which is accurate and specific; (2) source is knowledgeable and is considered as lower or equal status to the recipient; (3) conveyed in variety of modes; (4) focused upon behavior; non-evaluative; (5) timely and is viewed as a process (Brinko, 2004). In order to fully explore feedback, the source of the feedback and the process utilized to give the feedback to the recipient must be a part of the analysis (Brinko, 2004; Scheeler et al, 2004).

Providing feedback requires not only an instructional knowledge base but also knowledge of quality feedback and skills for how to convey the feedback in order for the change to occur in the recipient of the coaching or feedback. “Despite the increasingly important role of the principal as an instructional leader, most districts do little to train and support principals in the development of instructional leadership capacity” (Bang-Knudsen, 2009, p. 3). In Bang-Knudsen’s study of a superintendent who initiated district wide system parameters, providing feedback to teachers on
instructional practice was set out as a priority, but the study did not outline any
intentional training, follow-up, or collection of data on feedback content and process.
A deep look at the parameters and framework for such teacher guidance and support
yields a scarcity of research and moreover a lack of a research-based program, which
focuses upon the principal as instructional leader and coach to teachers.

**School Administrator Competencies in Performance Feedback**

Coaching and providing performance feedback to teachers is very frequently
asserted as a best practice; but yet the research is limited as to how it truly impacts
student achievement, and furthermore, how principals are trained and supported in
this endeavor. Despite years of service, principals in a district may vary on their
ability and skill level to provide feedback to instructors. Research suggests that
principals do not have the competencies to provide performance feedback to support
growth and ultimately increase student achievement (Medley & Coker, 2001).
Research on the accuracy of principal judgments of teacher performance found “low
accuracy of the average principal’s judgments of the performance of the teachers he
or she supervises” (Medley & Coker, 2001, p. 245).

Instructional leadership, in general, plays a crucial role in the professional
growth of teachers. The role of the principal has evolved; however, the struggle
between management and instructional leadership still exists. Even after decades we
do not have a clear understanding of the specific components of instructional
leadership and how what actions frame the work of an instructional leader
(Neumerski, 2013). Honig (2011) cites numerous studies that support the general idea
that the focus of the principal should be to work with teachers intensively on instructional practice and utilize evidence to improvement the practice of teachers. “No facet of leadership is more important than improving teaching and learning in schools so that students can achieve at high levels. Administrators clearly have a direct influence on this, but exactly how they may use that influence most effectively remains debatable” (Peale, 2003, p. 5).

In order for teachers to grow and become more effective, the instructional leader must have the competencies to accurately diagnose areas needing growth by the teacher and provide the appropriate guidance or resources as support for the teacher to improve instructional practice. Since the teacher is the single most important element regarding student achievement, it is imperative they are provided the growth support to improve their instructional practice. However, the ability of the principal to provide this type of instructional coaching is a barrier according to the research.

Few research-based practices which principals may utilize for coaching have been identified which presents a barrier to school leaders receiving adequate training to assist teachers. “Principals with more professional development regarding how to improve teachers’ instruction reported fewer barriers and more opportunities to developing human capital” (Donaldson, 2013 p. 95). Even though principals may need specific professional development on the practice of observing, analyzing, and providing guidance on instructional practice, the importance of the principal role and the significance of principal expectations for staff should not be dismissed. May and
Supovitz (2010) conducted a study focusing on the “scope” of the principal’s efforts to affect instructional practice in the classroom. Their study revealed “teachers whom principals target for instructional assistance report more change in instructional practice” (p. 350). According to Donaldson, the principal is second only to the classroom teacher in regard to student achievement impact.

**School Culture and Coaching**

Another important element in instructional coaching is school culture. According to Donaldson (2013), one-third of principals interviewed stated that school culture seemed to limit the robustness of evaluations. Donaldson’s study actually cited school culture as a major barrier and constraint for principals to provide performance feedback to instructors. Principals play an important role in shaping school culture (Donaldson). “Thus, in citing it as a barrier to high-quality evaluation, they implicated themselves” (Donaldson, p. 859).

School culture permeates nearly every facet of the instructional process; therefore, it is no surprise it would affect the principal in providing the type of feedback which would push instructors further in their practice. Obviously, the majority of schools do not have a growth mindset culture for growth. Akhavan (2005) says, “Teachers need to work in a school culture where they can express what they have learned, and can express what they still need to learn” (p. 20). Therefore, it is imperative that school leadership fosters the type of culture that builds upon clear and transparent, two-way communication based on a mindset of both a growth in culture and a growth in teacher practice.
Without the proper school culture that focuses upon a growth mindset, instructional coaching becomes difficult, and principal interaction with teachers on their practice is viewed as punitive.

In the current context of teacher evaluation, principals serve a key role in shifting the punitive “gotcha” school climate to a culture of growth and excitement for teacher learning by creating supportive conditions so teachers develop confidence and competence as effective educators. (Bradley, 2014, p. 14)

**Coaching and Feedback Systems**

As the principalship becomes more and more demanding, a system of coaching and feedback provides a framework for instructional practice to be considered a priority. The most valuable approach to promote sustainability and provide professional development is in the establishment and building of systems of coaching and performance feedback across the district and at school levels as it relates to increasing teacher effectiveness. “Providing an accurate and actionable evaluation for every teacher poses a growing dilemma for principals given their full range of responsibilities” (Childress, 2014, p. 11). Without a system to provide the framework of the evaluation process, along with expectations regarding coaching and feedback, it is easy for principals to lose focus.

Time is continually a barrier to implementing the evaluation system with fidelity. Districts must assist principals with time management. Childress (2014) reports, “The time factor has emerged as an overwhelming concern, particularly as
some districts continue to eliminate assistant principal positions and other instructional support positions” (p. 11). Therefore, it is the district’s responsibility to set forth an expectation of how principal time is to be utilized. In addition, it is the district’s responsibility to communicate to stakeholders that instructional practice is the priority of the district and the principal’s primary focus. This will require the need for the district to communicate to the public that principals are no longer able to respond immediately to unscheduled calls or visits but that timeframes are available for discussions with stakeholders.

It is important for researchers, practitioners, and education support organizations to focus not only on designing evaluation systems, which focus on teacher practice but also a system, which concentrates on continual coaching and feedback. This is necessary in order to facilitate the growth of teachers professionally and to ultimately and positively affect student achievement. The enormity and complexity of the task requires moving beyond traditional methods and working collaboratively with colleagues to develop a system that solves the problems of practice in schools and districts. Success is achieved when districts and schools function as a cohesive system with leadership that scales and sustains highly effective processes and protocols, monitors instructional practice, requires accountability, and supports improvement efforts and individual and school/district wide professional growth. “Schools must establish assessment and feedback systems that give educators specific information on what they are doing and what effect their actions have on student performance” (Donaldson, 2013, p. 100).
Coaching Models

In order to create a system of coaching and performance, principals should be provided training and support on coaching protocols or frameworks. The goal of instructional coaching and providing performance feedback to teachers is to influence teacher practice and ultimately impact student achievement in a positive manner. To be a coach is to be a catalyst. Haneberg (2011) writes,

Great coaching catalyzes light-bulb – or “aha!” – moments. Strictly speaking, a catalyst is a substance that increases the rate of a chemical reaction. Although they participate in reactions, catalysts are neither consumed by nor incorporated into the products of the reactions. There is just as much catalyst at the end of the reaction as there was at the beginning. In most cases, only small amounts of catalysts are needed to increase reaction rates. (p. 30)

According to this article, it takes very few words or actions to be a coach who acts as a catalyst. Principals need research-based protocols and coaching processes which will focus on the mission critical areas of growth to impact student achievement.

It is imperative that principals are provided various tools, processes and systems, which will yield desired results and result in better efficiency. “Instructional coaches utilize research-based best practices in their work with classroom teachers. Instructional coaches promote teacher growth through modeling, reflection, data analysis, and high quality professional development” (Sumner, 2011, p. 22). The intended outcome of instructional coaching is improved student learning and improved teacher practice.
Two coaching models were observed in the two elementary schools that serve as the focus for this study: plus-delta and reflective questioning. The principals in this study implemented their respective coaching models with fidelity, providing a coaching session following each classroom observation. One coaching method, the plus-delta, contained a reflective piece, but included a more directive next steps portion; whereas, the reflective questioning was participant-led based on the reflective questions provided by the principal. Next steps were at the discretion of the teacher following the reflection.

**Plus-Delta**

Sastri and Rao (2013) state, “Plus/Delta (+/Δ) evaluation tool is a scientific approach that provides a method for continuous improvement by continuously seeking ways to provide the highest quality services” (p. 42). This simplistic tool is one that asks people to evaluate what is going well (+) about an event, organization, initiative and what needs improvement or change (Δ). This tool can be drawn on a sheet of chart paper with a T-design or just written on a sheet of paper. However, it is the process of the participants identifying the strengths and weaknesses of the work which makes it a feedback tool for improvement.

Mullan, Cheng, and Kessler (2014) presented the use of the plus-delta as a feedback tool to participants leading the debriefing following simulations in the field of medical practice. They studied the effect of the plus-delta participant-led process versus a facilitator-led debriefing process and found that more involvement with more discussion ensued as a result of the use of the tool. In regard to instructional coaching,
the plus-delta tool is one which is utilized to guide the conversation with teachers to have a collaborative conversation as to the pluses of the observation, what went well, and to discuss the delta or change that might need to occur. In addition, the tool contains a “next steps” section at the bottom for a more directive conversation based on the plus-delta so that the instructor understands the expectation of change in practice.

Following a classroom observation, principals are able to use the tool to begin the discussion of the teaching practices observed by first allowing the teacher to reflect and provide the information as to what went well and what needed improvement. This reflection is not facilitator-led by the principal and rather allows the teacher to reflect upon the observation to determine next steps for continual improvement. Following the teacher reflection, the principal may provide input into the plus-delta of the observation.

After the plus-delta portion has been completed, a collaborative conversation is held based on the next steps section of the tool. At this point, the principal may ask the teacher to create the next steps, or the principal may be directive and provide an expectation for a change in practice. The principal at Louisa East Elementary used the plus-delta as a tool for coaching with teachers following classroom observations in order to provide feedback. Therefore, this study on coaching and feedback investigated its impact on student achievement.
Reflective Questioning

Self-reflection as a method of growth is a concept that has been in our field for many years. Janas (2001) writes that John Dewey wrote about reflection in 1933. By reflecting on our practice, we analyze and determine what areas serve as strengths and the areas that need growth. “A self-coaching framework is a great reflective tool to help teachers at every career stage assess their needs, set goals, and plan their own professional development” (Janas, 2001, p. 24).

In order to guide this reflection, the coach must set the stage by asking questions to spur the reflection and focus the teacher during the coaching session. The cognitive coaching models centers on putting the teacher in charge of the coaching process. “The coach non-judgmentally observes for the requested data and asks questions that make the student teacher reflect on his or her thinking. The power in is the questioning” (Brooks, 2000, p. 47).

This type of coaching is participant-led versus a directive approach. The principal at Louisa West Elementary School implemented this type of coaching model using a series of reflective questions provided to teachers following a classroom observation. Two series of questions were rotated during each coaching session. The questions were derived from the school improvement plan and principal priorities. The coaching session consisted of the teacher reflecting on the observation using the questions to guide the conversation. This coaching process is primarily reflective. If next steps are included, the teacher develops them based on the reflective questioning.
Professional Learning for Principals

The two principals in this study have received professional learning on instructional coaching and feedback. Good coaching of principals leads to good leadership (Bambrick-Santoyo, 2012). Principals need coaching and support as do teachers. A system of support for principals in the Lawrence County school district focusing on coaching was implemented in 2010 and continues to be implemented. Coaching is provided via whole group learning during district principal meeting and one-on-one coaching sessions monthly with the instructional supervisor following the review of the principal’s coaching notes and records.

In addition, both principals participated in the Kentucky Leadership Academy for one year focusing on implementation of the Kentucky Professional Growth and Effectiveness System which provided them professional learning on coaching with teachers. Monthly, support is provided to each principal from the district level by both the superintendent and the instructional supervisor. The instructional supervisor reviews coaching artifacts from principal-teacher coaching sessions to monitor that principal-teacher coaching sessions are occurring, to look for trends of professional growth needs of teachers in the district, and to determine support needs of the principal on instructional coaching. Following a review of the coaching records, the supervisor debriefs with the principal to determine additional support or training in instructional coaching with teachers.
Effectiveness of Coaching

Instructional coaching is a method of professional development, which has an impact on teacher practice. Knight (2005) asserts “well-constructed coaching programs have consistently generated implementation rates of at least 85% with schools frequently getting every teacher to use several effective instructional practice” (p. 18). Utilizing instructional coaches make it easier for teachers to implement research-based practices, increases teacher confidence, and enabled teachers to learn teaching techniques (Knight, 2005). Knight’s research primarily focuses on the use of instructional coaches being placed in schools as partners with principals. However, principals may implement similar coaching programs themselves as the instructional leader.

If principals currently do not implement a system of observing and providing teacher coaching this practice can increase with appropriate training and support. Wayne (2011) conducted a study on principal visits to classrooms and feedback. “The impact data demonstrate that the principals changed their practice with respect to visit frequency, visit duration, evidence gathering during the visits, and the frequency and form of feedback” (Wayne, 2011, p. 31). Principals in this study were provided additional support and professional learning in regard to instructional leadership in these areas. These findings should be viewed as optimistic of how supporting principals and providing the training needed will result in principals becoming true instructional leaders (Wayne, 2011).
Teacher classroom practices do predict differences in student achievement growth (Kane, Taylor, Tyler, & Wooten, 2011). Skills of teachers affect student outcomes; therefore, increasing teacher effectiveness should be a goal of instructional leadership. In order to increase teacher effectiveness, teachers need to receive professional growth support through coaching and performance feedback. The purpose of this study was to examine two instructional coaching models used by two principals in order to provide support for professional growth through coaching and performance feedback and to determine the impact of instructional coaching on student achievement. This study examined the coaching models implemented, analyzed the impact of the coaching on student achievement, and also examined teacher perception of instructional coaching in regard to improving teacher practice.
Chapter 3
Methodology

The purpose of this study was to investigate the impact of instructional coaching at the elementary level on student achievement and to explore teacher perceptions on instructional coaching provided by the principal. The goal of instructional coaching is to increase student achievement by increasing the effectiveness of classroom teachers. Coaching is a type of professional learning that is individualized and focused upon the diagnosis of strengths and areas of growth of teachers’ instructional practice (Gross, 2012).

The Lawrence County School District has recognized a need for principals to serve as instructional coaches with teachers and is currently providing training and support on instructional coaching to school principals. This support is provided via two primary means: group and one-to-one coaching. At least bimonthly, principals participate in principal workshops or most recently a principal leadership academy that focuses on increasing skills in instructional leadership with coaching being a primary focus. The need for this intensive focus was identified as one of six critical findings in the 2010 Kentucky Department of Education Leadership Assessment of the Lawrence County School District.

This study explored the impact of instructional coaching at the elementary level on student achievement and analyzed how teacher perception on coaching may or may not influence the impact coaching has both on practice and student results. Some instructional coaching models include instructional coaches being on-site
professional development providers who work with the principal (Knight, 2005). However, this study only focused upon the principal as the primary instructional coach in the school. Since teacher growth is now a major part of the teacher evaluation system in Kentucky (Kentucky Department of Education, 2015), principals, therefore, play a dual role both as coach and evaluator. Principals served as the primary instructional coach in this research.

This chapter outlines the participants, the instrumentation utilized, and the analysis procedures for this study.

Research Design

“In order to examine the complex issue of instructional coaching and its relationship to student achievement, a mixed-methods design was used” (Sumner, 2011, p. 57). This study was conducted using a quasi-method including the analysis of qualitative and quantitative data. This approach was appropriate because it not only examined instructional coaching looking at student outcomes but also examined teacher perception of instructional coaching upon their practices. This two-prong approach allowed for this topic to be analyzed in a comprehensive manner including both quantitative and qualitative data.

Quantitative data. An analysis of student achievement data was conducted to determine if there was a significant difference in student achievement following the instructor receiving instructional coaching. Student achievement data for all students in both elementary schools were collected from the Fall 2014 Measures of Academic Progress (MAP) administration in reading and math and then collected again for the
Spring 2015 MAP testing window. Teachers were provided instructional coaching in the interim between the two testing windows. The quantitative portion of this study investigated the impact of instructional coaching implemented in two elementary schools on student achievement as measured by the MAP assessment.

Qualitative data. Teacher perception data of instructional coaching were collected as qualitative data by surveying teachers. Teacher perception ratings on surveys questions were collected to examine whether teachers agreed or disagreed that instructional coaching is beneficial and impacts teacher practice. Perception data in this study are important due to its connection to teacher self-efficacy. Mahmoe and Pirkamali (2013) assert “people with a strong sense of efficacy approach difficult tasks as challenges to be mastered than threats to be avoided” (p. 196). Bandura (1994) defines self-efficacy as people’s beliefs about their abilities to produce desired results affect their behavior. Therefore, how teachers perceive the coaching experience in relation to their sense of teacher efficacy may influence whether the coaching affects teacher instructional practice. According to various studies, “it is crystal clear that both personality and the notion of self-efficacy have been consistently found to be related to teacher behaviors and student achievement (Mahmoe & Pirkamali, 2013, p. 201).

Research Questions and Hypotheses

The research questions and null hypotheses which guided the study are:
Research Question 1: How was instructional coaching implemented in two Lawrence County School elementary schools which were focused upon in this study?

Research Question 2: How do teachers perceive the effectiveness of instructional coaches terms of improving teacher practice?

Research Question 3: What impact has elementary instructional coaching had upon student achievement?

To examine Research Question 3, 12 null hypotheses were examined. The 12 null hypotheses were:

H\(_0\)1: There is no significant difference in the performance of kindergarten students on the MAP reading RIT scores after the implementation of coaching at LWES compared to the RIT scores of the same group of students before coaching.

H\(_0\)2: There is no significant difference in the performance of kindergarten students on the MAP math RIT scores after the implementation of coaching at LWES compared to the RIT scores of the same group of students before coaching.

H\(_0\)3: There is no significant difference in the performance of first grade students on the MAP reading RIT scores after the implementation of coaching at LWES compared to the RIT scores of the same group of students before coaching.
H₀₄: There is no significant difference in the performance of first grade students on the MAP math RIT scores after the implementation of coaching at LWES compared to the RIT scores of the same group of students before coaching.

H₀₅: There is no significant difference in the performance of second grade students on the MAP reading RIT scores after the implementation of coaching at LEES compared to the RIT scores of the same group of students before coaching.

H₀₆: There is no significant difference in the performance of second grade students on the MAP math RIT scores after the implementation of coaching at LEES compared to the RIT scores of the same group of students before coaching.

H₀₇: There is no significant difference in the performance of third grade students on the MAP reading RIT scores after the implementation of coaching at LEES compared to the RIT scores of the same group of students before coaching.

H₀₈: There is no significant difference in the performance of third grade students on the MAP math RIT scores after the implementation of coaching at LEES compared to the RIT scores of the same group of students before coaching.

H₀₉: There is no significant difference in the performance of fourth grade students on the MAP reading RIT scores after the implementation of coaching at LEES compared to the RIT scores of the same group of students before coaching.

H₀₁₀: There is no significant difference in the performance of fourth grade students on the MAP math RIT scores after the implementation of coaching at LEES compared to the RIT scores of the same group of students before coaching.
H₀₁₁: There is no significant difference in the performance of fifth grade students on the MAP reading RIT scores after the implementation of coaching at LEES compared to the RIT scores of the same group of students before coaching.

H₀₁₂: There is no significant difference in the performance of fifth grade students on the MAP math RIT scores after the implementation of coaching at LEES compared to the RIT scores of the same group of students before coaching.

Subjects and Sampling

The study included the population of 50 kindergarten through fifth grade teachers at the Louisa West and East Elementary Schools. Convenience sampling was used with voluntary teacher participation on the instructional coaching survey by completing the online survey. The student population includes those students enrolled on the dates both Fall and Spring testing took place. If students were not enrolled for both testing sessions, they were eliminated from the analysis. The student population involved in the study is summarized in Table 4.

Table 4

<table>
<thead>
<tr>
<th>School</th>
<th>Grade Level</th>
<th>Student Enrollment</th>
<th>Number of Teachers in School per grade level</th>
</tr>
</thead>
<tbody>
<tr>
<td>LWES</td>
<td>Kindergarten</td>
<td>165</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>First Grade</td>
<td>142</td>
<td>6</td>
</tr>
<tr>
<td>LEES</td>
<td>Second Grade</td>
<td>133</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Third Grade</td>
<td>131</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Fourth Grade</td>
<td>123</td>
<td>5</td>
</tr>
</tbody>
</table>
Instrumentation

Quantitative. Quantitative data will be collected from student results on Measures of Academic Progress (MAP) assessment. Measures of Academic Progress (MAP) and Measures of Academic Progress for Primary Grades are computer adaptive interim assessments administered to students in K-11 grades. This assessment was administered three times during the 2014-2015 school year in Lawrence County Schools to students in Kindergarten through the 11th grade. Tested content areas included reading and mathematics. These content areas were determined based on the content areas, which are included in the Kentucky Unbridled Learning Accountability System.

MAP is a product of the Northwest Evaluation Association, a non-profit organization. Marginal reliability for all three major subjects of the MAP assessment is between 0.89 and 0.96 (NWEA, 2003). MAP is an assessment that is given multiple times throughout a child’s educational career. The test/re-test reliability values of MAP range “between 0.79 and .94 for all test-retest pairs except for those that involve second graders” (NWEA, 2003, p. 54). MAP tests have been correlated with other major tests indicating they are valid for similar use with validity values ranging from 0.74 to 0.87. Linking studies, specific to states and college readiness, have been conducted.
Qualitative. To address Research Question #2, a survey (Teachers’ Perception of Instructional Coaching) was used to determine teacher perception specific to instructional coaching. The survey for this study was modeled after The Teachers’ Perception of Instructional Coaching Survey developed by Gordon (2013) for a study entitled, “An Assessment of Instructional Coaching: Results of a Survey of Selected School Districts in South Carolina.” The original survey included 24 items and included several items that focused on a specific instructional coaching practice. The original survey was revised in order to meet the purposes of this study. The survey used in this study consisted of 11 items specifically focused on the teacher perception of instructional coaching’s impact on teacher practice. The survey instrument was reviewed by school administration to ensure wording of statements were congruent to operational definitions used in the school. All items were close-ended questions. Likert scale items provided four options: Strongly Disagree, Disagree, Agree, and Strongly Agree, which were converted to a numerical value of 1 to 4 respectively.

An electronic link to the survey via Google Forms was emailed to the teachers at both schools for them to access, consider participation, to give consent and to complete. The survey took approximately 5 to 10 minutes to complete. The original survey was tested using the Cronbach alpha to determine its reliability (Gordon, 2013). The Cronbach alpha coefficient range was .85 to .93. According to statistical practice, alpha values above .70 are considered acceptable; therefore, the Teachers’
Perception on Instructional Coaching survey was considered reliable. (Gordon, 2013, p. 53)

**Procedures**

Monthly monitoring visits were conducted by the researcher who serves as the Chief Academic Officer of the school district to address Research Question #1 which focused on how coaching was implemented in these two schools. The researcher was in a non-participatory role during these visits. These visits consisted of a review of teacher classroom observation ratings and coaching feedback provided to the teacher by the principal during a coaching session. In order for the coaching session to be included in the data collection, the teacher signature was required on the coaching session notes or record since coaching sessions for the purpose of this study were conducted face-to-face.

Observations of principal-teacher coaching sessions were conducted during some of the monitoring visits. The researcher took field notes during visits in regard to percentage of coaching sessions held with those teachers who had received an observation, and percentage of coaching sessions, which included next steps or specific recommendations for teacher practice.

**Quantitative.** Quantitative data were collected from student results from both the Fall 2014 and Spring 2015 Measures of Academic Progress (MAP) administrations to address Research Question #4 which focuses upon how instructional coaching impacts student achievement. This data was collected by the researcher accessing the Northwest Education Association (NWEA) MAP report
website. The researcher, in the capacity of Chief Academic Officer, has access to student achievement results but was granted permission by the Superintendent of Lawrence County Schools to use student achievement data for the purpose of this study. Because this study examined the impact on student achievement in both reading and math, it was necessary to have measurements of all grade levels represented at LWES and LEES.

Individual student results on the MAP assessment were collected for both reading and math in the Fall 2014 (pre-test) and Spring 2015 (post-test) for grades K-1 at LWES and grades 2-5 at LEES. All individual results were placed into an Excel sheet separated by grade level, content area and testing window. The Excel sheet was then imported into SPSS® for further analysis.

**Qualitative.** Research Question #2 examined teacher perception of instructional coaching. An email was sent by the researcher in December 2015 to the teachers at Louisa West and East Elementary Schools in order to solicit volunteers for the teacher perception survey on instructional coaching. The email containing the link to the survey explained the purpose of the study and the use of the survey while conveying that the survey would not be used in any way to evaluate the principal nor the school. Teachers were informed that the survey and responses were not linked to any personally identifiable information. The email also stated that both principals agreed to participate in the study, including the distribution of the survey to teachers.
The survey instrument was distributed via Google Forms with a link for access included in the participation email. A copy of the survey can be found in Appendix A. The survey instrument consisted of 11 items that asked participants to indicate their answer on a four-point Likert scale.

Individual teacher responses to the survey were collected through Google forms and exported into an Excel spreadsheet document for analysis. Survey questions were categorized into three constructs of Instructional Coaching Best Practices which were identified in the original survey constructed by Gordon (2013): (1) collaborating with teachers to address school-wide instructional concerns and practices; (2) collaboratively planning with a teacher to identify when and how an instruction intervention might be implemented; and (3) observing teachers and providing teachers with feedback (Gordon, 2013).

Two items on the survey focused on collaborating with teachers to address school-wide instructional concerns and practices, primarily high expectations. Three items elicited responses regarding collaborative planning with teachers in order to identify instructional practice gaps and when and/or how to intervene with a change in practice. Seven of the survey items specifically requested responses on observing teachers and providing teachers with feedback. These three constructs provided a framework to analyze instructional coaching by pinpointing three best practices in coaching.

Data Analysis
Data collected on the instructional coaching models implemented reflecting Research Question #1 was collected monthly. This data was analyzed twice during the school year, once at a mid-year review occurring in December and then a final analysis conducted in March for end-of-year. These monitoring visits focused on two specific data points: percentage of coaching sessions held with those teachers who had received an observation, and percentage of coaching sessions which included next steps or specific recommendations for teacher practice. The mean percentage for both data points was calculated and analyzed in order to determine if an increase in these percentages occurred as the year progressed.

**Quantitative.** Quantitative data based on student results on the MAP assessment for Fall 2014 and Spring 2015 was analyzed by calculating mean and standard deviation in order to determine change between the two testing windows. This analysis answered Research Question #3: What impact has elementary instructional coaching had upon student achievement? Student performance by grade level in both reading and math were analyzed to determine if there was a significant difference in performance between fall and spring. Descriptive statistics were calculated for each subject area by grade level for the fall and spring MAP performance in reading and math which included the mean, standard deviation, minimum, and maximum.

A dependent t-test was used to test each of the 12 null hypotheses at the .05 level of significance. The effect size for each grade level and content area was calculated to determine the strength of the relationship between the test scores of
students from pre-test, prior to the treatment of instructional coaching in Fall 2014, to post-test, after the treatment in Spring 2015.

**Qualitative.** Individual survey results were categorized by the three constructs, and the mean and standard deviation were calculated and analyzed for each construct of instructional coaching best practice to determine if differences existed in perception varied by construct. Construct scores of LWES and LEES were analyzed using a Mann-Whitney U test to compare the perceptions of instructional coaching at LWES to LEES.
Chapter Four

Analysis of the Data

The purpose of this study was to investigate two coaching models implemented at the elementary level, to examine teacher perception of instructional coaching, and to analyze the impact of instructional coaching on student achievement. In this chapter data are presented and analyzed to answer three research questions and 12 null hypotheses. Chapter Four presents data and analysis regarding the coaching models used by both principals represented in the study, teacher perception data on coaching, and student achievement data to determine impact of coaching.

Research Question 1

Research Question 1: How was instructional coaching implemented in two Lawrence County School elementary schools which were focused upon in this study?

Principals at Louisa West and Louisa East Elementary each utilize an instructional coaching model during coaching sessions with teachers following a classroom observation. During the 2014-15 school year, monitoring visits with each principal occurred to collect data regarding the implementation of their coaching models. These monitoring visits focused on two specific data points: percentage of coaching sessions held with those teachers who had received an observation, and percentage of coaching sessions which included next steps or specific recommendations for teacher practice.
Evidence obtained from both schools demonstrates the principals provided timely on-going formal and informal feedback to teachers. Both principals coached all teachers following classroom observations. Field notes and monitoring data collection documents indicated faculty completed 100% of professional growth plans. According to the Educator Development Suite (EDS) housed in the Continuous Improvement Instructional Technology System (CIITS) website for the Lawrence County School District Both principals adhered to the district evaluation system with fidelity completing 100% of required observations for the 2014-15 school year. This data collection focused on the fidelity of implementation of coaching models at the two elementary schools. The data indicated the two principals implemented the coaching model with full fidelity during the 2014-15 school year.

**Research Question 2**

Research Question 2: How do teachers perceive the effectiveness of instructional coaches in terms of improving teacher practice?

Teacher survey responses were collected and analyzed in order to determine teacher perception on instructional coaching. This data addressed survey response data are presented by each of the three constructs represented in the survey: school-wide instructional practices, instructional intervention, and observations and feedback provided to teachers. Tables 5, 6, and 7 provide survey data on the three constructs represented in the survey.
Table 5

*Construct 1: School-Wide Instructional Practices Teacher Survey Responses*

<table>
<thead>
<tr>
<th>Survey Item</th>
<th>LWES (n=13)</th>
<th>LEES (n=23)</th>
<th>Overall (n=36)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Instructional coaching helps me set high standards for my teaching.</td>
<td>3.23 (.44)</td>
<td>3.48 (.59)</td>
<td>3.39 (.55)</td>
</tr>
<tr>
<td>6. Instructional coaching helps me set high standards for student performance in my class.</td>
<td>3.15 (.55)</td>
<td>3.48 (.59)</td>
<td>3.36 (.59)</td>
</tr>
<tr>
<td>Overall for Construct 1:</td>
<td>3.19 (.46)</td>
<td>3.45 (.59)</td>
<td>3.38 (.57)</td>
</tr>
</tbody>
</table>

Two items on the survey fell under the construct of school-wide instructional practices that involved the setting of high standards. The first item asked the participant to determine the level of agreement with the instructional coaching assisting the teacher with setting high standards for teaching practice; whereas, the second statement was to determine if teachers agreed the instructional coach helped to set high standards for student performance. On a scale of 1 to 4 with 4 being strong agree, the overall mean for Construct 1 was 3.4 which overall indicates general agreement among teachers at both schools. Little difference in the mean from LWES and LEES exist for Construct 1.
Table 6

*Construct 2: Instructional Intervention Teacher Survey Responses*

<table>
<thead>
<tr>
<th>Survey Item</th>
<th>LWES (n=13)</th>
<th>LEES (n=23)</th>
<th>Overall (n=36)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Instructional coaching helps me identify and solve problems related to my classroom instruction.</td>
<td>3.08 (.64)</td>
<td>3.39 (.58)</td>
<td>3.28 (.62)</td>
</tr>
<tr>
<td>3. Instructional coaching contributes to the improvement of my classroom instruction.</td>
<td>3.08 (.64)</td>
<td>3.43 (.59)</td>
<td>3.31 (.62)</td>
</tr>
<tr>
<td>4. Instructional coaching assists me with the development of appropriate student learning assessments.</td>
<td>2.69 (.75)</td>
<td>3.26 (.62)</td>
<td>3.06 (.71)</td>
</tr>
<tr>
<td>Overall for Construct 2:</td>
<td>2.94 (.69)</td>
<td>3.36 (.59)</td>
<td>3.21 (.66)</td>
</tr>
</tbody>
</table>

Construct 2 examined coaching and teacher practice. This construct elicited responses as to whether the teacher felt instructional coaching directly affected classroom teacher practice. These statements required teachers to determine if the coach assists with identifying teacher practice issues and providing solutions to area of need. Also, this construct questions if the coach assists with developing student assessments, which were the survey items with the lowest overall mean in the survey results. Construct 2 responses showed the greatest difference in mean by school, with a 0.42 difference between LEES and LWES.
Table 7

**Construct 3: Observation and Feedback Teacher Survey Responses**

<table>
<thead>
<tr>
<th>Survey Item</th>
<th>LWES (n=16)</th>
<th>LEES (n=21)</th>
<th>Overall (n= 37)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Instructional coaching gives me valuable feedback on my classroom practice.</td>
<td>3.15 (.69)</td>
<td>3.52 (.59)</td>
<td>3.39 (.64)</td>
</tr>
<tr>
<td>7. Instructional coaching has enabled me to look more closely at my teaching.</td>
<td>3.46 (.52)</td>
<td>3.57 (.51)</td>
<td>3.53 (.51)</td>
</tr>
<tr>
<td>8. Instructional coaching has enabled me to build on my teaching strengths.</td>
<td>3.23 (.73)</td>
<td>3.39 (.66)</td>
<td>3.33(.68)</td>
</tr>
<tr>
<td>9. Instructional coaching has enabled me to be more reflective of my curriculum, assessment, and instruction practices.</td>
<td>3.23 (.44)</td>
<td>3.48 (.67)</td>
<td>3.39 (.60)</td>
</tr>
<tr>
<td>10. In my school, the instructional coach (principal) observes teachers in the classroom.</td>
<td>3.92 (.28)</td>
<td>3.83 (.39)</td>
<td>3.86 (.35)</td>
</tr>
<tr>
<td>11. In my school, the instructional coach provides teachers feedback following classroom observations.</td>
<td>3.62 (.51)</td>
<td>3.78 (.42)</td>
<td>3.72 (.45)</td>
</tr>
<tr>
<td>Overall for Construct 3:</td>
<td>3.44 (.59)</td>
<td>3.59 (.56)</td>
<td>3.54 (.61)</td>
</tr>
</tbody>
</table>

Construct 3 involved the largest number of survey items. This construct examined if the instructional coach conducted classroom observations. Further, it examined to whether the teachers were provided feedback following the observation. These items required the teachers to make a judgment of the degree the coaching led to self reflection of the areas discussed in the post-observation session.
Table 8

*Overall School Teacher Survey Results by Construct*

<table>
<thead>
<tr>
<th>Construct</th>
<th>LWES (n=16)</th>
<th>LEES (n=21)</th>
<th>Overall (n=37)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construct 1: School-wide instructional practices</td>
<td>3.19 (.46)</td>
<td>3.45 (.59)</td>
<td>3.38 (.57)</td>
</tr>
<tr>
<td>Construct 2: Instructional intervention</td>
<td>2.94 (.69)</td>
<td>3.36 (.59)</td>
<td>3.21 (.66)</td>
</tr>
<tr>
<td>Construct 3: Observation and Feedback</td>
<td>3.44 (.59)</td>
<td>3.59 (.56)</td>
<td>3.54 (.61)</td>
</tr>
<tr>
<td>Overall for all 3 Constructs:</td>
<td>3.19 (.10)</td>
<td>3.48 (.02)</td>
<td>3.38 (.04)</td>
</tr>
</tbody>
</table>

Findings represented on Table 8 indicates teacher responses were primarily favorable on statements regarding coaching in their buildings, which resulted in M=3.38 on a four-point Likert scale for all three constructs. The range of the mean for three constructs was 0.04, which indicated similar mean scores for the majority of the survey responses. The study further examined teacher survey results using a Mann-Whitney U test to compare the responses from LWES and LEES on the three constructs of the survey and on teacher perception of coaching overall.

Table 9 summarizes the results from the Mann-Whitney U test on teacher perception survey responses.
Table 9

*Mann-Whitney U Results Comparing Schools’ Perception on Coaching*

<table>
<thead>
<tr>
<th>Construct</th>
<th>School</th>
<th>n</th>
<th>M</th>
<th>Sum of Ranks</th>
<th>U</th>
<th>Z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>School-wide instructional</td>
<td>LWES</td>
<td>13</td>
<td>14.85</td>
<td>193.00</td>
<td>102.00</td>
<td>-1.70</td>
<td>0.089</td>
</tr>
<tr>
<td>practices</td>
<td>LEES</td>
<td>23</td>
<td>20.57</td>
<td>473.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instructional intervention</td>
<td>LWES</td>
<td>13</td>
<td>13.23</td>
<td>172.00</td>
<td>81.00</td>
<td>-2.36</td>
<td>0.018</td>
</tr>
<tr>
<td></td>
<td>LEES</td>
<td>23</td>
<td>21.48</td>
<td>494.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observation and Feedback</td>
<td>LWES</td>
<td>13</td>
<td>15.73</td>
<td>204.50</td>
<td>113.50</td>
<td>-1.20</td>
<td>0.229</td>
</tr>
<tr>
<td></td>
<td>LEES</td>
<td>23</td>
<td>20.07</td>
<td>461.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>LWES</td>
<td>13</td>
<td>14.23</td>
<td>185.00</td>
<td>94.00</td>
<td>-1.84</td>
<td>0.660</td>
</tr>
<tr>
<td></td>
<td>LEES</td>
<td>23</td>
<td>20.91</td>
<td>481.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

An examination of the findings in Table 9 revealed the results of the Mann-Whitney U tests for the comparison in teacher perception of coaching from LWES and LEES did not show any statistical difference \((Z = -1.84, p = 0.66 > 0.05)\) in the overall perception of instructional coaching between schools on all three constructs combined. Results of the test did not show a statistical difference between the schools on Construct 1, School-wide instructional practices, \((Z = -1.70, p = 0.089 > 0.05)\). On Construct 2, Instructional intervention, response test results showed a statistical difference between the results of teachers at LWES and LEES, \((Z = -2.36, p = 0.018 < 0.05)\). On Construct 3, Observation and Feedback, results indicated no statistical difference between the schools, \((Z = -1.20, p = 0.229 > 0.05)\).
Research Question 3

Research Question 3: What impact has elementary instructional coaching had upon student achievement?

The third research question that guided this study focused on the impact of coaching on student achievement. Twelve null hypotheses were examined using an independent t-test, with a significance level of 0.05, to determine if there was significant difference between the two testing terms for each of the grade level following year-long coaching implementation.

Kindergarten. Two null hypotheses for kindergarten student achievement in reading and math were tested using the RIT scores from the MAP assessments for the fall and spring administrations. Table 10 provides the results of the analysis performed.

H₀₁: There is no significant difference in the performance of kindergarten students on the MAP reading RIT scores after the implementation of coaching at LWES compared to the RIT scores of the same group of students before coaching.

H₀₂: There is no significant difference in the performance of kindergarten students on the MAP math RIT scores after the implementation of coaching at LWES compared to the RIT scores of the same group of students before coaching.
Table 10

*Kindergarten: T-test on Student Results in Reading and Math*

<table>
<thead>
<tr>
<th>Subject</th>
<th>Term</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Math</strong></td>
<td>Fall</td>
<td>142.10</td>
<td>11.41</td>
<td>-34.49</td>
<td>164</td>
<td>.000</td>
<td>1.68</td>
</tr>
<tr>
<td></td>
<td>Spring</td>
<td>161.57</td>
<td>11.74</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Reading</strong></td>
<td>Fall</td>
<td>145.44</td>
<td>9.69</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spring</td>
<td>163.72</td>
<td>12.45</td>
<td>-26.93</td>
<td>164</td>
<td>.000</td>
<td>1.64</td>
</tr>
</tbody>
</table>

**H₀1.** The results of the independent t-test, t(164) = -26.93, p ≤ .001, d = 1.64, indicated that the rejection of the null hypothesis for kindergarten reading was warranted. There was a difference in reading scores between fall (M = 145.44, SD = 9.70) and spring (M = 163.72, SD = 12.45) after instructional coaching had occurred. An examination of the reading score means between the two testing terms showed an increase in performance in reading of 18.28 RIT points. The effect size of 1.64 suggested a high practical significance among kindergarten students in LWES taking the MAP assessment in reading following instructional coaching.

**H₀2.** For kindergarten students in Louisa West Elementary School taking the Measures of Academic Progress (MAP) math assessment, there was a statistically significant difference between students scores from fall to spring following instructional coaching. Results from the t-test, t(164) = -34.49, p ≤ .001, d = 1.68, support the rejection of the null hypothesis. There was a significant increase in the
performance of kindergarten students from fall (M = 142.10, SD = 11.41) to spring
(M = 161.57, SD = 11.74) as indicated by the means of 19.47 RIT points. Cohen’s
effect size value (d = 1.68) suggested a high practical significance at the kindergarten
level in mathematics.

**First Grade.** Two null hypotheses are presented to guide the study on student
achievement data for first grade students in reading and math.

H$_{03}$: There is no significant difference in the performance of first grade students on
the MAP reading RIT scores after the implementation of coaching at LWES
compared to the RIT scores of the same group of students before coaching.

H$_{04}$: There is no significant difference in the performance of first grade students on
the MAP math RIT scores after the implementation of coaching at LWES
compared to the RIT scores of the same group of students before coaching.

**Table 11**

*First Grade: T-test on Student Results in Reading and Math*

<table>
<thead>
<tr>
<th>Subject</th>
<th>Term</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math</td>
<td>Fall</td>
<td>165.50</td>
<td>15.29</td>
<td>-22.64</td>
<td>141</td>
<td>.000</td>
<td>1.14</td>
</tr>
<tr>
<td></td>
<td>Spring</td>
<td>181.77</td>
<td>13.08</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>Fall</td>
<td>166.18</td>
<td>14.71</td>
<td>-12.25</td>
<td>138</td>
<td>.000</td>
<td>0.70</td>
</tr>
<tr>
<td></td>
<td>Spring</td>
<td>176.37</td>
<td>14.27</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Ho3. The t-test result supported the rejection of the null hypothesis, t(138) = -12.25, p ≤ .001, d = 0.70, that there was no difference in reading scores between Fall (M = 166.18, SD = 14.71) and Spring (M = 176.37, SD = 14.27) MAP performances for first grade students in reading. Examination of the means showed an increase in performance in reading of 10.19 RIT points. The analysis of MAP assessment results for first grade students at LWES indicated a moderate to high significant difference between students scores in reading from fall to spring following instructional coaching based on the effect size value (d = 0.70).

Ho4. The t-test results, t(141) = -22.64, p ≤ .001, d = 1.14, supported the rejection of the null hypothesis. The findings indicated that LWES first grade students in mathematics had a statistically significant difference between student RIT scores between the fall (M = 165.50, SD =15.29) and spring (M = 181.77, SD = 13.08) of 16.27 RIT points after instructional coaching had occurred. Cohen’s effect size value (d = 1.14) suggested a high practical significance.

Second Grade. Two null hypotheses were offered for second grade MAP performance in math and reading.

Ho5: There is no significant difference in the performance of second grade students on the MAP reading RIT scores after the implementation of coaching at LEES compared to the RIT scores of the same group of students before coaching.
H₀₆: There is no significant difference in the performance of second grade students on the MAP math RIT scores after the implementation of coaching at LEES compared to the RIT scores of the same group of students before coaching.

Table 12

*Second Grade: T-test on Student Results in Reading and Math*

<table>
<thead>
<tr>
<th>Subject</th>
<th>Term</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math</td>
<td>Fall</td>
<td>182.81</td>
<td>9.95</td>
<td>-11.78</td>
<td>131</td>
<td>.000</td>
<td>0.75</td>
</tr>
<tr>
<td></td>
<td>Spring</td>
<td>190.90</td>
<td>11.45</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>Fall</td>
<td>178.68</td>
<td>16.02</td>
<td>-10.35</td>
<td>132</td>
<td>.000</td>
<td>0.47</td>
</tr>
<tr>
<td></td>
<td>Spring</td>
<td>185.99</td>
<td>15.40</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

H₀₅. The t-test result for second grade students for reading indicated a statistical difference between scores in reading from fall to spring, in Fall (M = 178.68, SD = 16.02) and Spring (M = 185.99, SD = 15.40). Results from the t-test, t(132) = -10.35, p ≤ .001, d = 0.47, led to the rejection of the null hypothesis. There was a statistically moderate significant difference between students’ scores in reading from fall to spring following instructional coaching, suggested by Cohen’s effect size value (d = 0.47 for reading).

H₀₆. Second grade student data at LEES taking the MAP assessment was examined by using an independent t-test which showed a statistically significant difference between students’ scores in math from fall to spring following instructional
coaching based upon the effect size value of 0.75. This effect size indicated a moderate to high practical significance. Data from second grade students reported in Table 12 summarized the following for Fall (M = 182.81, SD = 9.95) and Spring (M = 190.90, SD = 11.46). We reject the null hypothesis that there is no difference in math scores between fall and spring, based on t-test results, \( t(131) = -11.78, p \leq .001, d = 0.75 \).

**Third Grade.** Null hypotheses were presented that no significant difference in student scores from fall to spring would be found for third grade students in reading and math.

**H\( _{07} \):** There is no significant difference in the performance of third grade students on the MAP reading RIT scores after the implementation of coaching at LEES compared to the RIT scores of the same group of students before coaching.

**H\( _{08} \):** There is no significant difference in the performance of third grade students on the MAP math RIT scores after the implementation of coaching at LEES compared to the RIT scores of the same group of students before coaching.
Table 13

Third Grade: T-test on Student Results in Reading and Math

<table>
<thead>
<tr>
<th>Subject</th>
<th>Term</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math</td>
<td>Fall</td>
<td>194.53</td>
<td>9.17</td>
<td>-17.80</td>
<td>130</td>
<td>.000</td>
<td>1.08</td>
</tr>
<tr>
<td></td>
<td>Spring</td>
<td>204.47</td>
<td>9.25</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>Fall</td>
<td>193.92</td>
<td>15.31</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spring</td>
<td>200.52</td>
<td>15.37</td>
<td>-10.15</td>
<td>131</td>
<td>.000</td>
<td>0.43</td>
</tr>
</tbody>
</table>

**H7.** Among third grade students in LEES taking the MAP, there was also statistically significant difference between students scores in reading from Fall to Spring following instructional coaching, as proven by t-test results, $t(131) = -10.15$, $p \leq .001$, $d = 0.43$. Cohen’s effect size value of 0.43 shows a moderate practical significance. Student achievement results in fall ($M = 193.92$, $SD = 15.30$) and spring ($M = 200.51$, $SD = 15.37$) for third grade students for reading indicated a statistical difference between scores in reading from fall to spring. Analysis of the mean showed an increase in performance in reading of 6.6 points in the mean RIT score. The null hypothesis that there is no difference in reading scores between fall and spring is rejected. Cohen’s effect size value ($d = 0.43$ for reading) suggested a moderate practical significance.

**H8.** The null hypothesis that there is no difference in math scores between fall and spring after instructional coaching has occurred is also rejected for LEES
third grade students taking the MAP assessment, due to a statistically significant difference between students scores in math from fall to spring. Data from third grade students for math indicate a statistical difference between scores in mathematics from Fall to Spring, in Fall (M = 194.53, SD = 9.17) and Spring (M = 204.47, SD = 9.25). The results from conducting an independent t-test, \( t(130) = -17.80, p \leq .001, d = 1.08 \), suggested a high practical significance based on the effect size of \( d = 1.08 \).

**Fourth Grade.** Two null hypotheses guided the study of the impact on student achievement that focused on fourth graders at LEES:

\( H_{o9} \): There is no significant difference in the performance of fourth grade students on the MAP reading RIT scores after the implementation of coaching at LEES compared to the RIT scores of the same group of students before coaching.

\( H_{o10} \): There is no significant difference in the performance of fourth grade students on the MAP math RIT scores after the implementation of coaching at LEES compared to the RIT scores of the same group of students before coaching.
Table 14

*Fourth Grade: T-test on Student Results in Reading and Math*

<table>
<thead>
<tr>
<th>Subject</th>
<th>Term</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math</td>
<td>Fall</td>
<td>203.85</td>
<td>9.86</td>
<td>-14.85</td>
<td>122</td>
<td>.000</td>
<td>0.93</td>
</tr>
<tr>
<td></td>
<td>Spring</td>
<td>213.78</td>
<td>11.48</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>Fall</td>
<td>202.72</td>
<td>15.47</td>
<td>-8.60</td>
<td>118</td>
<td>.000</td>
<td>0.37</td>
</tr>
<tr>
<td></td>
<td>Spring</td>
<td>208.38</td>
<td>14.79</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**H₉.** Data from fourth grade students for reading indicated a statistical difference between scores in reading from fall, (M = 202.72, SD = 15.47), to spring, (M = 208.38, SD = 14.79). T-test results, t(118) = -8.60, p≤.001, d = 0.37, established there was a statistically significant difference between LEES fourth grade students taking MAP in reading from fall to spring following instructional coaching. Therefore, we reject the null hypothesis that there is no difference in reading scores between fall and spring after instructional coaching has occurred. Cohen’s effect size value (d = 0.37 for reading) suggested a moderate practical significance.

**H₁₀.** There was a statistically significant difference between student scores in Math from fall, (M=203.85, SD=9.87), to spring, (M=213.78, SD=11.48), among fourth grade students at LEES taking the MAP assessment. Independent t-test results indicated a statistical difference between scores in mathematics from fall to spring. The null hypothesis is rejected that there is no difference in math scores between fall
and spring after instructional coaching has occurred. Cohen’s effect size value \( d = 0.93 \) for math) suggested a high significance.

**Fifth Grade.** The final two null hypotheses presented in this study were as follows:

- **H\(_0\)11:** There is no significant difference in the performance of fifth grade students on the MAP reading RIT scores after the implementation of coaching at LEES compared to the RIT scores of the same group of students before coaching.

- **H\(_0\)12:** There is no significant difference in the performance of fifth grade students on the MAP math RIT scores after the implementation of coaching at LEES compared to the RIT scores of the same group of students before coaching.

<table>
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<tr>
<th>Table 15</th>
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</table>

**Fifth grade: T-test on Student Results in Reading and Math**

<table>
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<th>Term</th>
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<th>SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math</td>
<td>Fall</td>
<td>211.97</td>
<td>12.78</td>
<td>-12.71</td>
<td>134</td>
<td>.000</td>
<td>0.64</td>
</tr>
<tr>
<td></td>
<td>Spring</td>
<td>220.64</td>
<td>14.12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>Fall</td>
<td>207.91</td>
<td>14.99</td>
<td>-8.10</td>
<td>132</td>
<td>.000</td>
<td>0.44</td>
</tr>
<tr>
<td></td>
<td>Spring</td>
<td>214.16</td>
<td>13.61</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**H\(_0\)11.** The null hypothesis is rejected that there is no significance difference in reading scores of LEES fifth graders on the MAP assessment between fall, \( M = 207.91, SD = 14.99 \), and Spring, \( M = 214.16, SD = 13.61 \), after instructional
coaching has occurred. Cohen’s effect size of 0.64 indicated a moderate to high practical significance. T-test results for fifth grade students at LEES on MAP in reading in fall and spring, \( t(132) = 8.10, p \leq 0.001, d = 0.44 \), indicated a statistically significant difference between fall and spring scores.

**H_{12}.** The rejection of the null hypothesis was warranted for LEES fifth grade students taking the MAP assessment in math. The fall performance in math, \( (M = 211.96, SD = 12.78) \), was significantly less than the spring, \( (M = 220.64, SD = 14.17) \), \( t(134)=12.71, p \leq 0.001, d=0.64 \). The effect size of 0.64 indicated a moderate to high practical significance.

**Summary of Findings**

Three research questions guided this study focusing on coaching models used at the elementary level, teacher perception of instructional coaching, and impact of instructional coaching on student achievement. The study examined how two principals implemented two coaching models respectively at their elementary schools. Data indicated both principals implemented their chosen coaching models with fidelity, which consisted of principals conducting instructional coaching sessions with teachers following classroom observations, determining next steps for teacher practice. Teacher perception data analysis determined a high overall mean of 3.4 on a scale of 1 to 4 indicating agreement with survey coaching statements. This mean indicated that on average when teachers were presented with statements regarding coaching overall results are favorable. No statistical difference was found in teacher
perception on coaching as indicated by the results of the Mann-Whitney U test on survey results from the LWES and LEES teachers.

The examination of the results provided support for two perspectives. First, there was a statistical significant difference in reading student achievement scores on the MAP assessment for all students in grades kindergarten and first grade at LWES and students in grades second through fifth grade at LEES following instructional coaching being provided to teachers. Figure 1 displays the average mean scores for each grade level by testing term for reading at LWES and LEES.

![Figure 1: Reading Achievement Results – MAP Grades K-5 Fall 2014-Spring 2015](image)

Secondly, there was a statistical difference in reading student achievement scores on the MAP assessment for all grades kindergarten and first grade at LWES and second through fifth grade students at LEES following instructional coaching being provided to teachers. Figure 2 displays the achievement data for all students in kindergarten through fifth grade for math from Fall 2014 to Spring 2015.
Figure 2: Math Achievement Results – MAP Grades K-5 Fall 2014-Spring 2015

Both reading and math scores for all grades kindergarten through fifth grade increased from fall to spring. All t-test results indicated a statistically significant difference in scores from students in the fall to scores in the spring following the implementation of instructional coaching. The effect size for each analysis indicated a moderate to high practical significance. Therefore, all twelve hypotheses are rejected.
Chapter Five

Interpretation, Implications, and Conclusions

The purpose of this study was to investigate two coaching models used at two elementary schools, to analyze teacher perception, and to examine the impact of instructional coaching on student results. The research questions for this study examined how was instructional coaching models implemented in two Lawrence County School elementary schools; teacher perception of instructional coaching in terms of improving teacher practice; and the impact of instructional coaching upon student achievement in reading and mathematics.

This chapter discusses the findings of the study. First, a summary is presented of the research findings within the context of the research questions and hypotheses. Interpretations and implications for improvement are then discussed, along with limitations, delimitations and assumptions of the study included in this chapter, Finally, recommendations for further research, next steps, and future actions are suggested.

Summary of Results and Findings

Two elementary schools were identified for the study, Louisa West Elementary School and Louisa East Elementary School. Principals of these schools provide instructional coaching to teachers following classrooms observations. Coaching occurs during a face-to-face coaching session focusing upon the principal’s findings during a classroom observation of the teacher. Each principal utilizes a different instructional coaching process in her building. The principal at Louisa West
Elementary School used a reflective questioning model while the principal at Louisa East Elementary School coached teachers using the more directive plus-delta-next steps process. Data indicated that both principals regularly observe teachers in classroom settings. Findings provide evidence that both principals implemented the respective coaching model with fidelity in their school. This portion of the study focused on the research question of how coaching models are implemented in an elementary school.

Teacher perception of instructional coaching was studied by eliciting responses on a survey from teachers at both schools. Teachers were asked to voluntarily participate in a survey that assessed their perception of the instructional coaching provided by the principal. The electronic survey was provided via email to the teachers. The survey consisted of 11 Likert-scale items focusing on three constructs of coaching: (1) school-wide instructional practice; (2) instructional intervention regarding teacher practice in classroom; and (3) teacher observations/feedback provided by an instructional coach, which in this study was the principal. Each survey item directly related to one of the three constructs. Data from teacher perception responses were analyzed to examine teacher perception. A comparison of teacher perception data between LWES and LEES was analyzed to determine if there was a statistical difference between the schools. Analysis concluded there was no statistical significance difference between teacher perception at LWES and LEES. Descriptive statistics analysis indicated the average teacher perception of instructional coaching was favorable on a scale of 1 to 4, finding high
percentage of teachers in agreement with favorable statements on instructional coaching.

Twelve null hypotheses guided this study to determine the impact of instructional coaching on student achievement. The students in both schools were administered the Measures of Academic Progress (MAP) assessment in math and reading. The assessment was administered in Fall 2014 prior to the instructional coaching method being implemented. The second administration of the assessment occurred the following Spring 2015 following the implementation of instructional coaching with all teachers in both schools. A null hypothesis for each grade level for each subject area guided the study of all students, kindergarten through fifth grade, in both reading and math. The null hypotheses \( (H_0,1-H_0,12) \) examining student achievement were analyzed with \( t \)-tests and rejected. There was a statistical difference in all grades for both reading and math in student achievement which increased from Fall 2014 to Spring 2015 after instructional coaching occurred.

**Interpretations**

This study provided a research base for the impact of teacher practice on student achievement. In order to improve teacher practice, the classroom must become a laboratory of action research, where classroom observations are conducted not only for evaluative purposes, but also to analyze teacher practice and to diagnose areas of growth, and from that diagnosis, to provide teachers support and professional learning to address the growth needs. This can best be accomplished through instructional coaching. This study focused on the principal as instructional coach.
Even though the principal serves as the primary evaluator for the majority of teachers in the school, instructional coaching may occur as a natural part of the process to address the needs of the teacher. Principals, as we have learned in this study, must have the skill to observe a classroom and be able to accurately diagnose potential areas of growth. Instructional coaching enables the principal to facilitate face-to-face conversations with teachers to discuss the observation and determine not only the general area of improvement needed but also the type of support, which would best suit the teacher’s needs. Teacher reflection is also a part of this coaching process.

The results supported the rejection of all null hypotheses, which asserted there was not a statistical difference in the scores of students, kindergarten through fifth grade, from Fall 2014 to Spring 2015 following the implementation of instructional coaching. While it cannot be strictly tied to the impact of the coaching, student growth was practically significant based upon the calculated effect size for each analysis. In addition, descriptive statistics from the data on teacher perception of instructional coaching indicated agreement among the majority of teachers. The teachers saw instructional coaching as an effective way of improving classroom instruction, developing of instructional materials, and differentiating to address individual student needs. Implementation of instructional coaching with fidelity was studied in addition to perception and student achievement. All answers to the three research questions led to the findings that coaching is being implemented in the two elementary schools following classroom observations, teacher perception is high overall based on three constructs of coaching, and a statistical significant difference
exists between student achievement scores in Fall 2014 to Spring 2015. Therefore, from these findings, the assertion can be made that instructional coaching of teachers does have an impact on student achievement.

Implications for Improvement

Principals at both elementary schools utilize a specific coaching model with fidelity. One area of improvement to advance their coaching efforts might be the use of other coaching models that are chosen to align to the needs of the teacher. The reflective model primarily depends upon the teacher to self-reflect upon the observation using questions provided to serve as the catalyst for the self-reflection. Therefore, it might be beneficial for the principal in some cases to use a more directive approach that are aligned to the teacher needs. Certainly, self-reflection is always a part of growth, but if the principal deems specific changes are needed in teacher practice, a more directive coaching model that allows more guidance from the principal might be of value. In contrast, the principal who implores a more directive approach may deem it appropriate to use a more reflective approach with teachers in certain circumstances having the teacher use guided self-reflection on certain areas of teaching. The implication is for the principals that participated in this capstone to continue their coaching models effort but to extend those efforts by exploring other coaching models to align the coaching model to the specific needs of the teacher.

Limitations, Delimitations, Assumptions

Limitation. Limitations of this study which have the greatest potential impact on the quality of the findings and answers to the research questions and/or hypotheses
include sampling on the teacher perception survey, the use of one student achievement measure, and the inability to eliminate other factors which may have contributed to student growth.

Since a sample of convenience was used for the teacher perception survey as opposed to a random sample, then the results of this study cannot be generally applied to a larger population, only suggested. Participants in the survey for this study were limited to the two schools, as a result, a wide random sample was not utilized. Therefore, it cannot be concluded that teacher perception of instructional coaching holds true for the general population.

Another limitation in the lack of comparison of the two coaching models. There was no determination of which coaching model was more successful or had a greater impact on student achievement. No analysis between the reflective and directive model was conducted. This capstone only looked at the implementation of the two coaching models in two elementary schools with different grade configurations.

A final limitation on the study was the survey process. Since the survey elicited anonymous responses, it is impossible to ensure that some staff members did not participate more than once. In addition, it is difficult to ensure that teachers provided responses which accurately expressed their view toward coaching due to their immediate supervisor serving as the instructional coach.

**Delimitation.** A delimitation included the decision to focus solely on elementary instructional coaching, which could limit findings regarding generalizing
to a larger population. This study focused only on elementary principals. Therefore, other grade level coaching and its impact on student achievement is not within the scope of this study. This study examined the impact of coaching on student achievement but other factors may have affected the findings. Other factors could have influenced the student achievement outcomes such as teacher practice, intervention, and student development.

Another delimitation for this study involved the selection of the two principals in the school district. While other principals in the district utilized instructional coaching with staff, these two principals demonstrated 100% fidelity of coaching sessions provided following classroom observations. Therefore, these two principals selected were the best representatives for evaluating instructional coaching in the district.

A final delimitation of the study was the inclusion of only elementary grade levels. No middle or high schools were included, therefore, no data are available to determine the coaching models used at the middle and high levels, teacher perception of coaching at the middle and high levels, and whether or not coaching impacts student achievement in middle and high schools.

**Assumption.** A few assumptions were relevant to this study. Principal and teacher participation in the study was willingly accepted by the school culture. Principals conducted coaching sessions following classroom observations as coaching notes indicated even when the follow-up meetings were not observed by the
researcher. Teachers provided truthful and accurate responses on perception survey based on instructional coaching by principal.

**Recommendations**

As a result of this study, the following recommendations are made:

1. Continued professional development for principals in instructional coaching protocols.
2. District support for principals from district office on conducting classroom observations, providing coaching to teachers, and determining teacher growth needs.
3. Time management support for principals from district office. During monitoring visits, both principals cited time as a barrier to the coaching process, stating that other management duties took time away from the instructional process.

**Future Actions**

Future actions for this research is to expand the instructional coaching process into all schools within the district. This study provided an investigation of the impact of coaching on student achievement and additionally provided data on how teachers in these two elementary schools perceive the coaching process. Including the other schools and examining the perception of the teachers would gain valuable information in regards to the overall impact of instructional coaching in the district. Continued professional learning is a priority for the district in order to provide professional training for the staff and to provide modeling experiences and job-
embedded professional development. This would not only give principals the opportunity to become adept at evaluating teacher performance but to also become skilled in coaching for teacher professional growth. In addition, the monitoring of next steps following the coaching session would ensure the process is actually affecting teacher practice. Instructional coaching should serve as the catalyst for professional growth in teachers. Teacher practice should reflect adjustments or have been influenced by the coaching session. These changes should be observable and measureable in order to gauge the success of the coaching program.

In addition to the continued work on instructional coaching, a need exists in our district to statistically analyze data. Typically, the analysis of student achievement has been gauged on the mean or the amount of growth. This study demonstrated the need to examine data using statistical methods in order to truly know if significant or practical change in student achievement has occurred. Therefore, a future action from this study will be to use the statistical methods present in the study in the district’s analysis of student achievement.

Reflections

During this study, I have been able to self-reflect on my role as it pertains to principal leadership. Principals play a tremendous role in improving teacher practice. Their role is to serve as not only a supervisor but also as a support to teachers in their professional growth. As a district administrator, this study has emphasized the need for me to provide principals the support they need in regard to instructional coaching. This study has revealed the need to ensure principals are able to accurately diagnose
teacher needs and then provide the support which specifically meets the unique needs of individual teachers. In addition, I have learned the importance of statistically analyzing data, especially student data. It is not enough to calculate the mean to determine if growth has occurred or just look for patterns of change. A deeper analysis is necessary in order to gauge real student progress. Over the course of this capstone, I have been able to transfer the research into my role in the district and have a greater insight into teaching and learning. This study has enabled me to grow as a professional and to put this new found knowledge into everyday practice.
REFERENCES


doi:10.1177/019263651246988


doi:10.1177/0013161X12443258


*Educational Leadership, 69*(2), 10-16.


Retrieved on June 9, 2015 from

http://www.census.gov/did/www/saipe/data/interactive


Retrieved on June 9, 2015 from

https://www.census.gov/hhes/socdemo/education/data/cps/2013/tables.html

U.S. Census Bureau. (2014). State and county quickfacts: Lawrence County, KY.

Retrieved on June 9, 2015 from

www.quickfacts.census.gov/qfd/states/21/21127/html


www2.ed.gov/programs/ratctothetop/faq.html


www.kentucky.com/2010


*Education Digest, 75*(2), 31.


Appendix A

**Instructional Coaching Survey**

You are requested to participate in research regarding instructional coaching. This survey should take about 3 to 5 minutes to complete. Participation is voluntary and responses will be kept anonymous. Your school has been chosen to participate based upon school leadership initiatives with instructional coaching. The results of this survey in no way serves as an evaluation of school personnel or leadership. It is only a means to learn more about teacher perception of instructional coaching.

When answering, please keep in mind 1=Strongly Disagree; 2=Disagree; 3=Agree; 4=Strongly Agree.

Submission of the completed survey will be interpreted as your informed consent to participate and that you affirm that you are at least 18 years of age.

If you have any questions about the research, please contact Cassandra Webb via email at cassandra.webb@lawrence.kyschools.us or Dr. Michael Kessinger at m.kessinger@moreheadstate.edu.

* Required

**School:**
- Louisa West Elementary School
- Louisa East Elementary School

1. **Instructional coaching helps me set high standards for my teaching.** *
   1=Strong Disagree; 2=Disagree; 3=Agree; 4=Strongly Agree

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<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<tbody>
<tr>
<td>Strongly Disagree</td>
<td>Strongly Agree</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

2. **Instructional coaching helps me identify and solve problems related to my classroom instruction.** *
   1=Strong Disagree; 2=Disagree; 3=Agree; 4=Strongly Agree

<table>
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<tr>
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<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>Strongly Agree</td>
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</table>
3. Instructional coaching contributes to the improvement of my classroom instruction. *
1=Strong Disagree; 2=Disagree; 3=Agree; 4=Strongly Agree

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<td>Strongly Disagree</td>
<td>Strongly Agree</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Instructional coaching assists me with the development of appropriate student learning assessments. *
1=Strong Disagree; 2=Disagree; 3=Agree; 4=Strongly Agree

<table>
<thead>
<tr>
<th>1</th>
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<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>Strongly Agree</td>
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</tbody>
</table>

5. Instructional coaching give me valuable feedback on my classroom practices. *
1=Strong Disagree; 2=Disagree; 3=Agree; 4=Strongly Agree

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Strongly Agree</td>
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6. Instructional coaching helps me set high standards for student performance in my classroom. *
1=Strong Disagree; 2=Disagree; 3=Agree; 4=Strongly Agree

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<th>1</th>
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<th>3</th>
<th>4</th>
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7. Instructional coaching has enabled me to look more closely at my teaching. *
1=Strong Disagree; 2=Disagree; 3=Agree; 4=Strongly Agree

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8. Instructional coaching has enabled me to build on my teaching strengths. *
1=Strong Disagree; 2=Disagree; 3=Agree; 4=Strongly Agree

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<thead>
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<tr>
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<td>Strongly Agree</td>
<td></td>
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</table>
9. **Instructional coaching has helped me be more reflective of my curriculum, instruction, and assessment practices.**

   1=Strong Disagree; 2=Disagree; 3=Agree; 4=Strongly Agree

<table>
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</table>

10. **In my school, the instructional coach (principal) observes teachers in the classroom.**

   1=Strong Disagree; 2=Disagree; 3=Agree; 4=Strongly Agree

<table>
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11. **In my school, the instructional coach provides teachers feedback following classroom observations.**

   1=Strong Disagree; 2=Disagree; 3=Agree; 4=Strongly Agree

<table>
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</table>
VITA

CASSANDRA H. WEBB

EDUCATION

May, 1992
Bachelor of Arts
University of Kentucky
Lexington, Kentucky

August, 1994
Master of Arts
Morehead State University
Morehead, Kentucky

Pending
Doctor of Education
Morehead State University
Morehead, Kentucky

PROFESSIONAL EXPERIENCES

2007-present
Chief Academic Officer
Lawrence County Schools
Louisa, Kentucky

2005-2007
District Director of Career-Technical Education
Lawrence County Schools
Louisa, Kentucky

2000-2005
Principal
Lawrence County High School
Louisa, Kentucky

1997-2000
Assistant/Vocational Principal
Lawrence County High School
Louisa, Kentucky
1996-1997  
Guidance Counselor  
KY TECH - Mayo Regional Technology Center  
Paintsville, Kentucky

1994-1996  
Guidance Counselor  
Lawrence County High School  
Louisa, Kentucky

1992-1994  
Teacher - English, Journalism  
Lawrence County High School  
Louisa, Kentucky