A CORRELATIONAL STUDY OF THE MOTIVATION AND ENGAGEMENT IN
TEACHERS: EXPERIENCE AND EFFECTIVENESS

by

Cynthia A. Phillips

Liberty University

A Dissertation Presented in Partial Fulfillment
Of the Requirements for the Degree

Doctor of Education

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APPROVED BY:

Linda L. Holcomb, EdD, Committee Chair

Reginald Kimball, EdD, Committee Member

Lindsay B. Masland, PhD, Committee Member

Scott Watson, PhD, Associate Dean, Advanced Programs
ABSTRACT
The purpose of this correlational study was to determine if there is a relationship between the motivation and engagement level of induction (first four years) teachers as compared to veteran (five or more years) teachers using the overall score on the Teacher Keys Effectiveness System (TKES, 2013) and the Motivation and Engagement Scale (MES-W, 2012) developed by Martin (2012). Teachers from four participating districts located in northeast Georgia were divided into two groups based on years of teaching experience. Both groups participated in an online survey (MES-W, 2012), which collected demographic data as well as responses to the MES-W survey. School districts provided the researcher with the TKES overall score data. Data were analyzed using a series of statistical analyses, which included ANCOVA, t-tests, correlations, and multiple regressions. The MES-W (2012) results and the TKES overall scores were analyzed to investigate the relationship of motivation and engagement and the number of years of experience of the respondents. There was not a statistically significant relationship found between the criterion variable of the MES-W and the predictor variables of years of experience for the two groups (induction level n = 35; veteran level n = 126). A variety of limitations and implications were presented along with suggested future research opportunities.

Keywords: Motivation, engagement, self-efficacy, self-determination, autonomy, intrinsic, extrinsic
Dedication and Acknowledgements

“For I know the plans I have for you,” declares the LORD, “plans to prosper you and not to harm you, plans to give you hope and a future” (Jeremiah 29:11, New International Version).

I would like to give thanks and praise to my Lord and Savior, Jesus Christ. As a Christian and an educator, the only things I have accomplished in this life have been through God’s provision and grace.

This dissertation is dedicated to my husband, David, whose support (including endless meals and chauffeur services) enabled me to pursue this dream. I also acknowledge and thank my children, Courtney P. Callicutt (and son-in-law Joshua) and Grayson Phillips (and daughter-in-law Victoria) for believing in me, encouraging me, and supporting me.

I especially give thanks and appreciation to Dr. Linda Holcomb for her patience and guidance and Dr. Gary Adams for his tireless efforts as my research consultant.
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List of Abbreviations

MES-W - Motivation and Engagement Scale, Martin (2012).

TAPS – Teacher Assessment on Performance Standards, the performance evaluation portion of the Teacher Keys Effectiveness System (GaDOE, 2013).

TKES—Teacher Keys Effectiveness System, Georgia’s new evaluation system for teachers (GaDOE, 2013).
CHAPTER ONE: INTRODUCTION

Teacher burnout has become a costly and damaging phenomenon for school districts across the nation (Williams, 2015). How big of an issue is teacher burnout? According to The National Commission on Teaching and America’s Future (NCTAF, 2015), 46% of new teachers leave the profession within the first five years. This was calculated to be a loss of about $7.3 billion a year for teacher attrition (NCTAF, 2015). What has caused teacher burnout?

The quality of the workforce within a school or school district has a direct impact on the performance outcomes of the students. The first major piece of research that resounded throughout the country, entitled A Nation at Risk: The Imperative for Educational Reform of 1983, shed light on the issue of the quality of education in the United States and began the first view into the quality of individual teachers. The research (Nation at Risk, 1983) showed teacher quality to be an important factor in student achievement. It further indicated that teacher effectiveness encompassed more than content knowledge and pedagogy (Kroth, 2007; Kurtz & Knight, 2003; Wilson, 2009; Zhang & Bartol, 2010). In fact, Kroth (2007) determined that one particular skill that successful teachers must possess is the ability to motivate. Wilson (2009) reported that the effectiveness of a teacher was also influenced by the context of a teacher’s work. If teacher effectiveness mattered to such an extent, then students who had poor quality teachers who lacked the necessary skills to motivate and teach effectively were at a disadvantage (Akey, 2006; Demir, 2004; Kurtz & Knight, 2003; Martin 2007; Zhang & Bartol, 2010). Kroth (2007) further stated that although the ability to motivate students was essential to teacher effectiveness, most beginning teachers did not have the proper preparation and skills to motivate and engage learners.
The motivation and engagement level of the students could be distinctively connected to the motivation and engagement displayed in the classroom by the teachers (Akey, 2006; Kuh, 2007; Redding & Walberg, 2012). Challenges in education have emerged as the Elementary and Secondary Education Act of 2001, also known as No Child Left Behind (NCLB), presented rigorous assessment and annual measurable objectives (AMOs) for school districts, which resulted in a score known as Adequate Yearly Progress (AYP). Additionally, a value-added evaluation model, such as Georgia’s new Teacher Keys Effectiveness System (TKES, 2012), placed much higher stakes on evaluating the effectiveness of teachers. The Georgia Professional Standards Commission (2006) provided data concerning the current and future workforce needs for the state of Georgia, which outlined a severe teacher shortage by 2020. Unmotivated students provided a unique challenge to improving student achievement and learning, so how much of this outcome could be attributed to the teacher’s own motivation and engagement level (Akey, 2006; Kuh, 2007; Redding & Walberg, 2012)? As a result of improved motivation and engagement, students developed higher self-efficacy skills. Research shows that enhanced intrinsic motivation has a direct correlation on student achievement (Akey, 2006; Kuh, 2007; Redding & Walberg, 2012). Motivation and engagement are not determined by reward and punishment, but are influenced by emotions and cognitive abilities (Akey, 2006; Redding & Walberg, 2012). Therefore, a study of the motivation and engagement levels of the induction (first four years) level and veteran (five or more years) teachers provided insight into the relationship of teacher effectiveness and the TKES (2012). Since the burnout rate for about 44% of Georgia’s teachers is between three to five years, a study of the motivation and engagement levels could provide the insight needed to stop the attrition rate. By separating the research participants into two categories, induction level (first four years) and veteran (five or more)
years, insight into why teachers chose to leave the field of education prematurely could be gained. One area in which there is a dearth of empirical research is whether or not the teachers’ levels of experience correlated with their motivation and engagement levels. This provided an important research opportunity that was worth investigating.

**Background**

Ensuring all students are taught by a highly effective teacher is one of the main objectives for schools and school districts (Deci, Koestner, & Ryan, 2001). In fact, public education has generally operated under the premise that a high school diploma was vital for college and/or career readiness. Hattie (2009) conducted a meta-analysis of student achievement and found that the influences on student achievement included a variety of factors. Students’ home life experiences, for example, played a large role in achievement outcomes. These home life experiences included tertiary factors such as socioeconomic status and parents’ educational level. Another factor was the innate mental ability of students, which included a particular capacity to learn certain content areas at high levels. Additionally, the influence of the teacher was highly correlated to student achievement success. Another contributing factor was the self-efficacy level of students, which was attributed to motivation and engagement levels (Hattie, 2009; Appleton, Christenson, & Furlong, 2008). Undoubtedly there is a strong relationship between student motivation and achievement levels, as documented in a vast amount of research studies. However, with the advent of value-added teacher evaluation instruments tied to student growth (TKES, 2013), teacher effectiveness is also an imperative for motivation and engagement (Akey, 2006; Demir, 2011; Garcia-Reid et al., 2005; Mercer & DeRosier, 2010).

Despite the plethora of research about the factors that influence student achievement levels, the national view was that increased student achievement was the result of increased
accountability (Appleton et al., 2008; Hattie, 2009). The big stick, Adequate Yearly Progress (AYP) as determined by the Federal Department of Education, set national benchmarks toward the goal of 100% of students meeting grade level standards and graduating from high school by the year 2014-2015 (ESEA, 2001). Teachers must manage the learning environment, motivate the students, encourage the parents, and provide adequate support for teaching and learning. For teachers, the job description often encompassed the “ability to enlist, mobilize, and motivate others to apply their abilities and resources to a given cause” (Eyal & Roth, 2010, p. 256).

The environment of accountability has caused impediments in teaching higher level thinking skills. “By engaged learning, we mean that all student activities involve active cognitive processes such as creating, problem-solving, reasoning, decision-making, and evaluation” (Kearsley & Shneiderman, 1999, p. 1). More often than not, the environment of a school did not allow for a great deal of autonomy, either on the part of the students or the adults in the building. State, federal and local regulations seemed to translate into rigid and strict rules governing thoughts and actions of the school district. Trilling (2010) also explored the process of critical thinking, questioning, and problem solving skills, and how this inquiry based learning positively influences motivation and engagement. Views into classrooms and school buildings across the nation are reminiscent of the educational system in place a hundred years ago. Even with the addition of 21st century technology, motivation and engagement levels among students and adults in the classrooms are stagnant (Kurtz & Knight, 2003; Zhang & Bartol, 2010).

Identifying characteristics of motivation and engagement provides the impetus for improving motivation and engagement among both students and adults in a school building. According to Demir (2001), teachers are an important influence in how motivated and engaged students are in the classroom. Research into intrinsic and extrinsic motivation among teachers
(Akey, 2006; Demir, 2004; Kurtz & Knight, 2003; Martin 2007; Zhang & Bartol, 2010) showed that the working conditions, teacher job satisfaction, and the teachers’ commitment to the job affected teacher absenteeism. In addition, many teachers who chose to leave the profession cited similar reasons for disengagement (Demir, 2001).

Consequently, the motivation level of teachers predicted engagement of both teachers and students (Demir, 2001). This research focused primarily on the self-determination theory, which examined personality in relation to motivation, and relied on choice and sense of freedom in decision making to improve intrinsic motivation. For example, the self-determination level of the individual teacher was correlated to the engagement level of the students. The study indicated that about 64% of the variance in student engagement was the result of an increase in intrinsic motivation of the teachers.

Students who perceived the teachers cared about them and took the time to build a positive relationship with them were more cognitively engaged in their own learning (Akey, 2006; Demir, 2011; Garcia-Reid et al., 2005; Mercer & DeRosier, 2010). Research also indicated classrooms with established clear expectations exhibited higher engagement levels among students and teachers (Akey, 2006; Mercer & DeRosier, 2010). A research study by Hufton, Elliott, and Illushin (2002) determined students who displayed characteristics of engagement and motivation, such as self-satisfaction and positive attitudes about school, displayed higher achievement scores. This postulated that intrinsic behaviors, such as positive attitudes, are correlated to engagement and motivation. Johnson (2008) indicated that teachers who employed non-traditional strategies to influence student achievement, such as group decision-making and independent work, provided conditions to improve motivation and engagement. Research also indicated that choice provided higher levels of self-efficacy and
resulted in higher levels of engagement (Deci, Koestner, & Ryan, 2001; Eyal & Roth, 2010; Green, Nelson, Martin, & Marsh, 2006). Teachers influence motivation and engagement through the development of self-efficacy skills among stakeholders (Lewandowski, 2005; Martin, 2005).

Martin (2006) conducted research on teacher motivation and discovered that content competency rather than pedagogy influenced teacher motivation and engagement. This research also indicated that the teacher’s perception of motivation and engagement is related to his or her own enjoyment and satisfaction in teaching. Green, et al. (2006) concluded that self-concept is a key factor in motivated and engaged learners.

Three significant themes seemed to be evident in the previous research on motivation and engagement. First, all studies reviewed indicated a strong relationship between motivation and engagement and improved student achievement (Akey, 2006; Deci et al., 2001; Demir, 2011; Eyal & Roth, 2010; Green et al., 2006; Lewandowski, 2005;). Second, self-efficacy pointed to beliefs about learning and improved student achievement (Akey, 2006; Appleton et al., 2008; Garcia-Reid et al., 2005; Kearsley & Shneiderman, 1999). Third, relational learning, which included skills such as critical thinking and problem solving around relevant, real world issues, positively correlated to engagement and motivation (Deci et al., 2001; Eyal & Roth, 2010; Green et al., 2000). The gap in the literature indicated, however, that there was limited current research on the motivation and engagement levels of the teachers and how this related to burnout and teacher attrition.

**Problem Statement**

There is a plethora of research concerning student engagement; however, the gap in the literature showed little empirical research concerning the impact of teacher experience levels on motivation and engagement. Teachers manage the learning environment, motivate the students,
encourage the parents, and provide adequate support for struggling learners (Corrigan & Chapman, 2008; Demir, 2011; Eyal & Roth, 2010). Many teachers are leaving the profession prematurely, leading to a nearly 44% attrition rate in teachers leaving the profession within the first five years (Akey, 2006; Appleton et al., 2008; Demir, 2011; Garcia-Reid et al., 2005; Kearsley & Shneiderman, 1999). In the state of Georgia, teachers participate in a new evaluation system; Teacher Keys Effectiveness System (TKES, 2013), which outlines ten standards that measure the effectiveness of teachers in the classroom. The TKES system is a value-added evaluation system, in which teachers are scored on the Teacher Assessment Performance Standards (TAPS) and growth in student achievement. The value added assessment model has changed the environment of teacher evaluation, so there are no current data to determine the effect of the TKES on teacher motivation.

**Purpose Statement**

The purpose of this predictive correlational study was to investigate the relationship between the motivation and engagement level of induction (first four years) and veteran level (five or more years) as measured by the MES-W and the overall score on the TKES (2013). The Self-Determination Theory (Deci & Ryan, 2000), which focuses on the interplay of the intrinsic and extrinsic motivation of individuals to affect growth and psychological needs, provided the framework for this research study. The variables of interest, motivation and engagement, were generally defined as the willingness or drive to achieve a goal (Ainley, 2004; Deci et al., 2001; Green et al., 2006; Kuh, 2007). Covariates and predictor variables were years of experience and evaluation results on the TAPS portion of the Teacher Keys Effectiveness System (TKES). Engagement was the extent to which someone cognitively persisted in a task (Akey, 2006; Appleton et al., 2008; Garcia-Reid et al., 2005; Kearsley & Shneiderman, 1999). The variables
of interest, motivation and engagement, were measured through the Motivation and Engagement Scale (see sample in Appendix A), which yielded a comprehensive measure of motivation and engagement (Leim & Martin, 2011; Martin, 2012). The predictor variable was the teacher response scores on the MES-W (Martin, 2012). The covariate was years of experience with the induction level considered as the first four years of teaching and the veteran level considered as five or more years of teaching. The MES-W and years of experience were correlated to the summative assessment overall score on the Teacher Keys Effectiveness System (TKES, 2013), which were reported as Level I (Ineffective), Level II (Needs Development), Level III (Proficient), and Level IV (Exemplary).

**Significance of the Study**

The results from this study provided a number of significant and relatable implications in the field of education. First, students need effective teachers in order to learn and achieve at high levels (Split, Koomen, & Thijs, 2011). In fact, Harry Wong (2001), noted educational expert, stated, “Two hundred studies have shown that the only factor that can create student achievement is a knowledgeable, skillful teacher” (p. 1). In an age of value-added teacher evaluation, pay for performance, more stringent protocols for teachers to obtain tenure status, and the demand for more student achievement accountability, educators must determine how to improve factors that will improve teacher effectiveness in a lasting and systemic way (Georgia Department of Education, 2012).

Second, problem solving and critical thinking skills are developed as a result of cognitive social interaction (Deci et al., 2001; Kuh, 2007). These two important cognitive functions are key factors in developing self-efficacy and improving motivation. Vygotsky (1978) defined the amount of support necessary to develop self-efficacy as the “zone of proximal development.”
The connection between social learning and cognitive process provides the foundation for motivation and engagement. The Self-Determination Theory (Deci & Ryan, 2000) also postulates that competence, psychological relatedness, and autonomy are key factors in growth and critical thinking.

Therefore, it stands to reason that the quality of the teacher is one of the most important factors (Demir, 2011; Wong, 2001) in school improvement. “An ineffective teacher can affect student learning for years, but having two ineffective teachers in subsequent years can damage a student’s academic career” (Wong, 2001, p. 2). If, in fact, the motivation and engagement level of the teacher provides the foundation for an effective teacher, then it would be important to identify and research this relationship. A correlation of the variables provided insight into the relationship of motivation and engagement of the teachers and its related impact on teacher effectiveness and attrition. It is also important to note that causation was not examined in this research study, as it is difficult to prove or disprove. This correlational research was conducted as the basis for perhaps a more rigorous quasi-experimental research project that could examine causation.

**Research Questions**

The following are the research questions to be explored in this study:

**Research Question 1**: Is there a statistically significant difference in the level of motivation and engagement, as measured by the MES-W (Martin, 2012), between induction level teachers (first four years) and veteran level teachers (five or more years)?

**Research Question 2**: For induction level teachers (first four years), is there a statistically significant relationship between teachers’ motivation and engagement, as measured
by the MES-W (Martin, 2012), and the results on the TAPS overall score portion of the Teacher Keys Effectiveness System (TKES) formative evaluation?

**Research Question 3:** For veteran level teachers (five or more years), is there a statistically significant relationship between teachers’ motivation and engagement, as measured by the MES-W (Martin, 2012), and the results on the TAPS overall score portion of the Teacher Keys Effectiveness System (TKES) formative evaluation?

**Research Question 4:** While controlling for the overall score on the TAPS portion of the TKES, is there a statistically significant difference in the level of motivation and engagement level, as measured by the MES-W (Martin, 2012), between induction level teachers (first four years) and veteran level teachers (five or more years)?

**Null Hypotheses**

The following null hypotheses guided this study:

**H₀₁:** There is no statistically significant difference in the level of motivation and engagement, as measured by the MES-W (Martin, 2012), between induction level teachers (first four years) and veteran level teachers (five or more years).

**H₀₂:** For induction level teachers (first four years), there is no statistically significant relationship between teachers’ motivation and engagement, as measured by the MES-W (Martin, 2012), and the results on the TAPS overall portion of the Teacher Keys Effectiveness System (TKES) formative evaluation.

**H₀₃:** For veteran level teachers (five or more years), there is no statistically significant relationship between teachers’ motivation and engagement, as measured by the MES-W (Martin, 2012), and the results on the TAPS overall score portion of the Teacher Keys Effectiveness System (TKES) formative evaluation.
**H₀₄**: While controlling for the overall score on the TAPS portion of the TKES, there is no statistically significant difference in the level of motivation and engagement, as measured by the MES-W (Martin, 2012), between induction level teachers (first four years) and veteran level teachers (five or more years).

**Alternate Hypotheses**

**H₁₁**: There is a statistically significant difference in the level of motivation and engagement, as measured by the MES-W (Martin, 2012), between induction level teachers (first four years) and veteran level teachers (five or more years).

**H₁₂**: For induction level teachers (first four years), there is a statistically significant relationship between teachers’ motivation and engagement, as measured by the MES-W (Martin, 2012), and the results on the TAPS overall portion of the Teacher Keys Effectiveness System (TKES) formative evaluation.

**H₁₃**: For veteran level teachers (five or more years), there is a statistically significant relationship between teachers’ motivation and engagement, as measured by the MES-W (Martin, 2012), and the results on the TAPS overall score portion of the Teacher Keys Effectiveness System (TKES) formative evaluation.

**H₁₄**: While controlling for the overall score on the TAPS portion of the TKES, there is a statistically significant difference in the level of motivation and engagement, as measured by the MES-W (Martin, 2012), between induction level teachers (first four years) and veteran level teachers (five or more years).

**Identification of Variables**

The variables of interest are motivation and engagement of the induction (first four years) level teachers and motivation and engagement of the veteran (five or more years) teachers as
measured on the MES-W (Martin, 2012), a validated motivation scale. Additionally, the first predictor variable is the level of teacher experience, with induction level as the first four years or veteran level of five or more years. The second predictor variable is the teacher’s overall score as measured by the TAPS portion of the TKES (2013).

Definitions and Acronyms

1. ANCOVA—Analysis of covariance (ANCOVA) is a statistical analysis that provides the means to explore the differences between groups while controlling for a continuous variable (Gall, Gall, & Borg, 2007).

2. Engagement—Engagement was defined as the cognitively active participation in the learning process (Akey, 2006; Appleton et al., 2008; Garcia-Reid et al., 2005; Kearsley & Shneiderman, 1999). Engagement can be measured through both qualitative and quantitative data sources (Appleton et al., 2008). Motivation and engagement were supported by self-efficacy, which was the perceived belief of individuals about their own abilities and achievements (Fredrick, 2011).

3. Motivation—Motivation was generally defined as a desire, willingness, or drive of an individual (Ainley, 2004; Deci et al., 2001; Green, et al., 2006; Kuh, 2007). Motivation was divided into two specific areas, drive and motive. “Drive” identified the internal factors that affect outcomes and “motives” were the social psychological mechanisms (Ainley, 2004; Berti, Molinari, & Speltini, 2010; Deci et al., 2001; Green, et al., 2006; Kuh, 2007). However, motivation in and of itself was not an observable variable, so it was examined in light of the levels of engagement. Students are motivated to learn when there is a connection between the content and the relevance to life applications. This promoted engagement, which was active
participation in the learning process (Akey, 2006; Appleton et al., 2008; Garcia-Reid et al., 2005; Kearsley & Shneiderman, 1999).

4. MES-W—Motivation and Engagement Scale, (Martin, 2015)

5. TAPS—Teacher Assessment on Performance Standards, the performance evaluation portion of the Teacher Keys Effectiveness System (GaDOE, 2015).

6. TKES—Teacher Keys Effectiveness System, Georgia’s new evaluation system for teachers (GaDOE, 2013).

Instruments

The Motivation and Engagement Scale (MES-W), developed in 2009 by Andrew Martin, a professor at Sydney University, assessed the adaptive and maladaptive cognitive and behavioral dimensions of motivation and engagement (Martin, 2010). The MES-W has 11 subscales containing four items each for a total of 44 items, which produce a comprehensive score for motivation and engagement. The psychometrics for the MES-W reports a confirmatory factor analysis (CFA) yielded a positive fit to the data ($x^2 = 2,033.71$, df = 847, CFI = .97, RMSEA = .05) indicated an excellent match to the data (Martin, 2009). A statistical analysis using Cronbach’s $\alpha$ reports a mean reliability of .78 for the 11 subscales (Martin, 2009).

The Teacher Keys Effectiveness System (TKES, 2013) was developed as a result of Georgia’s Race to the Top (RT3) Initiative. The RT3 Initiative required that the state of Georgia develop an evaluation system to ensure an improvement in teacher effectiveness that is consistent throughout the state. The TKES provides a common definition of teacher effectiveness through a thoroughly researched set of performance standards for teachers. The 10 Teacher Assessment on Performance Standards (TAPS) are guided by qualitative rubrics, which were developed by experts in the field of education (TKES, 2013). The TAPS provide a balance
of structure and flexibility in teaching style. The prescriptive approach defines the expectations of effective instructional practices and guides the instruction through common vocabulary and exemplars (TKES, 2013). Teacher individuality, creativity, and learning styles are not inhibited through the process; however, the overarching goal of the TKES process is to allow for the continuous growth of teachers. The 10 TAPS provide samples of performance indicators, research-based fact sheets, and rubrics to guide teachers along the path of becoming more effective (TKES, 2013). The TAPS provides a three-tiered approach to define the teacher expectations, including five domains: planning, instructional delivery, assessment of and for learning, learning environment, and professionalism and communication (TKES, 2013).

Teachers are rated on the TAPS using a performance appraisal rubric, which is a behavioral summary scale to guide the evaluators (principals and assistant principals) as to the level of performance on the standards (TKES, 2013). Principals and assistant principals are trained through a series of practice evaluations using inter-rater reliability scores to determine if the school administrator is ready to evaluate teachers (TKES, 2013). The performance indicators guide the school administrators using sample performance indicators, which are observable, tangible behaviors for each performance standard. The TAPS rating scale (TKES, 2013) provides four levels in which to rank behaviors. Teachers who score at Performance Level III are considered proficient on the TAPS (TKES, 2013). The Level III descriptors contain the same language as the TKES standards to guide the teacher behaviors. The descriptors at Level III provide expected quantifying terms such as “consistently demonstrates” to guide the evaluator in scoring the particular behaviors. Performance Level IV extends beyond simply meeting the rubric criteria for the TAPS. The descriptors for Level IV outline expectations of meeting all the requirements for Level III and to demonstrate behaviors that indicate the teacher seeks avenues
to be a teacher leader or serve as a role model for others. Descriptors in Level IV use adverbs such as “continually” rather than the “consistently” utilized in Level III. Evaluators who are rating teachers at Level IV are seeing evidence of the exemplary behaviors of teacher leaders. Performance Level II does not meet the TKES standards and provides a rating for teachers who need improvement. Evaluators see inconsistent demonstration of expected behaviors and provide feedback for improvement. Performance Level I is an ineffective rating. Teachers who receive a rating of Level I demonstrate an inadequate or ineffective level of performance (TKES, 2013). It is imperative that both the evaluators and the teachers receive adequate training on the TAPS and the performance appraisal rubrics accompanying the 10 TKES standards (TKES, 2013).

**Research Summary**

The research study was conducted using a quantitative model employing a predictive correlational research design to investigate the relationship between the motivation and engagement levels of induction and veteran teachers while controlling for the level of experience and the outcomes of the Teacher Keys Effectiveness System (TKES, 2013). IBM’s Statistical Package for the Social Sciences (IBM SPSS®) program was used to analyze the data. A variety of summary statistics were computed and assumptions of normality, homogeneity of variances, linearity, and homogeneity of regression slope were tested using SPSS. Additionally, analyses of covariance (ANCOVA) tests were conducted to determine the differences in the motivation and engagement level as measured by the MES-W of induction (first four years) teachers and veteran (five or more years) teachers while controlling for the overall score on the TKES. The researcher was interested in identifying whether a significant relationship existed between the variables that would also identify any predictive relationships that may exist. This design fit the
research proposal because there was no experimental treatment; rather relationships among the existing conditions provided an explanation to the predictive nature of the variables within the study (Warner, 2012). Other research studies with similar characteristics also employed the ANCOVA tests to analyze data (Eyal & Roth, 2010; Green et al., 2006).

According to Howell (2011), the relationship between variables gives the degree to which that relationship is measured through a correlation coefficient. One of the most common correlation coefficients is the Pearson product-moment correlation coefficient ($r$). This allowed for multiple regressions, which controlled for the interrelationships among the variables as well. The use of Pearson’s Multiple $r$ (effect size is the $r$ value) helped define the direction or strength of the relationships between the variables, whether it was strong or weak (Howell, 2011).

**Assumptions and Limitations**

There were several assumptions and limitations identified for this study.

**Assumptions**

It was assumed that a strong, positive relationship between teacher engagement and motivation, years of experience, and the TAPS score existed. There was also an assumption that the validity and reliability of the MES-W (2010) as utilized for teachers in Georgia remained steadfast. An additional assumption was that teachers completing the survey presented honest responses. In addition, a linear relationship between the predictor and criterion variables was assumed in order to avoid Type II errors (Rovai, Baker, & Ponton, 2013).

**Limitations**

The use of a convenience sample provided a limitation for this study, due to selection threat to external validity (Rovai, et al., 2013). The sample in the research study may not translate to be representative of the entire population (Gall et al., 2007; Rovai et al., 2013). This posed a threat to external validity since the sample was not randomized. Since this threat
existed, it was important that a description of the participants include demographic data and tests for multivariate normality using a histogram (Rovai, et al., 2013; Tabachnick & Fidell, 2013). This ensured that participants who were left out or were over-representative of the general population could be described.

Another limitation was the use of a self-report survey to identify levels of motivation and engagement. Teachers were provided specific directions for completing the surveys to abate the limitation of inaccurate responses on the MES-W (2012). Using standardized measures for administering the surveys also limited the threat to validity.

A final limitation was the threat to validity due to researcher bias. The ethical approach was to recognize the danger of interpreting the results with a bias while making every attempt to mitigate the influence (Gall, et al., 2007; Rovai, et al., 2013).
CHAPTER TWO: REVIEW OF THE LITERATURE

Introduction

Although motivation and engagement have been widely researched over the past few years, there have been a variety of findings about the impact on student achievement and teacher effectiveness (Ainley, 2004; Demir, 2011; Towndrow, Koh, & Hock Soon, 2008; Zimmerman, 1990). The research showed that motivation and engagement are important factors for autonomy, self-efficacy, relational learning, and student achievement (Baron, 2006; Brown & Adler, 2008; Collins & Halverson, 2009; Liberman & Pointer, 2010). A review of current literature linked to a sound methodology provided the foundation to the proposed research study. The review of literature focused on the relationship between motivation and engagement and how this affects teacher effectiveness. It also provided insight into intrinsic and extrinsic motivation, relation learning, and the teacher’s perceptions about motivation and engagement. The literature review also presented the need to study the role of the teacher’s motivation and engagement, which lead to improved teacher effectiveness.

Theoretical Framework

The theoretical framework for this study stemmed from the work of Ryan and Deci (2000) on the self-determination theory (SDT). The SDT is the theory that inherent growth tendencies paired with the psychological needs of humans provide the foundation for self-motivation and personality development (Berti, et al., 2010; Ryan & Deci, 2000). Several factors were essential to this research study as it related to the SDT. Ryan and Deci (2000) identified three broad areas that related to the needs of motivation and engagement, which were autonomy, competence, and psychological relatedness. Autonomy is the need to know and understand not only what to do in a given situation but also how to do it. Competence involves
developing skills to manipulate and perhaps even control situations. Relatedness refers to the social relationship with others (Ryan & Deci, 2000). The SDT was significant to this research study because it defined the relationship between intrinsic and extrinsic motivation, which is a process by which individuals internalize external factors to develop self-regulation (Towndrow, Koh, & Hock Soon, 2008).

Relationship Between Motivation and Engagement

The relationship between motivation and engagement has been the subject of many research studies (Ainley, 2004; Demir, 2011; Towndrow, et al., 2008; Zimmerman, 1990). For example, Ainley (2004) explored the educational perspective of student motivation and engagement, identifying dispositions and traits associated with high levels of motivation and engagement. The research focused on two perspectives. The first was that motivation resulted from particular characteristics that closely connected engagement and learning. The second perspective was the critical nature of providing proper conditions for learning in order to impact engagement. In fact, Ainley suggested that there are particular types of learning experiences that promote depth in student engagement and motivation. Ainley defined motivation as “why we do what we do” (p. 2); whereas engagement describes the action in terms of the energy and cognitive connections.

Motivation and engagement are closely aligned to success in outcomes (Liem & Martin, 2012). As a result, understanding the relationship between motivation and engagement provided educators with the knowledge to possibly impact student achievement. Researchers (Bernaus & Gardner, 2008; Conley & Karabenick, 2006; Towndrow, et al., 2008) found that understanding this relationship between motivation and engagement was not always clear. Conley and Karabenick (2006) researched the construct validity of the measures of motivation and
engagement. The findings indicated that instruments used to measure motivation and engagement often fail to consider factors such as interest, aptitude, and self-concept (Conley & Karabenick, 2006).

Engagement is the extent to which someone cognitively persists in a task (Akey, 2006; Appleton, Christenson, & Furlong, 2008; Garcia-Reid, Reid, & Peterson, 2005; Kearsley & Shneiderman, 1999). Those who are motivated and engaged play an active role in the learning process, and teaching is a reciprocal action on the part of the instructor (Demir, 2011; Mercer & DeRosier, 2010; Wong, 2001). Individuals who display strong cognitive engagement plan and manage their learning in a way that develops a high sense of self-efficacy and motivation. Educators who display a high sense of engagement themselves may be able to better design instructional activities to tap into improved motivation and engagement among students.

According to Demir (2011), teachers are an important influence on the motivation and engagement levels of students in the classroom. Demir’s research parallels many others (Ainley, 2004; Akey, 2006; Balfanz, Herzog, & MacIver, 2007; Katz, Assor, & Kanat-Maymon, 2008) in that it also focused on the reasons for disengagement as a way of clarifying the relationship between motivation and engagement. For example, the self-determination level of the individual teacher is correlated to the engagement level of the students (Demir, 2011).

Akey (2006) conducted a longitudinal study to determine if engagement and the perception of academic competence had any significant effect on student achievement in reading and mathematics. The findings corroborated with Demir’s (2011) research, in that engagement in school and students’ perceptions about whether or not they are able to do well in that subject directly impacted student achievement (Akey, 2006.) Students who perceived goals as attainable were more likely to be cognitively engaged in school (Akey, 2006; Demir, 2011).
Identifying characteristics of motivation and engagement could provide the impetus for improving motivation and engagement among both students and adults in a school building. According to Demir (2011), teachers are an important influence in how motivated and engaged students are in the classroom. Research (Akey, 2006; Demir, 2011; Kurtz & Knight, 2003; Martin 2007; Zhang & Bartol, 2010) into intrinsic and extrinsic motivation among teachers showed that the working conditions, teacher job satisfaction, and the teachers’ commitment to the job affected teacher absenteeism. In addition, many teachers who chose to leave the profession cited similar reasons for disengagement (Demir, 2011). Consequently, the motivation level of teachers predicted engagement of both teachers and students (Demir, 2011). Demir’s research (2011) focused primarily on the self-determination theory, which examined personality in relation to motivation, and relied on choice and sense of freedom in decision making to improve intrinsic motivation. For example, the self-determination level of the individual teacher was correlated to the engagement level of the students. The study indicated that about 64% of the variance in student engagement was the result of an increase in intrinsic motivation of the teachers.

Technology is a tool to encourage and enhance engagement for teachers and students (Parkin, Hepplestone, Holden, Irwin, & Thorpe, 2012; Strom, Strom, & Wing, 2009). In fact, Strom, Strom, and Wing (2009) studied self-directed learning through the use of technology, which influences student motivation and engagement and the effect of teacher planning and preparation on those factors. Teachers also perceived that technology usage increased student engagement and had a direct relationship with student achievement (Baron, 2006; Brown & Adler, 2008; Collins & Halverson, 2009; Liberman & Pointer, 2010). Technology was also seen as a tool to individualize instruction to support struggling learners (Parkin, et al., 2012).
Students who perceived that their teachers cared about them and took the time to build a positive relationship with them were more cognitively engaged in their own learning (Akey, 2006; Demir, 2011; Garcia-Reid et al., 2005; Mercer & DeRosier, 2010). Research also indicated that classrooms with established clear expectations exhibited higher engagement levels (Akey, 2006; Mercer & DeRosier, 2010). A research study by Hufton, Elliott, and Illushin (2002) determined students who displayed characteristics of engagement and motivation, such as self-satisfaction and positive attitudes about school, received higher achievement scores. This indicated that intrinsic behaviors such as positive attitudes are correlated to engagement and motivation. Johnson (2008) indicated that teachers who employed non-traditional strategies to influence student achievement, such as group decision-making and independent work, provided conditions to improve student motivation and engagement. Research indicated that choice provided self-efficacy and resulted in higher levels of engagement (Deci, Koestner & Ryan, 2001; Eyal & Roth, 2010; Green et al., 2006).

Teachers may influence motivation and engagement through the development of self-efficacy skills among stakeholders (Martin, 2005). In the same vein, teachers traditionally used a reward and punishment, often referred in educational and psychological circles as the “carrot and the stick” (Pink, 2009) system within the classroom to get students engaged. Research studies, such as Demir (2011); Deci et al. (2001); and Redding and Walberg (2012) have indicated that this does not work. In fact, the meta-analyses conducted by Deci et al. (2001) found that external rewards had little or no effect on intrinsic motivation among students ranging in age from elementary school through college. They found that certain tasks that students deemed as uninteresting or boring resulted in the undermining of the intrinsic level of students (Deci et al.,
Rewards became less important to students who developed an interest in something, and the intrinsic level, as well as their self-efficacy, increased (Redding & Walberg, 2012).

Martin (2006) conducted research on teacher motivation and discovered that content competency rather than pedagogy influenced teacher motivation and engagement. This research also indicated that the teacher’s perception of motivation and engagement is related to his or her own enjoyment and satisfaction in teaching. Tying this particular concept to student engagement and motivation, Green, et al. (2006) concluded that self-concept is a key factor in motivated and engaged learners.

A study conducted by Gewertz (2006) reported that lack of motivation is one of the top reasons high school students dropped out of school. In fact, the research findings indicated there were several factors affecting motivation, including absence of academic challenges, academic failures, and problems outside of school that seemed to overwhelm students (Gewertz, 2006). Walker and Greene’s (2009) research substantiated this in a study of the relationship between the motivational beliefs of high school students and their cognitive engagement. The report tracked achievement gains in relation to engagement through implementation of specific learning strategies designed to improve motivation and engagement (Walker & Greene, 2009).

Disengagement in school was found to be the result of lack of motivation (Balfanz et al., 2007; Demir, 2011; Gewertz, 2006; Hufton, Elliot, & Illushin, 2002).

The relationship between motivation and engagement is complex (Bryson & Hand, 2007; Zepke & Leach, 2010). The cognitive investment in learning often elicited an emotional commitment. Active participation in the cognitive realm generated conditions in which learning promoted engagement. Motivation also incorporated the will, drive, and task persistence an individual possessed (Pintrich & Schunk, 2002; Rigby, Deci, Patrick, & Ryan, 1992).
Additionally, the various aspects of engagement, such as academic, behavioral, affective, and cognitive provided complexity since each had its own attributes (Ainley, 2004; Demir, 2011; Jesus & Lens, 2005; Sargent & Hannum, 2005). For example, academic engagement, the more visible type of engagement, involved the teacher through the quality of instructional planning and the appropriateness of the delivery of the instruction (Zepke & Hand, 2010). Behavioral engagement, however, also pertained to parental involvement, since it was exhibited through attendance, extra-curricular activities, and discipline (Medley, Little, & Akin-Little, 2008).

Affective engagement involves the emotional side of connecting not only with others but also with school in general. Specifically, a number of behaviors were associated with the affective engagement, such as risk-taking, social competency, perception, and task persistence (Burton, Lydon, D’Alessandro, & Koestner, 2006; Marinak & Gambrell, 2008). Cognitive engagement described the types of behaviors most often associated with motivation. These included perceived ability, relevance of the work, self-regulation, and collaboration (Ryan & Deci, 2000; Towndrow, et al., 2008). Gentry and Steenbergen-Hu, Choi (2011) researched the student perceived constructs of choice, relevance, complexity, and interest and determined that highly motivated and engaged teachers incorporated these constructs in classroom instruction.

The complex nature of the relationship between engagement and motivation is further exacerbated by the fact that the characteristics of engagement and motivation are not consistently defined (Hart, Stewart, & Jimerson, 2011). Their research focused primarily on behavioral engagement since this type of engagement may be observed and monitored. The observable actions of behavioral engagement include not only participation and time on task but also indicate that other items such as attendance, discipline, and participation in extracurricular activities are important in interpreting behavioral engagement (Dunn & Rakes, 2011; Gentry,
The complex nature of the relationship between motivation and engagement is asynchronous to school improvement endeavors. In fact, a great deal of time and effort is spent attempting to improve the motivation to learn. However, research indicated that true motivation was related to conceptual understanding rather than academic performance (Ryan & Deci, 2000, 2009). Teachers designed rigorous work for students, which provided the impetus to engagement if the learning was collaborative, interactive, and challenging (Zepke & Leach, 2010). In fact, despite initial failures, engaged individuals possessed task persistence, which was linked to intrinsic motivation (Bryson & Hand, 2007; Zepke & Leach, 2010).

**Intrinsic Versus Extrinsic Motivation**

Daniel Pink (2009), author of the best-selling book *Drive*, described a different perspective in motivation and engagement. Pink stated that in order to improve performance and personal satisfaction, three factors were critical: autonomy, mastery, and purpose, which are corroborated in the self-determination theory (Ryan & Deci, 2000; Towndrow, et al., 2008). In fact, Pink stated that classrooms and school buildings across the nation were more often than not reminiscent of the educational system in place a century ago. Teachers traditionally used a reward and punishment system within the classroom, the “carrot and stick” process to get students engaged, which was actually extrinsic motivation. In the same vein, school administration and superintendents, due to tenure laws and hiring practices, often resorted to a reward and punishment-like system for teachers. Pink stated, “For routine tasks, which aren’t very interesting and don’t demand much creative thinking, rewards can provide a small motivational booster shot without the harmful side effects” (p. 62).
Zhang and Bartol (2010) studied a variety of theories linking empowering leadership and employee creativity. The synthesis of theoretical models of leadership, empowerment, and creativity on intrinsic motivation provided related research to support replication within a school setting. In fact, intrinsic motivation may be enhanced by opportunities for creative leadership, even those that are informal rather than an assigned leadership role (Green, Martin, & Marsh, 2007; Liam & Martin, 2011; Vallerand & Ratelle, 2002).

The idea of reward and punishment as a way to motivate and engage learners has been well established historically in schools. Several research studies (Corrigan & Chapman, 2008; Demir, 2011; Jang, 2008; Katz, Assor, & Kanat-Maymon, 2008; Marinak & Gambrell, 2008) provided an insight into intrinsic motivation, which is viewed by Pink (2009) as the only true motivation. Intrinsic motivation included specific motivation characteristics such as autonomy, responsibility, professional growth and achievement (Demir, 2011). “The phrase ‘personally meaningful’ nicely captures the experience that lies at the intersection of perceived autonomy and perceived importance” (Jang, 2008, p. 810). In order to improve engagement, one must concentrate on intrinsic motivation. Reliance on an extrinsic system of rewards did not increase engagement over time, although it did show short-term improvements. Intrinsic motivation provided a learner outcome that transcended the learned situation (Adelman & Taylor, 2011).

The importance of intrinsic motivation as it related to engagement and student achievement was outlined in the research of Corrigan and Chapman (2008) and Marinak and Gambrell (2008) since task persistence is a proximal reward. Token rewards did not sustain cognitive engagement (Marinak & Gambrell, 2008). Choice in learning activities seemed to be a determining factor for intrinsic motivation in another research study conducted by Burton, Lydon, D’Alessandro, and Koestner (2006). In fact, Burton, et al. discovered that intrinsic
motivation had a differential and identified effect on not only achievement but sense of well-being as well.

Despite the value of intrinsic motivation, Demir (2011) and Corrigan and Chapman (2008) found that extrinsic motivation had a significant effect on student engagement. Demir (2011) also found a significant relationship between intrinsic and extrinsic motivation at ($\beta = 0.22$, $p < 0.001$). Demir’s research suggested that both intrinsic motivation and extrinsic motivation are additive and interactive in a school setting, both working together to improve engagement.

**Teacher Effectiveness and Motivation**

Teacher quality trumps all other factors, such as socioeconomic status, ethnicity, and race, for student achievement and success (Hattie, 2009). The 2001 reauthorization of the Elementary and Secondary Education Act (ESEA), approved by Congress, outlined a new description of teacher effectiveness. The terminology borne of this new law required school districts and states to define teacher quality, while it also established new regulations to determine teacher effectiveness. This new accountability system changed the nature of education, in that districts were required to place the most effective teachers with the students who were more likely to fail (Eppley, 2009; Shannon, 2007). Research on teacher quality spawned by the ESEA reauthorization revealed issues with teacher effectiveness due to teacher preparation programs (Eppley, 2009; Shannon, 2007; Wilson, 2009). Teacher quality is not single faceted, but is a much more complicated issue, not based solely on content knowledge or ability (Wilson, 2009).

Chait (2009) defined teacher effectiveness as the teacher’s ability to promote learning at high levels among students in his or her classroom. This definition stretched the purview of
teacher quality to include not only content knowledge but also pedagogical skills and some affective domain skills, as well. There is no single indication of teacher effectiveness, as it is complex and requires a broader view of teaching skills.

It is also important to note that teacher effectiveness is closely connected to teacher motivation. Wilson (2009) found that teacher quality and motivation mattered a great deal, especially for low-income students. Low-income students are considered “disadvantaged;” however, when they were placed with a highly motivated and effective teacher for at least three years in a row, the disadvantaged students in Wilson’s study scored at or above similar middle class students. The converse of this could mean, however, that less effective and motivated teachers who are placed with disadvantaged students for several years in a row condemned them to a lifetime of poor achievement (Darling-Hammond, 1997; Eppley, 2009; Fullan, 2010; O’Keefe, 2000; Ravitch, 2003; Shannon, 2007; Wilson, 2009).

The premise of quantifying and qualifying teacher effectiveness through public reporting of achievement scores as outlined in the ESEA (2001) provided the impetus for defining teacher effectiveness in a new way (Eppley, 2009; Fullan, 2010; O’Keefe, 2000; Ravitch, 2003; Shannon, 2007; Wilson, 2009). This comparison of schools, districts, and states was thought to stimulate competition, thereby improving teacher effectiveness (Eppley, 2009; Fullan, 2010; Ravitch, 2003; Shannon, 2007; Wilson, 2009). However, as Eppley’s (2009) research revealed, many teacher candidates in college preparatory programs were not the most able. He went even further to assert that the candidates who were becoming public education teachers were mediocre at best. Further research assertions indicated that the link between teacher effectiveness and motivation stemmed from ill preparation and the intellect of the teacher candidates in schools or colleges of education (Eppley, 2009; O’Keefe, 2000; Ravitch, 2003; Shannon, 2007; Wilson,
O’Keefe (2000) investigated the teacher workforce and discovered that about one-fourth of the teachers were ill prepared and lacked course the content knowledge and pedagogy to be effective in the classroom. The deficits spanned not only public education institutions, but also the private school sector (O’Keefe, 2000; Ravitch, 2003; Wilson, 2009). Ravitch (2003) reported that the supply of well-educated, effective, and motivated teachers is not enough to meet the demands of today’s student needs. Although hiring highly effective and motivated teachers is a key aspect of improving the quality of education in both public and private schools, there is dissention on how to accomplish it (Darling-Hammond, 1997; Eppley, 2009; Fullan, 2010; O’Keefe, 2000; Ravitch, 2003; Shannon, 2007; Wilson, 2009).

There are also disputes among educational experts on what constitutes an effective teacher (Eppley, 2009; Hattie, 2010; Shannon, 2007; Whitcomb & Rose, 2008; Wilson, 2009). The achievement gaps reported among the racial and economic lines within student populations confirm that teacher effectiveness is still an issue (Whitcomb & Rose, 2008). The Federal definition of teacher quality (ESEA, 2001) stated that teachers must hold at least a bachelor’s degree in a particular content area, demonstrate content mastery through a standardized assessment, and receive state licensure; however, his definition did not identify the characteristics of an effective teacher.

In 2007, the ESEA received new language to clarify the definition of “teacher effectiveness.” The new language outlined a student growth model as the way to quantitatively measure the effectiveness of teachers, and utilized a value-added methodology (Chait & Miller, 2010; Whitcomb & Rose, 2009). However, the particular measurement instruments to define the value-added analyses on the effectiveness of teachers was not identified nor mandated.

The Carnegie Foundation stated that an effective teacher is visible, engaged, attentive,
passionate, and provides students with opportunities to excel (Bryk, 2009). Bryk further cited that effective teachers engaged in problem solving have a positive effect on the values and commitments of students. The evidence of teacher quality identified in recent research provided discrepancies in indicators of teacher effectiveness (Bryk, 2009; Chait, 2009; Chait & Miller, 2010; Eppley, 2009; Fullan, 2010; Whitcomb & Rose, 2008; Wilson, 2009). For example, certification, or teacher state licensure do not guarantee the effectiveness or motivation level of a teacher (Whitcomb & Rose, 2008). Additionally, teacher preparation programs vary in both complexity of required courses and levels of achievement attained. This does not indicate quality of instructional practices for the individual educator. These variables in preparation affect teacher quality (Bryk, 2009; Chait, 2009; Chait & Miller, 2010; Eppley, 2009; Fullan, 2010; Whitcomb & Rose, 2008; Wilson, 2009). Research into quality instruction indicates several conditions that must be present for teachers to be motivated and effective. Quality effective teaching occurs when teachers feel a collective sense of responsibility to improve instruction. They examine student work collaboratively. They create a collegial environment that demonstrates a sense of transparency and trust among peers (Bryk, 2009; Chait, 2009; Chait & Miller, 2010; Eppley, 2009; Fullan, 2010; Miles & Frank, 2008; Shannon, 2009; Whitcomb & Rose, 2008; Wilson, 2009).

In recent years, the Federal Department of Education provided guidance on teacher effectiveness through such legislation as the American Recovery and Reinvestment Act (ARRA) of 2009 and Race to the Top (RT3) grants. The ARRA (2009) provided a substantial amount of funding to focus on teacher effectiveness rather than on teacher certification alone. Chait (2009) stated that teacher effectiveness matters, especially for low-income and minority districts. This research identified the need to not only target certification issues in light of
student achievement, but to view the effectiveness of classroom teachers in the growth of students over time (Bryk, 2009; Chait, 2009; Chait & Miller, 2010; Eppley, 2009; Fullan, 2010; Miles & Frank, 2008; Shannon, 2009; Whitcomb & Rose, 2008; Wilson, 2009). The ARRA and RT3 grants provided the funding for college and career readiness standards, high quality assessments, data reporting systems, and teacher effectiveness measures through a value-added evaluation system based on growth measures (Chait, 2009; Chait & Miller, 2010).

One of the most visible indicators of teacher effectiveness is the ability to manage the classroom efficiently (Chait, 2009; Martin, 2009; Stronge, 2007). Teacher expectations for behavior set the foundations for strong classroom management. Effective teachers communicate the expectations well and set goals for students (Patrick, Ryan, & Kaplan, 2007; Ryan & Patrick, 2001). This provides the impetus for academic engagement and motivation and influences the classroom environment for the teacher and the students (Patrick, Ryan, & Kaplan, 2007; Ryan & Patrick, 2001). In fact, Carr (2009) proposed that the teacher’s personal qualities, such as perseverance and motivation provide the foundation for successful classrooms.

Additionally, teacher motivation and engagement stem from enthusiasm about the content area (Kunter, Tsai, Klusmann, Brunner, Kraus, & Baumert, 2008; Patrick, Ryan, & Kaplan, 2007). Teachers display higher levels of engagement when sound instructional behavior, such as high levels of cognitive demand and personal responsibility are present. Although not necessarily a prerequisite for teacher motivation, enthusiasm about the content area and teaching is a mind-frame that impacts teacher effectiveness (Kunter, et al., 2008; Patrick, Ryan, & Kaplan, 2007). Teachers who are enthusiastic about learning create a safe environment conducive to student engagement. This characteristic impacts the classroom in a
variety of ways, such as student engagement, higher levels of vitality, and greater on-task behaviors (Hoigaard, Giske, & Sundsli, 2012; Kunter, et al., 2008; Patrick, Ryan, & Kaplan, 2007).

**Teacher’s Role**

Significant research also supports the effects of teacher motivation on student motivation and engagement (Akey, 2006; Hufton, et al., 2002; Kurz & Knight, 2003; Vallerand, Fortier, & Guay, 1997). For example, Hufton, et al. (2002) studied three school districts across three countries to determine the key factors in motivation and engagement that positively correlated to improved student achievement. The researchers found that students who displayed characteristics of engagement and motivation, such as self-satisfaction, had positive attitudes about school and displayed higher achievement scores. Johnson’s (2008) study also supported the relationship between the teacher’s motivation and student motivational needs. Johnson noted that teachers who employed non-traditional strategies to influence student achievement, such as group decision-making and independent work provided conditions to improve student motivation and engagement (Johnson, 2008). Additionally, Walker and Greene (2009) studied student achievement gains in relation to engagement through implementation of specific learning strategies designed to improve motivation and engagement. Their study employed the use of several instruments designed to correlate motivation and achievement. Through triangulation of the survey results, there was a correlation between student achievement and motivation at a score well above an average of four out of six on the rating scale (p. 467). These studies suggest that motivation and engagement are closely tied to student achievement. Critical thinking and its effect on motivation and achievement scores was also a key factor in a study conducted by Green
et al. (2006), concerning self-concept and the causal relationship among self-concept, motivation, and student achievement.

The relationship between students and teachers is reflected in the level of engagement. For example, students who perceive a positive relationship with their teacher are more cognitively engaged in their own learning (Akey, 2006; Demir, 2011; Garcia-Reid et al., 2005; Mercer & DeRosier, 2010). Mercer and DeRosier (2010) noted that these students also demonstrated more cognitive engagement in independent activities, where the teacher’s presence was not as prevalent. These studies indicate that the teacher’s role in student engagement is very important to improved motivation to learn (Akey, 2006; Demir, 2011; Garcia-Reid et al., 2005; Mercer & DeRosier, 2010). In fact, a recent study indicated that teachers who displayed enthusiasm through class interactions, possessed a deep knowledge of the standards, and provided timely, relevant feedback set up the impetus for motivated and engaged students (Gentry, Steenbergen-Hu, & Choi, 2011). This study further indicated that students could identify motivated and engaged teachers as those who inspired them, provided choice, and displayed a positive demeanor (Gentry et al., 2011).

Teachers are in control of the activities designed for students in the classroom. According to Pugh, Linnenbrink-Garcia, Koskey, Stewart, and Manzey (2009), the types of tasks students are asked to do could motivate and provide deep levels of engagement. One important aspect of this transformational learning was to examine the science background knowledge and interests of the students. Their experimental design was found to have a statistically significant effect on improving students’ engagement and motivation in science (Pugh et al., 2009).

Hu, Kuh, and Li (2008) researched the effect of inquiry-oriented learning on engagement of college students. The study results indicated that an inquiry-oriented learning environment
did have a significant positive impact on the student’s engagement levels; however, it also showed that some outcomes of engagement are positive or negative depending on the student. Their study also further supported the complex nature of the relationship between motivation and engagement (Gentry, Steenbergen-Hu, & Choi, 2011; Hu, Kuh, & Li, 2008).

The motivation and engagement of students is closely tied to students’ own perceptions of teachers. Teachers who build positive relationships with students have classrooms in which the students are more cognitively engaged and self-reliant (Akey, 2006; Demir, 2011; Garcia-Reid et al., 2005; Mercer & DeRosier, 2010). Research also indicates that clear expectations for student behaviors produce students who exhibit higher engagement levels (Akey, 2006; Mercer & DeRosier, 2010). This indicates that intrinsic behaviors, positive attitudes, satisfaction in task completion, and choice are correlated to engagement and motivation.

Teachers who use novel and unique instructional tools to influence student achievement provide conditions that improve student motivation and engagement (Johnson, 2008). A variety of research (Deci et al., 2001; Eyal & Roth, 2010; Green et al., 2006) also indicates that teachers who provide choice in tasks and learning also have students who exhibit higher achievement rates.

Learning that is collaborative, interactive, and challenging fosters higher levels of engagement (Zepke & Leach, 2010). In order for the learning environment to promote engagement, teachers need to design learning experiences that are challenging. Bryson and Hand (2007) concluded that students are more likely to be engaged if teachers who establish inviting learning environments and demand high standards support them. In addition, teachers who make themselves approachable and available to discuss student learning prompt a deeper level of engagement, which motivates the learner (Bryson & Hand, 2007; Mearns, 2007; Zepke
& Leach, 2010). The teacher who appears approachable compels students to work harder (Mearns, 2007). Students are also more willing to express opinions if the teacher is perceived to be well prepared and sensitive to student needs (Bryson & Hand, 2007; Mearns, 2007; Zepke & Leach, 2010).

Kuh (2007) found that teachers who provided deep learning experiences promoted higher levels of student engagement. In fact, Zepke and Hand (2010) corroborated this research in that the teachers in their study were essential to creating the appropriate learning environment to foster engagement. Hockings, Cooke, Yamashita, McGinty, and Bowl (2008) also supported this view. Their study showed that students who were disengaged appeared to take a surface approach to learning, such as copying notes, focusing on just a few fragmented facts, listening for right answers and simply accepting those answers. These types of learning experiences are typical in “traditional” classrooms (Kuh, 2007).

**Teacher’s Perceptions**

The role of the teacher’s own perceptions about motivation and engagement provides important insight into the connection between motivation and engagement and student achievement (Gentry et al., 2011; Mansfield & Volet, 2010; Skaalvik & Skaalvik, 2009). Teachers’ perceived abilities, such as instructional strategies, classroom management, and content (or subject matter) competency, have an impact on motivation and engagement (Ahmed, 2011; Cardelle-Elawar, & Sanz de Acedo Lizarragam 2010; Kuter, Frenzel, Nagy, Baumert, & Pekrun, 2011; Yilmaz, 2011). Further investigation into teacher perceptions has also revealed that enthusiasm for the subject matter or particular content affects teacher motivation and engagement (Dunn & Rakes, 2011; Hardré & Sullivan, 2009; Kuter et al., 2011; Martin, 2006). Teachers who have greater confidence in both the subject matter knowledge and a deep
understanding of how students learn are more engaged and motivated (Dunn & Rakes, 2011; Mansfield & Volet, 2010; Skaalvik & Skaalvik, 2009).

The role of a teacher has changed in both complexity and intensity in the past 20 years. Brante (2008) suggested in his research study that the multi-tasking and synchronous work of teachers has negatively affected the engagement level of teachers. Brante concluded that the conflicts between the way schools were designed to operate and the constraints upon teachers to multitask at high levels lead to teacher disengagement. Reform efforts have defined the type of work teachers are required to do (Brante, 2008; Dunn & Rakes, 2011; Mansfield & Volet, 2010).

Teacher’s Self-efficacy

Another strong theme in the literature review on motivation and engagement indicates the importance of self-efficacy (Ahmad, 2011; Liem & Martin, 2011; Green et al., 2007; Kurz, & Knight, 2003; Martin, 2006; Towndrow, et al., 2006; Zimmerman, 1990). Self-efficacy as it relates to motivation comprises two dimensions: teaching ability and personal attributes (Ahmed, 2011; Liem & Martin, 2011; Martin, 2011). The intersection of task ability and one’s own beliefs about ability affects motivation (Ahmed, 2011). In fact, teacher self-efficacy and confidence in teaching provides increased motivation (Ahmad, 2011; Towndrow et al., 2006; Yilmaz, 2011). Martin (2006) conducted a study of teachers’ perceptions of motivation and engagement as related to their own enjoyment and satisfaction in teaching. The results of this study indicated that there was a significant difference in self-reporting of motivation and engagement among male versus female teachers. Conversely, elementary school teachers (both male and female) presented a higher motivation and engagement rating than secondary teachers. The study also indicated a strong correlation in the teacher’s confidence in the subject matter, the teacher’s motivation, and resultant student motivation and self-efficacy.
Self-belief in learning enhances engagement (Zepke & Leach, 2010). In fact, even a moderate level of autonomy promotes engagement and competency in achievement (Ahmed, 2011; Cardelle-Elawar & Sanz de Acedo Lizarragam 2010; Kuter et al., 2011; Yilmaz, 2011). Choice or control over certain areas of decision-making provides autonomy, which is linked to motivation (Eccles & Wigfield, 2002; Kuter, et al., 2011). Additionally, ability, task persistence, and effort are all significantly tied to autonomy as it pertains to motivation (Eccles & Wigfield, 2002). Of these, ability is generally not changeable. However, effort and task persistence are changeable and controllable. Lack of effort or task persistence is attributed as the reason for disengagement in individuals who are otherwise able to complete a task (Eccles & Wigfield, 2002). The type of feedback given, such as ambiguous statements of “good work,” may negatively affect a student’s sense of autonomy and intrinsic motivation (Ainley, 2004; Deci, Koestner, & Ryan, 2001; Hattie, 2009; Hufton et al., 2002). Teachers who provide levels of choice and autonomy in learning are more likely to see improvement in the motivation and self-efficacy levels of students than teachers who provide limited choice in learning tasks (Pintrich, 2000).

Self-concept, or the perception of one’s own abilities, is a key factor in motivated and engaged learners (Eyal & Roth, 2010; Green et al., 2006; Kurz, & Knight, 2003; Martin, 2011; Martin, 2006). “In support of deeming self-concept as an important educational factor, research has shown that higher levels of self-concept are linked to various education outcomes such as academic effort, coursework selections, educational aspirations, and academic achievement” (Green et al., 2006, p. 535). This longitudinal study provided empirical data to support the reciprocal effect model and indicated that improved self-concept resulted in improved student achievement. However, if the reciprocal was not true, then the improvement in self-concept was
short-lived. This suggests a strong need for teachers and educational leaders to support strategies to strengthen self-concept, or self-efficacy, as a co-requisite to improved student achievement, thus improved motivation and engagement of all stakeholders (Eyal & Roth, 2010; Green et al., 2006; Kurz & Knight, 2003; Liem & Martin, 2011; Martin, 2006).

Teachers who are satisfied with their job have a tendency to perform at higher levels, show a displayed task commitment, and be actively engaged in the learning process (Demir, 2011). However, teachers who are dissatisfied with their job are often disengaged, which may result in higher absences and burnout. Teacher motivation and engagement is fundamental to ensuring job satisfaction (Demir, 2011; Jesus & Lens, 2005; Sargent & Hannum, 2005). Teachers who are motivated and engaged display a deeper task commitment, pedagogical knowledge, and critical thinking skills regardless of the number of years in the classroom (Gentry et al., 2011).

Teacher self-efficacy is related to motivation and engagement in several ways. First, teachers who have relationships with parents and students develop a sense of trust that promotes both individual and collective efficacy (Kunter, et al., 2008; Patrick, Ryan, & Kaplan, 2007). Additionally, teachers who set goals for themselves display higher self-efficacy (Demir, 2011; Gentry et al., 2011; Patrick, Ryan, & Kaplan, 2007).

In a study of motivation and engagement and its effects in enrichment programs, Martin (2005) discovered that certain out of school experiences affected motivation and engagement during school. The enrichment program was designed to “enhance their [students’] self-esteem, confidence, sense of self, self-awareness, approach to life, life satisfaction, and general motivation” (Martin, 2005, p. 179). The study focused on several motivation theories, such as the needs achievement theory, self-worth motivation theory, and self-efficacy theory. Martin
utilized a motivation scale to gather data concerning student motivation, separating out factors that enhanced or detracted from motivation among the students. As Martin stated, “Motivation plays such a large part in students’ academic engagement and achievement, and it is important to identify factors that contribute to their motivation” (p. 181). This study yielded support for timely interventions to influence self-efficacy and impacts engagement over time. It also translated to school leaders and teachers the need to influence motivation and engagement through the development of self-efficacy skills among stakeholders (Liem & Martin, 2011; Martin, 2005).

Teachers who display high levels of self-efficacy and motivation are considered to be self-directed learners. They seek opportunities to improve their own pedagogy through higher education and high quality professional learning (Demir, 2011; Liem & Martin, 2011; Martin & Hau, 2010; Song, Kim, Chai, & Bae, 2014). Mediating factors such as teacher professional growth and creativity also have been shown to be a positive influence on teacher engagement (Demir, 2011; Martin, 2005; Song, et al., 2014).

Relational Learning

The importance of relational learning, such as critical thinking and problem solving, provides an insight into motivation and engagement (Bernhaus & Gardner, 2008; Kabilan & Kamaruddin, 2010; Liem & Martin, 2011; Martin & Hau, 2010). Kabilan and Kamaruddin (2010) conducted a quantitative research study on a specific learning strategy to engage learners’ comprehension, interest, and motivation to learn literature. The purpose of the study was to examine the relationship between introducing unmotivated students to reader’s theatre and improving engagement, motivation, and comprehension in literature. The authors’ hypothesis was, “In order to heighten learners’ interest and motivation to learn literature, teachers should
engage learners in an experiential learning environment so that learners are able to experience learning literature as an element of enjoyment and intellectual stimulation” (p. 133). Although the sample size for this study was small, the research lent itself to replication with a larger population. The study showed a statistically significant relationship, with a $p$ value of .001 for the Wilcoxon Matched-pairs Signed-Rank Test, and since this was less than the specified level of .05, there was a need to reject the null hypothesis.

A related study by Bernaus and Gardner (2008) corroborated the findings of Kabilan and Kamaurddin (2010). Various innovative strategies to promote improvement in English achievement for second language learners were enhanced when the teacher employed motivation strategies that influenced student perceptions. Results of Bernaus and Gardner’s study clearly indicated that motivation and achievement are improved when teachers employ innovative strategies rather than traditional instructional methods.

Discovering specific relational learning strategies that impact motivation and engagement among students is valuable for educational leaders. A recent research study (Archambault, Pagan, & Fitzpatrick, 2012) provided insight into specific behaviors concerning relational learning. Results of the study suggested that young children who developed a stronger relationship with teachers were more likely to share feelings, talk openly, and trust the teacher than those who did not. Findings showed that these students were more behaviorally engaged than their peers. In addition, students who followed directions and independently completed assignments on time developed positive relationships with teachers, regardless of the teachers’ classroom management or personality style (Split, Koomen, & Thijs, 2011).

Additionally, Corrigan and Chapman (2008) studied the relationship between students’ trust in teachers and the motivation to learn. The scales provided a retrospective view of the trust
of high school students and teachers to show that the more motivated and empowered they were, the more the students responded positively. The researchers reported that trust is the result of an interpersonal relationship, so an underlying assumption was that the teachers were also motivated to build that relationship as well.

Strom, Strom, and Wing (2009) also studied self-directed learning through the use of technology, which influenced motivation and engagement, and the effect of teacher planning and preparation on those factors. The study results suggested that teachers and principals must examine their roles in order to influence motivation and engagement among students. This study is corroborated through the work of Trilling (2010) in the research study concerning 21st century skills used to improve motivation and engagement among all stakeholders. Researchers also explored the process of critical thinking, questioning, and problem solving skills and how this inquiry based learning positively influenced motivation and engagement (Lieberman & Pointer-Mace, 2010; Trilling, 2010). Projects that incorporated technology skills and critical thinking skills into real world problems “can be the key to unlocking increased student motivation and engagement, deeper understanding, and effective use of knowledge, and the mastery of 21st century skills” (Trilling, 2010, p. 11).

Hufton, Elliott, and Illushin (2002) conducted a qualitative study comparing student attitudes about school to motivation and engagement in three countries: the United States, England, and Russia. The three areas were targeted for this research study because of the specific and rigorous educational standards being implemented. In addition, all three areas suffered from economic downturn, and each country had a very high population of economically disadvantaged students. New standards and legislated education reform initiatives impacted both the content being taught and the methodology of the instructional process. This provided the
impetus for “exploring the complex relationship between schooling, educational reform, differing value systems, and the impact of significant socio-economic hardship” (p. 266).

The researchers (Hufton et al., 2002) identified several indicators that affected motivation and engagement through a thorough interview process. Several attributes were examined, including attitudes about learning, academic performance, value of education, patterns in work habits, and future plans. Motivation and engagement as they pertained to these attributes influenced student achievement. However, the study indicated that academic achievement could be influenced by “convincing children, their families, and communities that working harder will produce gains that have both meaning and value” (p. 284).

Positive interactions in school are closely tied to student achievement and motivation (Akey, 2006; Hsu, 2010; Marinak & Gambrell, 2008). Akey (2006) examined the role that supportive relationships with teachers played in increased motivation and engagement. The findings indicated that the teacher’s role, which included behavior management and clear, consistent expectations supported increased students’ engagement in school tasks. Marinak and Gambrell (2008) also found that rewards without relationship had a mediating effect on engagement and motivation, as measured by task persistence. Hsu (2010) found that not only did teachers’ actual behavior affect student learning attitudes and motivation but also the perceived actions of teachers; whether they were reality or not did not seem to matter. Teachers who display a caring and positive attitude while challenging students through rigorous work are often seen as motivating (Bernhaus & Gardner, 2008; Kabilan & Kamaruddin, 2010; Liem & Martin, 2011; Martin & Hau, 2010). The social environments of learners, both at school and at home, influence student self-efficacy (Katz, Assor, & Kanat-Maymon, 2008; Martin, 2009; Pintrich & Schunk, 2002). Parents and teachers who provide a variety of learning experiences
and promote open communication are more often viewed as supportive in the development of self-efficacy (Ainley, 2004; Deci, Koestner, & Ryan, 2001; Hattie, 2009; Hufton et al., 2002).

**Teacher and Peer Relationships**

A body of research explored motivation and engagement in teachers as they pertained to their relationships with students and peers (Dunn & Rakes, 2011; Gentry et al., 2011; Klassen, Perry & Frenzel, 2011; Spilt, Kooman & Thijs, 2011). The social aspect of education provided insight into the relationships that promote motivation and engagement in teachers. For example, teachers who develop strong relationships through a professional learning community of their peers are more engaged in their own learning. The relationships provided the impetus for experimentation, professional learning, and shared resources (Dufour, Dufour, Eaker, & Many, 2006). In a recent research study out of Montreal, Canada, data indicated that younger students who displayed high levels of classroom engagement also demonstrated a strong relationship with teachers (Archambault, Pagan, & Fitzpatrick, 2012). Behaviors associated with high levels of classroom engagement included class participation, listening and following directions, task-persistence, and independently completing assignments. Further, when the researchers examined the relationship of teachers and students, the data revealed that students whom teachers perceived to demonstrate high levels of cognitive engagement were treated more positively and warmer than those who were perceived as being cognitively disengaged. This study also revealed that students who demonstrated disengaged behaviors in first grade were significantly more likely to experience academic and behavior problems as well.

The relationship between students and teachers also demonstrated increased engagement and motivation for teachers. Teachers who had developed good classroom management skills also reported that relationships with students were important. (Cardelle-Elawar & Sanz de Acedo
Lizarraga, (2010). Teachers who displayed positive attitudes and self-efficacy about their own knowledge also respond more positively to professional learning (Gentry et al., 2011). In fact, Archambault et al., (2012) presented data that suggested a significant relationship between cognitive and behavioral engagement among older elementary students and warm, positive teacher-student relationships. The findings indicated that the behavior of the teacher in the classroom, by creating a warm and inviting environment, sustained engagement and motivation.

The research also indicated that the data to support this type of environment could lessen the academic deficits of students who come to school unprepared to learn (Archambault et al., 2012). What made this research even more relevant was that the research method controlled for gender, prior school experience, and maternal education level, indicating that the relationship within the classroom between the teacher and students set the tone for student engagement levels later in the school experience. Furthermore, the research established the relevance of teacher-student relationships to promote student engagement and motivation, yet it also provided analyses on the adult behavior as necessary to create those conditions. Teachers who understood the relevance of this research and were determined to change the learning environment to provide strong relationships impacted the engagement and motivation level of students for years. Specific suggested teacher behaviors from the study included taking time to talk with students, expressing concern and appreciation to students for interactions, and providing a safe, orderly environment.

**Professional Learning and Teacher Preparation**

Professional development for teachers provides teachers with the skills and knowledge to establish stronger relationships with students (Archambault et al., 2012; Demir, 2011; Gentry et al., 2011; Song, et al, 2014). Educational psychology courses provide a foundation of
knowledge about motivation and engagement, but teachers need a model to show the relevance of this content knowledge to practical implementation (Ames, 1990).

One significant impact on motivation and engagement of teachers appears to be the quality of collaboration shared by teams of teachers. The work of Dufour, Dufour, Eaker, and Many (2010) shed light on the power of the Professional Learning Community (PLC) on teacher effectiveness. The PLC, when fully functional and effective, held to three main ideas: a focus on learning, a collaborative culture, and a focus on results (Dufour et al., 2010; Durksen & Klassen, 2012; Hermansen & Nerland, 2014; Lunenburg, 2010). Teachers who worked collaboratively to ensure the success of every student were interdependent on each other and held one another mutually responsible (Dufour et al., 2010). Recent research (Hermansen & Nerland, 2014) supported the power of strong teacher collaboration and its effect on teacher engagement and motivation, particularly when teachers were discussing strategies to assess student learning.

Collaboration in a true PLC is a process develops over time and includes a high level of trust among its members (Dufour, et al., 2010). Traditional professional learning opportunities and teacher preparation programs have not provided teachers with the tools to know how to collaborate around student learning (Hermansen & Nerland, 2014). Teachers may be required to meet routinely, but there is seldom guidance to the teams on how to use assessment data to determine next steps in learning (Dufour et al., 2010). Hermansen and Nerland (2014) determined that teachers needed guidance and tools in order for collaboration to be truly effective. Using samples of student work, designing common assessments, and discovering together how to use the assessment data provides the framework for effective collaboration and improved teacher engagement (Dufour et al., 2010; Hermansen & Nerland, 2014).
An examination of pre-service teacher preparation programs by several researchers suggested that more time in classroom settings, or practicum opportunities, provides more practical ways for teacher learning than professional development to remediate (Birchinall, 2013; Hadjioannou & Hutchinson, 2014; Sherab, 2013; Song, et al., 2014). For example, teacher preparation programs often only provide a quarter or semester-long practicum prior to college graduation. Research studies (Bae, Song, Park, & Kim, 2013; Birchinall, 2013; Hadjioannou & Hutchinson, 2014; Sherab, 2013; Song, et al., 2014) suggested that more time in classrooms under the supervision of effective teachers could improve both pedagogy and classroom management skills. Birchinall (2013) and Holt (2012) further asserted that cross-curricular training could provide an increase in motivation and engagement for the induction level teacher. Context-based learning promotes creativity and extends teacher confidence. This approach is incongruent with traditional teacher preparation programs, which are predominately constructivist in nature (Bae, et al., 2013; Birchinall, 2013; Sherab, 2013). Inquiry based learning provides pre-service teachers with opportunities to extend professional practices in both behavioral and cognitive engagement (Birchinall, 2013; Sherab, 2014; Song, et al., 2014).

Additionally, the relationships of pre-service teachers and their supervisors provides insight into specific organizational and cognitive behavior of the pre-service teachers (Hadjioannou & Hutchinson, 2014; Song, et al., 2014). The school climate and how teachers develop a collegial relationship fosters positive work motivation and cognitive engagement (Bae, et al., 2013; Birchinall, 2013; Hadjioannou & Hutchinson, 2014; Sherab, 2013; Soong, 2012). Pre-service teachers who spend considerable time in practicum classrooms gain valuable knowledge about management, rules, rituals, routines, and pedagogy, which are experiences they may not gain through textbooks or college classrooms (Bae, et al., 2013; Birchinall, 2013;
Hadjioannou & Hutchinson, 2014; Sherab, 2013; Soong, 2012). Pre-service teachers benefit from service learning projects. According to Soong (2012), the benefits of service learning projects, which are unpaid tutoring opportunities, provide pre-service teachers with an opportunity to develop skills for dealing with cross-cultural issues. Hadjioannou and Hutchinson (2014) also found that pre-service teachers developed both analytical and critical thinking skills through transmediation, a form of multicultural awareness. These types of professional development for pre-service teachers strengthen their communication and connections, which promotes improved teacher motivation and engagement (Archambault et al., 2012; Bae, et al., 2013; Birchinall, 2013; Demir, 2011; Gentry et al., 2011; Hadjioannou & Hutchinson, 2014; Sherab, 2013; Soong, 2012; Song, et al., 2014).

Ames (1990) also suggested that motivation is not only quantitative (intensity, direction and duration of behaviors) in nature. The research further suggested that the quality of the task engagement should be a concern, which was corroborated in many current research studies (Akey, 2006; Demir, 2011; Garcia-Reid et al., 2005; Mercer & DeRosier, 2010).

**Summary**

Although the themes discovered throughout the literature review indicated there was a strong relationship between motivation and engagement and student achievement, there was little empirical data to support the role that teacher experience level (induction or veteran) played in teacher motivation and engagement, nor whether that relationship predicted the level of teacher effectiveness (Bryk, 2009; Chait, 2010; Eppley, 2009; Fullan, 2010; Holt, 2012; Katz, Assor, & Kanat-Maymon, 2008; Martin 2009; Miles & Frank, 2008; Pintrich & Schunk, 2002; Shannon, 2009; Whitcomb & Rose, 2008; Wilson, 2009). The studies revealed that beliefs about learning, or self-efficacy, provide impetus to improved student achievement (Akey, 2006; Cho, Xu, &
Rhodes, 2010; Demir, 2011). The literature reviewed indicated that there is limited current research on the teacher experience levels (induction and veteran) and how this relates to the motivation and engagement levels of teachers to predict outcomes on the TKES (2013).
CHAPTER THREE: METHODOLOGY

Introduction

The purpose of this predictive correlational study was to test the self-determination theory (Deci & Ryan, 2000) that related the variable of interest motivation and engagement of induction (first four years) level teachers to the motivation and engagement of veteran (five or more years) level teachers, in order to predict the level of proficiency on the Teacher Keys Effectiveness System (TKES) evaluation of induction teachers’ and veteran teachers’ classrooms in northeast Georgia. The variables of interest and motivation and engagement were generally defined as the willingness or drive to achieve a goal (Ainley, 2004; Deci, Koestner, & Ryan, 2001; Green, et al., 2006; Kuh, 2007). Covariates and predictor variables were years of experience and evaluation results on the TAPS portion of the Teacher Keys Effectiveness System (TKES). Engagement was defined as the extent to which someone cognitively persists in a task (Akey, 2006; Appleton, Christenson, & Furlong, 2008; Garcia-Reid et al., 2005; Kearsley & Shneiderman, 1999). The variables of interest were measured through the Motivation and Engagement Scale (MES-W, Martin 2010). The first predictor variable was years of experience with the induction level considered the first four years of teaching and the veteran level considered as five or more years of teaching. The second predictor variable was the summative assessment score on the Teacher Keys Effectiveness System (TKES, 2013), which are reported as Level 1 (Ineffective), Level II (Needs Development), Level III (Proficient), and Level IV (Exemplary).

The Motivation and Engagement Scale (MES-W) designed by Martin (2010) was one of the instruments used for data collection. The MES-W survey questions for this research were designed to collect data concerning the characteristics of motivation and engagement among the
participants. The MES-W instrument is a 44-item survey consisting of stem statements and responses recorded on a Likert rating scale, ranging from strongly agree (5) to strongly disagree (1). The MES-W was given at the beginning of the study to ascertain current attitudes about motivation and engagement. Care was given to protect the anonymity of the teacher respondents. Surveys provide quantifiable data that are reliable and fairly easy to collect (Gall, Gall, & Borg, 2007). The rationale for using this approach for the research study was that the relationship between the variables was correlated through the survey design and achievement scores. According to Howell (2011), data from this survey can identify trends and patterns of behavior for motivation and engagement, which allow the researcher to identify statistical significance among the findings. Teachers participating in the survey did not receive any treatments to improve motivation and engagement, since the research design was non-experimental. The surveys were completed in an online format to ease in the aggregation of the responses for data collection and analysis.

The research study featured key variables of interest, which were motivation and engagement and the teacher’s level of experience. Relationships between variables were measured through a series of statistical tests. A hierarchical multiple regression analysis was completed to show the predictive relationship between the two variables of interest (motivation and engagement and level of experience) and the predictor variable (level of performance on the TKES, 2013).

**Design**

This study followed a correlational research design, which determined if a statistically significant relationship existed between the variables of interest of motivation and engagement and the teacher’s level of experience (induction or veteran) to predict the performance level of
teachers as measured on the TKES (2013). The objective of this research study was to test the self-determination theory (Deci & Ryan, 2000) that related the variable of interest, motivation and engagement, of induction (first four years) level teachers to the motivation and engagement of veteran (five or more years) level teachers to predict the level of proficiency on the Teacher Keys Effectiveness System (TKES, 2013) evaluation of induction teachers’ and veteran teachers’ classrooms in northeast Georgia. This research study was non-experimental; therefore, there was no treatment applied by the researcher to the subjects in the study (Ary, Jacobs, Razavieh, & Sorensen, 2006).

Predictive correlational research is often used in educational research (Gall, Gall, & Borg, 2007) because it provides a quantifiable measure to determine relationships and predictions. Gall, Gall, and Borg also provided guidance in the selection of the appropriate type of research design based on a number of factors. One type indicates that the research should unearth significant relationships rather than manipulate outcomes. Table 1 identifies quantitative research designs and suggests reasons why those designs should be rejected based on the predictive nature of this study. The Pearson product-moment coefficient was utilized to determine the strength and direction of the relationship of the variables. The coefficient range is from -1, which indicates a weaker correlation of the variables, to 1, which indicates a stronger correlation of the variables (Howell, 2011). The purpose of a correlational study is to look for possible relationships among variables of interest (Howell, 2011). These relationships were examined to determine if there is a positive, negative, or no correlation among the variables of interest (Ary, Jacobs, Razavieh, & Sorensen, 2006).
Table 1

*Research Designs: Rejected for This Study*

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<th>Other Designs</th>
<th>Rejected Justification</th>
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<td>Causal comparative (non-experimental)</td>
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<td>Seeks to determine group differences</td>
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<td>Forms groups to measure independent variable</td>
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<td>Quasi-experimental</td>
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<td>Experimental</td>
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*Note.* Adapted from Gall, Gall, and Borg (2007).

**Research Questions**

The following research questions guided this study:

**Research Question 1**: Is there a statistically significant difference in the level of motivation and engagement, as measured by the MES-W (Martin, 2012), between induction level teachers (first four years) and veteran level teachers (five or more years)?

**Research Question 2**: For induction level teachers (first four years), is there a statistically significant relationship between teachers’ motivation and engagement, as measured
by the MES-W (Martin, 2012), and the results on the TAPS overall portion of the Teacher Keys Effectiveness System (TKES) formative evaluation?

**Research Question 3:** For veteran level teachers (five or more years), is there a statistically significant relationship between teachers’ motivation and engagement, as measured by the MES-W (Martin, 2012), and the results on the TAPS overall score portion of the Teacher Keys Effectiveness System (TKES) formative evaluation?

**Research Question 4:** While controlling for the overall score on the TAPS portion of the TKES, is there a statistically significant difference in the level of motivation and engagement level, as measured by the MES-W (Martin, 2012), between induction level teachers (first four years) and veteran level teachers (five or more years)?

**Null Hypotheses**

The research study explored the following null hypotheses:

**H₀₁:** There is no statistically significant difference in the level of motivation and engagement, as measured by the MES-W (Martin, 2012), between induction level teachers (first four years) and veteran level teachers (five or more years).

**H₀₂:** For induction level teachers (first four years), there is no statistically significant relationship between teachers’ motivation and engagement, as measured by the MES-W (Martin, 2012), and the results on the TAPS overall portion of the Teacher Keys Effectiveness System (TKES) formative evaluation.

**H₀₃:** For veteran level teachers (five or more years), there is no statistically significant relationship between teachers’ motivation and engagement, as measured by the MES-W (Martin, 2012), and the results on the TAPS overall score portion of the Teacher Keys Effectiveness System (TKES) formative evaluation.
**H⁰⁴**: While controlling for the overall score on the TAPS portion of the TKES, there is no statistically significant difference in the level of motivation and engagement, as measured by the MES-W (Martin, 2012), between induction level teachers (first four years) and veteran level teachers (five or more years).

**Alternate Hypotheses**

**H¹₁**: There is a statistically significant difference in the level of motivation and engagement, as measured by the MES-W (Martin, 2012), between induction level teachers (first four years) and veteran level teachers (five or more years).

**H¹₂**: For induction level teachers (first four years), there is a statistically significant relationship between teachers’ motivation and engagement, as measured by the MES-W (Martin, 2012), and the results on the TAPS overall score portion of the Teacher Keys Effectiveness System (TKES) formative evaluation.

**H¹₃**: For veteran level teachers (five or more years), there is a statistically significant relationship between teachers’ motivation and engagement, as measured by the MES-W (Martin, 2012), and the results on the TAPS overall score portion of the Teacher Keys Effectiveness System (TKES) formative evaluation.

**H¹₄**: While controlling for the overall score on the TAPS portion of the TKES, there is a statistically significant difference in the level of motivation and engagement, as measured by the MES-W (Martin, 2012), between induction level teachers (first four years) and veteran level teachers (five or more years).

**Participants**

The participants were a convenience group of teachers, chosen because of availability and close proximity to one another, from school districts within a regional geographic area
(Warner, 2013). The population included 161 teachers from several school districts in rural northeast Georgia. Teachers were separated into two groups based on level of teaching experience: induction (first four years) and veteran (more than four years). The participating schools were reflective of the overall population in demographics: approximately 8% Black, about 4% Hispanic, and 85% White; 49% male and 51% female; and socioeconomic status of approximately 70% free and reduced lunch. Demographic data collected for the teacher participants included years of teaching experience, gender, ethnicity, content, and grade level(s) taught. For the statistical analyses to yield valid and reliable results, a sample size of two predictor variables was $N > 104 + k$, where $N$ represented the number of participants and $k$ represented the predictor variables (Warner, 2013). Since this study involved two predictor variables, number of years teaching experience and the level of proficiency on the TKES summative assessment, the minimum sample size was $N > 106$. The $\alpha$ level of .05, at a minimum, provided a medium effect size of $(f^2 = .15)$ and power of .80, a priori calculation suggested a sample size of at least 72 (Warner, 2013). The projected 150 teacher participants were exceeded by 11, which added strength and minimized the standard error measure (Cohen, 1992; Tabachnick & Fidell, 2007). Demographic data were also collected through the online survey.

**Setting**

The participants were induction level (first four years) teachers and veteran (five or more years) teachers, comprised mostly from small, rural school systems in a Regional Educational Support Services (RESA) area. The school systems ranged in size from around 1,500 students to 4,000 students. The public school systems are all countywide school districts. The
demographics of students within this RESA area reflected the overall population of the region. Approximately 85% of the population is White, 8% Black, 4% Hispanic, and 3% other races.

Table 2 summarizes the demographic data for northeast Georgia.

Table 2

Demographic Data of the Population in Northeast Georgia

<table>
<thead>
<tr>
<th>County</th>
<th>White % of Population</th>
<th>Black % of Population</th>
<th>Other % of Population</th>
<th>Hispanic % of Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>91.7</td>
<td>2.3</td>
<td>4.5</td>
<td>5.7</td>
</tr>
<tr>
<td>B</td>
<td>95.6</td>
<td>0.5</td>
<td>2.6</td>
<td>4.1</td>
</tr>
<tr>
<td>C</td>
<td>87.3</td>
<td>8.4</td>
<td>2.6</td>
<td>3.9</td>
</tr>
<tr>
<td>D</td>
<td>77.4</td>
<td>18.7</td>
<td>2.7</td>
<td>3.1</td>
</tr>
<tr>
<td>AVERAGE</td>
<td>85</td>
<td>7.48</td>
<td>3.1</td>
<td>4.2</td>
</tr>
</tbody>
</table>


Overall in the region, the elementary teachers are mainly female; however, at the middle and high school levels, approximately 40% of the teachers are male. More than 80% of the participants in the study were female. Table 3 depicts a county-by-county comparison of the average years of teaching experience, salary, and minority status.

Table 3

Years of experience, Salary, Advanced Degree and Minority Status for Teachers in the Region

<table>
<thead>
<tr>
<th>County</th>
<th>Average Year's Experience</th>
<th>Average Annual Salary</th>
<th>Teachers with Advanced Degrees</th>
<th>Minority Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Instrumentation

Responses from the Motivation and Engagement Scale (MES-W, Martin, 2012) surveys, as well as reported state results from the TAPS portion of the TKES were utilized as instruments for this study. Permission to utilize the MES-W was obtained through the purchase rights as outlined in the agreement with Lifelong Achievement, the publishing company for the MES-W. The TKES data were provided by the school districts.

Motivation Engagement Scale (MES-W)

Data were collected through the administration of an online survey about motivation and engagement for teachers. The survey administered to teachers was the Motivation and Engagement Scale (MES-W), developed by Andrew J. Martin (2012), a senior research fellow at the University of Sydney, published through Lifelong Achievement. The MES-W was developed as the result of a meta-analysis of data compiled into one framework to determine not only a diagnostic view of the levels of engagement and motivation but also for the purpose of assessment, research, and tracking of both engagement and disengagement. The MES-W consists of four major quadrants: adaptive cognitive dimensions, adaptive behavioral dimensions, maladaptive behavioral dimensions, and impeding cognitive dimensions. The four quadrants of the MES-W are the dimensions of motivation and engagement as identified by Martin with each
dimension corresponding to the negative and positive behavioral outcomes. Adaptive cognitive dimensions include engagement measures, such as task management, planning, and persistence. The adaptive behavioral dimensions include motivation behaviors such as a focus on learning, valuing education, and self-belief. The maladaptive behavior dimensions of the MES-W focus on disengagement and self-sabotage. The impeding cognitive dimensions are anxiety, failure avoidance, and uncertain control. Collectively, these four quadrants present a comprehensive measure of motivation and engagement. There are 11 subscales that include four items per each subscale for a total of 44 rated items. The MES-W utilizes a 7-point Likert-type rating scale; rating responses in an interval-ratio from strongly disagree to strongly agree. This survey instrument was validated for content and construct. The Cronbach’s alpha for the 11 subscales of the MES-W is .78. The MES-W was normed in Australia with over 5,000 adults within 100 classrooms representing about 70 schools. Participants in the norming process were from urban, rural, and suburban areas. The normed scores translates into a Motivation Quotient Score (MQ Score), similar to an intelligence quotient (IQ) score, which has a mean score of 100 and a standard deviation of 15, contributing to a normal curve. The test-retest reliability was .73. A confirmatory factor analysis was conducted for the construct validity of the 11 subscales.

**Teacher Keys Effectiveness System (TKES)**

The Teacher Keys Effectiveness System (TKES, 2013) provides a common definition of teacher effectiveness through a thoroughly researched set of performance standards for teachers. The 10 Teacher Assessment of Performance Standards (TAPS), guided by qualitative rubrics, was developed by experts in the field of education (TKES, 2013). Teachers are observed throughout the school year during four walkthroughs, which consist of a 15-minute evaluation targeting one or more of the performance standards. Additionally, two formative assessment
evaluations are conducted, which consist of a 30-minute observation and information gathered from documentation submitted, lesson plans, and a review of communication logs. This preponderance of evidence yields a rating over all 10 of the performance standards. The observations (walkthroughs and formative) may be announced or unannounced.

The TAPS provides a balance of structure and flexibility in teaching style. The prescriptive approach defines the expectations for effective instructional practices and guides the instruction through common vocabulary and exemplars (TKES, 2013). Teacher individuality, creativity, and learning styles are not inhibited through the process; however, the overarching goal of the TKES process allows for the continuous growth of teachers. The TKES process provides samples of performance indicators, research-based fact sheets, and rubrics to guide teachers along the path of becoming more effective. The TAPS feature a three-tiered approach to define the teacher expectations, which includes five domains: planning, instructional delivery, assessment of and for learning, learning environment, and professionalism and communication. Table 4 displays the 10 TAPS performance standards by which teachers are evaluated.

Table 4  
*Teacher Assessment on Performance Standards (TAPS)*

<table>
<thead>
<tr>
<th>Domain</th>
<th>Standard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning</td>
<td>Standard 1: Professional Knowledge</td>
<td>The teacher demonstrates an understanding of the curriculum, subject, content, pedagogical knowledge, and the needs of students by providing relevant learning experiences.</td>
</tr>
<tr>
<td></td>
<td>Standard 2: Instructional Planning</td>
<td>The teacher plans using state and local school district curricula and standards, effective strategies, resources, and data to address the differentiated needs of all students.</td>
</tr>
<tr>
<td>Instructional Delivery</td>
<td>Standard 3: Instructional Strategies</td>
<td>The teacher promotes student learning by using research-based instructional strategies relevant to the content to engage students in active learning</td>
</tr>
</tbody>
</table>
and to facilitate the students’ acquisition of key
knowledge and skills.

Standard 4: Differentiated Instruction

The teacher challenges and supports students’
learning by providing appropriate content and
developing skills which address individual learning
differences.

Assessment of and for learning

Standard 5: Assessment Strategies

The teacher systematically chooses a variety of
diagnostic, formative, and summative assessment
strategies and instruments that are valid and
appropriate for the content and student population.

Standard 6: Assessment Uses

The teacher systematically gathers, analyzes, and
uses relevant data to measure student progress, to
inform instructional content and delivery methods,
and to provide timely and constructive feedback to
both students and parents.

Learning Environment

Standard 7: Positive Learning Environment

The teacher provides a well-managed, safe, and
orderly environment that is conducive to learning
and encourages respect for all.

Standard 8: Academically Challenging Environment

The teacher creates a student-centered, academic
environment in which teaching and learning occur
at high levels and students are self-directed
learners.

Professionalism and Communication

Standard 9: Professionalism

The teacher exhibits a commitment to professional
ethics and the school’s mission, participates in
professional growth opportunities to support student
learning, and contributes to the profession.

Standard 10: Communication

The teacher communicates effectively with
students, parents or guardians, district and school
personnel, and other stakeholders in ways that
enhance student learning.
Procedures

Since human participants were used as part of the study, care was taken to protect human rights to privacy and protection. The participants were treated with respect and privacy was protected. The participants were made aware of the benefit of participation in the study, as well as the fact that there was no compensation for participation or punishment for non-participation. Proper paperwork was filed and approved by Liberty University’s Institutional Review Board (IRB) prior to any aspects of the study being implemented. The five members of the IRB provided guidance to the researcher throughout the process. Permission from the school districts was obtained in written form IRB approval was obtained (see Appendix E).

Permission to conduct the research study was obtained from the superintendents of all four of the participating school systems prior to contacting the school principals (see Appendix C). The signed documentation was also provided to the principals and teachers in order to secure participation in the research study. The researcher gave the school district superintendents the letter of informed consent (see Appendix D) explaining the nature of the research study, purpose for the data collection, and the IRB stamped approval, which then distributed it to the teachers via email, along with the MES-W survey link. The decision to participate was left up to the teachers, who decided to click on the link and complete the demographic data and the survey. The superintendents also provided a data file of the TKES overall scores to the RESA statistician.

The MES-W teacher survey was completed online for ease of data collection and as a time saving device for teachers. Teachers were encouraged to participate in the survey during their planning time or after school. The data from the TKES summative assessments, which are the end of the year evaluation ratings, were collected from the school district office, and
indicated the overall level of performance on the TAPS portion of the TKES (Level IV, Exemplary; Level III, Proficient; Level II, Needs Development; and Level I, Ineffective).

Demographic data were collected as well (Gall, Gall, & Borg, 2010), in order to provide clarification of who the participants were. A set beginning and ending date, as outlined in the IRB approval letter, was embedded in the online survey, to ensure reliability of the results. The survey question format was short and easy to read to provide more accurate data. In addition, the survey link given to the teachers became inactive once the survey was completed, in order to provide for accuracy in reporting only one score per participant. The researcher collected the MES-W (2012) survey results from the teachers utilizing a password-protected computer to ensure privacy of the participants. The researcher did not have access to any identifying information.

The ratings on the MES-W (2012) survey were entered into the Statistical Package for the Social Sciences (SPSS)© statistical software and then matched to the TKES summative assessment levels results by a qualified data analyst at the Pioneer Regional Educational Services Agency (RESA). At no time did the researcher have access to teacher names, school assignments, or the teachers’ individual TKES scores.

Data Analysis

The statistical analysis was conducted utilizing the SPSS© software. The Mann-Whitney U test was the inferential test used to measure significant differences in the variables. Tests for normality were also conducted. Additionally, the Pearson’s $r$ Correlation was used to determine if a statistically significant relationship existed between the variables. The Spearman rho Correlation further tested the relationship between the components of the TKES and the MES-W (Martin, 2012). The analysis of covariance (ANCOVA) test was used to analyze the null
hypotheses, which allowed for the researcher to determine the predictive correlation among the criterion variables (Gall, Gall, & Borg, 2007).

Warner (2013) suggested that the appropriate assumption tests for multiple regression-analyses include normality (histogram, probability-probability plot), homoscedasticity (scatterplot), linearity (scatterplot), and extreme outliers (Cook’s Distance and Mahalanobis Distance for the overall data set). The series of statistical analyses included the homogeneity of regression (slope) assumption tests to evaluate the interaction between the covariates and the Levene’s Test of Equality or Error Variances for the dependent variable. Tests for normality included histograms, skew and kurtosis statistics, and the Kolmogorov-Smirnov test. The results of the assumptions tests and ANCOVA are presented and discussed in Chapter 4.

The study focused on the general characteristics that highly motivated and engaged individuals could display. For example, previous research (Ainley, 2004; Deci, Koestner & Ryan, 2001; Hattie, 2009; Hufton et al., 2002) indicated that students who are motivated tend to have high achievement levels. The data collected from the MES-W provided statistical analyses to determine generalizations about the relationship of the teachers’ motivation and engagement to their level of teaching experience. Descriptive statistics were analyzed to summarize the data from the sample participants. Descriptive statistics included demographic variables for the sample size (N), central tendency, standard deviation, and standard error of the mean (Rovai, Baker, & Ponton, 2013).

Survey results were analyzed using correlational coefficients to test each hypothesis for inferential statistics (Howell, 2011). A scatterplot (or scattergram) was used to show any relationships between the variables and the positive or negative direction of the relationship (Rovai, Baker, & Ponton, 2013). These data were correlated to the overall levels of performance
on the TKES to determine the effect of motivation and engagement and years of teaching experience (Gall, Gall, & Borg, 2010). The survey data collected from the teachers were correlated to triangulate the statistics from the MES-W (Martin, 2012), the years of teaching experience, and the level of proficiency on the TKES summative assessment by examining the alpha score.

The level of statistical significance used for this study was alpha (\(\alpha\)) = .05. The correlation of data was interpreted to either reject the null hypotheses or accept the null hypotheses. Limitations of the small sample size for the induction (first four years) level teachers are discussed more fully in Chapter 5.
CHAPTER FOUR: FINDINGS

The purpose of this quantitative correlational study was two-fold: first, to contribute research to previous studies that have explored the relationship between motivation and engagement and teacher effectiveness, and second, to address the gap in the literature in regards to the study of motivation and engagement and teachers’ experience levels. Teachers in four northeast Georgia school districts provided the data collected for this study. This chapter is divided into five sections. First, the research questions and hypotheses are presented. Second, the demographic data of the participants are discussed. Third, the sample population is presented in the descriptive statistics. Fourth, the results of the statistical analyses for each research question, including related assumptions and interpretations, are presented. Fifth, the summary of the findings is presented. Chapter Four ends with a preview of the purpose of Chapter Five.

Research Questions

The following research questions guided the study:

Research Question 1: Is there a statistically significant difference in the level of motivation and engagement, as measured by the MES-W (Martin, 2012), between induction level teachers (first four years) and veteran level teachers (five or more years)?

Research Question 2: For induction level teachers (first four years), is there a statistically significant relationship between teachers’ motivation and engagement, as measured by the MES-W (Martin, 2012), and the results on the TAPS overall score portion of the Teacher Keys Effectiveness System (TKES) formative evaluation?

Research Question 3: For veteran level teachers (five or more years), is there a statistically significant relationship between teachers’ motivation and engagement, as measured
by the MES-W (Martin, 2012), and the results on the TAPS overall score portion of the Teacher Keys Effectiveness System (TKES) formative evaluation?

**Research Question 4:** While controlling for the overall score on the TAPS portion of the TKES, is there a statistically significant difference in the level of motivation and engagement level, as measured by the MES-W (Martin, 2012), between induction level teachers (first four years) and veteran level teachers (five or more years)?

**Null Hypotheses**

The null hypotheses explored in the research study were:

- **H₀₁:** There is no statistically significant difference in the level of motivation and engagement, as measured by the MES-W (Martin, 2012), between induction level teachers (first four years) and veteran level teachers (five or more years).

- **H₀₂:** For induction level teachers (first four years), there is no statistically significant relationship between teachers’ motivation and engagement, as measured by the MES-W (Martin, 2012), and the results on the TAPS overall portion of the Teacher Keys Effectiveness System (TKES) formative evaluation.

- **H₀₃:** For veteran level teachers (five or more years), there is no statistically significant relationship between teachers’ motivation and engagement, as measured by the MES-W (Martin, 2012), and the results on the TAPS overall Score portion of the Teacher Keys Effectiveness System (TKES) formative evaluation.

- **H₀₄:** While controlling for the overall score on the TAPS portion of the TKES, there is no statistically significant difference in the level of motivation and engagement, as measured by the MES-W (Martin, 2012), between induction level teachers (first four years) and veteran level teachers (five or more years).
Alternate Hypotheses

H1: There is a statistically significant difference in the level of motivation and engagement, as measured by the MES-W (Martin, 2012), between induction level teachers (first four years) and veteran level teachers (five or more years).

H2: For induction level teachers (first four years), there is a statistically significant relationship between teachers’ motivation and engagement, as measured by the MES-W (Martin, 2012), and the results on the TAPS overall score portion of the Teacher Keys Effectiveness System (TKES) formative evaluation.

H3: For veteran level teachers (five or more years), there is a statistically significant relationship between teachers’ motivation and engagement, as measured by the MES-W (Martin, 2012), and the results on the TAPS overall score portion of the Teacher Keys Effectiveness System (TKES) formative evaluation.

H4: While controlling for the overall score on the TAPS portion of the TKES, there is a statistically significant difference in the level of motivation and engagement, as measured by the MES-W (Martin, 2012), between induction level teachers (first four years) and veteran level teachers (five or more years).

Descriptive Statistics

The participants for this research study were 161 teachers employed with four school districts in rural northeast Georgia. The majority of respondents were kindergarten through fifth-grade teachers (57.12%), female (82%), who taught math (23.0%), English/Language Arts (29.2%) or reading (19.9%), and veteran teachers (78.3%) with five or more years of experience (see Tables 5 through 9 and Figures 1 through 3).
Table 5 displays the frequency analysis for the participants, outlining the percentage of teachers for each grade span, including elementary teachers (kindergarten through fifth grade); middle school teachers (sixth through eighth grades); and high school teachers (ninth through twelfth grades).

Table 5

**Frequency Analysis-Grade Levels**

<table>
<thead>
<tr>
<th>Grade Levels</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>K - 5</td>
<td>92</td>
<td>57.1</td>
<td>57.1</td>
</tr>
<tr>
<td>6 - 8</td>
<td>20</td>
<td>12.4</td>
<td>69.6</td>
</tr>
<tr>
<td>9 - 12</td>
<td>49</td>
<td>30.4</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>161</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

The majority of teachers responding were elementary teachers. Nearly six of ten respondents (57.1%) taught in elementary school and another three of ten teachers (30.4%) worked within a high school.

The frequency analysis by gender is represented in Table 6. Female teachers dominated the field of education for the region of northeast Georgia.

Table 6

**Frequency Analysis-Gender**

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>29</td>
<td>18.0</td>
<td>18.0</td>
</tr>
<tr>
<td>Female</td>
<td>132</td>
<td>82.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>161</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>
For the respondent sample, over eight of every 10 teachers (82%) were female.

The participants in the research study taught a variety of subject areas. Data are displayed in Table 7 and Figure 1, which is the frequency analysis by subject taught.

Table 7

*Frequency Analysis—Subject Taught*

<table>
<thead>
<tr>
<th>Subject Taught</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math</td>
<td>37</td>
<td>23.0</td>
<td>23.0</td>
</tr>
<tr>
<td>ELA</td>
<td>47</td>
<td>29.2</td>
<td>52.2</td>
</tr>
<tr>
<td>Science</td>
<td>15</td>
<td>9.3</td>
<td>61.5</td>
</tr>
<tr>
<td>Social Studies</td>
<td>12</td>
<td>7.5</td>
<td>68.9</td>
</tr>
<tr>
<td>CTAE</td>
<td>11</td>
<td>6.8</td>
<td>75.8</td>
</tr>
<tr>
<td>Fine Arts</td>
<td>2</td>
<td>1.2</td>
<td>77.0</td>
</tr>
<tr>
<td>Health/PE</td>
<td>5</td>
<td>3.1</td>
<td>80.1</td>
</tr>
<tr>
<td>Reading</td>
<td>32</td>
<td>19.9</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>161</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 7 and Figure 1 indicate that the greatest percentages of teachers that responded either taught math (23.0%), English/Language Arts (29.2%) or reading (19.9%). About one in 10 teachers (9.3%) taught science.
Participants were asked to voluntarily submit their years of teaching experience and their age range. Data are displayed in Tables 8 and 9, respectively. Four teachers did not volunteer their age ranges. Nearly eight of every 10 teachers responding were considered veteran teachers. About three-fourths of the teachers were aged 40 years or older.
Table 9
*Frequency Analysis-Age (voluntary information)*

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 - 24</td>
<td>3</td>
<td>1.9</td>
<td>1.9</td>
<td>1.9</td>
</tr>
<tr>
<td>25 - 28</td>
<td>10</td>
<td>6.2</td>
<td>6.4</td>
<td>8.3</td>
</tr>
<tr>
<td>29 - 35</td>
<td>13</td>
<td>8.1</td>
<td>8.3</td>
<td>16.6</td>
</tr>
<tr>
<td>36 - 40</td>
<td>15</td>
<td>9.3</td>
<td>9.6</td>
<td>26.1</td>
</tr>
<tr>
<td>41 - 45</td>
<td>42</td>
<td>26.1</td>
<td>26.8</td>
<td>52.9</td>
</tr>
<tr>
<td>46 +</td>
<td>74</td>
<td>46.0</td>
<td>47.1</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>157</strong></td>
<td><strong>97.5</strong></td>
<td><strong>100.0</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Missing</th>
<th>System</th>
<th>4</th>
<th>2.5</th>
</tr>
</thead>
</table>

| **Total** | **161** | **100.0** |

Table 10 lists the descriptive statistics for the respondents’ scores on the MES-W (Martin, 2012), which is a 44-item self-reporting motivation and engagement survey. The MES-W scores ranged from a minimum of 9 to a maximum of 73 out of a possible total of 100. The distribution of the MES-W scores was skewed to the left (skewness = -3.23), although the mean ($M=59.1$, $SD=8.9$) and median ($Md=60.2$) were close in value. From Figure 2, the negative skewness is supported by the histogram’s display of the MES-W distribution’s long tail to the left.
Table 10

**Descriptive Statistics – MES-W Score**

<table>
<thead>
<tr>
<th>N</th>
<th>Valid</th>
<th>161</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Missing</td>
<td>0</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>59.08</td>
</tr>
<tr>
<td>Median</td>
<td></td>
<td>60.18</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td></td>
<td>8.889</td>
</tr>
<tr>
<td>Variance</td>
<td></td>
<td>79.017</td>
</tr>
<tr>
<td>Skewness</td>
<td></td>
<td>-3.232</td>
</tr>
<tr>
<td>Kurtosis</td>
<td></td>
<td>14.638</td>
</tr>
<tr>
<td>Range</td>
<td></td>
<td>64</td>
</tr>
<tr>
<td>Minimum</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>Maximum</td>
<td></td>
<td>73</td>
</tr>
</tbody>
</table>

Figure 2

*Histogram of MES Score*
The observed and measurable portion of the TKES was the Teacher Assessment on Performance Standards (TAPS). For the teacher respondents, a TAPS summative assessment score ranged from 12 to 30. There was about a one-point difference between the mean ($M = 21.1$, $SD = 2.6$) and median values ($Md = 20.0$). The TAPS overall scores were slightly skewed (Skewness = 1.1) to the right (see Table 11 and Figure 3).

Table 11

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>N Valid</td>
<td>161</td>
</tr>
<tr>
<td>N Missing</td>
<td>0</td>
</tr>
<tr>
<td>Mean</td>
<td>21.11</td>
</tr>
<tr>
<td>Median</td>
<td>20.00</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>2.627</td>
</tr>
<tr>
<td>Variance</td>
<td>6.900</td>
</tr>
<tr>
<td>Skewness</td>
<td>1.109</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>3.689</td>
</tr>
<tr>
<td>Range</td>
<td>18</td>
</tr>
<tr>
<td>Minimum</td>
<td>12</td>
</tr>
<tr>
<td>Maximum</td>
<td>30</td>
</tr>
</tbody>
</table>
Tables 12 through 14 provided group means for the MES-W and TAPS overall scores based on teaching experience, teaching position, and subject taught. Induction (first four years) teachers ($M=60.0$, $SD=4.5$) had a higher MES-W score than veteran teachers ($M=58.8$, $SD=9.8$). High school teachers had the highest MES-W scores ($M = 60.3$, $SD = 5.5$), followed by kindergarten teachers ($M=58.9$, $SD=9.0$), and middle school teachers ($M = 56.9$, $SD = 13.8$). MES-W scores for female teachers ($M = 59.2$, $SD=8.4$) were greater than those for their male counterparts ($M = 58.5$, $SD = 10.9$).

Unlike the MES-W scores, the teachers’ TAPS overall scores for induction teachers ($M = 20.5$, $SD = 1.9$) were less than those scores for the veteran teachers ($M = 21.3$, $SD = 2.8$). TAPS overall scores were greatest for kindergarten teachers ($M = 21.5$, $SD = 2.9$). The
descriptive statistics for TAPS overall scores were very similar for male ($M = 21.2, SD = 3.0$) and female teachers ($M = 21.1, SD = 2.6$).

Table 12 displays the group descriptive statistics for both the MES-W Score (Martin, 2012) and the TAPS overall score by years of teaching experience (TKES, 2013). The two groups displayed are induction level (one to four years of experience) and the veteran level (five or more years of experience).

Table 12

<table>
<thead>
<tr>
<th>Years of experience</th>
<th>Statistics</th>
<th>MES-W Score</th>
<th>TAPS Overall Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 4</td>
<td>Mean</td>
<td>60.02</td>
<td>20.54</td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>4.528</td>
<td>1.868</td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td>60.18</td>
<td>20.00</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>5 or more</td>
<td>Mean</td>
<td>58.82</td>
<td>21.27</td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>9.760</td>
<td>2.787</td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td>60.33</td>
<td>20.00</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>126</td>
<td>126</td>
</tr>
<tr>
<td>Total</td>
<td>Mean</td>
<td>59.08</td>
<td>21.11</td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>8.889</td>
<td>2.627</td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td>60.18</td>
<td>20.00</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>161</td>
<td>161</td>
</tr>
</tbody>
</table>

Table 13 provides the group descriptive statistics for the MES-W Score (Martin, 2012) and the TAPS overall score by teaching position (grade bands) for the respondents.
Table 13  
*Group Descriptive Statistics: MES-W Score & TAPS Overall Score by Teaching Position*

<table>
<thead>
<tr>
<th>Teaching Position</th>
<th>MES-W Score</th>
<th>TAPS Overall Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>K - 5</strong></td>
<td>Mean</td>
<td>58.90</td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>9.010</td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td>60.18</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>92</td>
</tr>
<tr>
<td><strong>6 - 8</strong></td>
<td>Mean</td>
<td>56.86</td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>13.837</td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td>60.03</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>20</td>
</tr>
<tr>
<td><strong>9 - 12</strong></td>
<td>Mean</td>
<td>60.34</td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>5.473</td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td>61.37</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>49</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>Mean</td>
<td>59.08</td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>8.889</td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td>60.18</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>161</td>
</tr>
</tbody>
</table>

Table 14 depicted the group statistics for the MES-W Score (Martin, 2012) and the TAPS overall score by the subjects taught for the participants.
Table 14

*Group Descriptive Statistics: MES-W Score & TAPS Overall Score by Subject Taught*

<table>
<thead>
<tr>
<th>Subject Taught</th>
<th>MES-W Score</th>
<th>TAPS Overall Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math</td>
<td>58.70</td>
<td>21.03</td>
</tr>
<tr>
<td></td>
<td>9.545</td>
<td>2.692</td>
</tr>
<tr>
<td></td>
<td>60.33</td>
<td>20.00</td>
</tr>
<tr>
<td></td>
<td>37</td>
<td>37</td>
</tr>
<tr>
<td>ELA</td>
<td>59.03</td>
<td>21.45</td>
</tr>
<tr>
<td></td>
<td>6.968</td>
<td>2.812</td>
</tr>
<tr>
<td></td>
<td>59.58</td>
<td>21.00</td>
</tr>
<tr>
<td></td>
<td>47</td>
<td>47</td>
</tr>
<tr>
<td>Science</td>
<td>58.41</td>
<td>20.80</td>
</tr>
<tr>
<td></td>
<td>12.636</td>
<td>2.396</td>
</tr>
<tr>
<td></td>
<td>62.71</td>
<td>20.00</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Social Studies</td>
<td>60.88</td>
<td>20.25</td>
</tr>
<tr>
<td></td>
<td>6.100</td>
<td>2.179</td>
</tr>
<tr>
<td></td>
<td>61.89</td>
<td>20.00</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>CTAE</td>
<td>59.15</td>
<td>20.55</td>
</tr>
<tr>
<td></td>
<td>7.675</td>
<td>1.440</td>
</tr>
<tr>
<td></td>
<td>59.58</td>
<td>20.00</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Course</td>
<td>Mean</td>
<td>Std. Deviation</td>
</tr>
<tr>
<td>--------------</td>
<td>------</td>
<td>----------------</td>
</tr>
<tr>
<td>Fine Arts</td>
<td>61.15</td>
<td>22.50</td>
</tr>
<tr>
<td>Health/PE</td>
<td>51.84</td>
<td>22.00</td>
</tr>
<tr>
<td>Reading</td>
<td>60.23</td>
<td>21.16</td>
</tr>
<tr>
<td>Total</td>
<td>59.08</td>
<td>21.11</td>
</tr>
</tbody>
</table>

### Results

The null hypotheses explored the relationships among the variables. The results of the statistical analyses are presented in the following section.

#### Null Hypothesis One

The first null hypothesis explored the relationship between the motivation and engagement level of teachers by dividing them into two groups, induction level (one to four years) and veteran level (five or more years) as measured by the MES-W (Martin, 2012). This
research question related the main criterion variable of motivation and engagement as measured by the MES-W score and the number of years of experience for the induction level (one to four years) teachers and veteran level teachers (five or more years).

Research Question 1: Is there a statistically significant difference in the level of motivation and engagement, as measured by the MES-W (Martin, 2012), between induction level teachers (first four years) and veteran level teachers (five or more years)?

H₀: There is no statistically significant difference in the level of motivation and engagement, as measured by the MES-W (Martin, 2012), between induction level teachers (first four years) and veteran level teachers (five or more years).

H₁: There is a statistically significant difference in the level of motivation and engagement, as measured by the MES-W (Martin, 2012), between induction level teachers (first four years) and veteran level teachers (five or more years).

The inferential test to measure whether there was a significant difference between two groups (teachers with one to four years of experience and those with five or more years) was the independent samples t-test. There were three assumptions to be met prior to conducting an independent samples t-test. The first assumption was that the variables were normally distributed. As shown in Table 15, normality was tested using a Kolmogorov-Smirnov test (N ≥ 50). Both the TAPS overall score [K-S (161) = 0.229, p < 0.01] and the MES-W score [K-S (161) = 0.216, p < 0.01] were not normally distributed. Therefore, an independent samples t-test could not be conducted and a Mann-Whitney U test was conducted for testing the null hypothesis (Gall, Gall, & Borg, 2007; Warner, 2012). In addition, the other two assumptions, homogeneity of variance and equal means, did not need to be tested since the normality assumption failed.
The boxplots (see Figures 6 and 7) revealed numerous outliers for both TAPS overall scores and MES-W scores.

Table 15

<table>
<thead>
<tr>
<th></th>
<th>Kolmogorov-Smirnov&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Statistic</td>
</tr>
<tr>
<td>TAPS Overall Score</td>
<td>0.229</td>
</tr>
<tr>
<td>MES-W Score</td>
<td>0.216</td>
</tr>
</tbody>
</table>

<sup>a</sup> Lilliefors Significance Correction

Figure 4

*MES-W Scores*
The error bar plot was used prior to the Mann-Whitney U test as a preliminary determination of whether there was a difference in the means and variances between the two teacher experience groups. The x-axis represents the two groups from the independent variable (years of experience) and the y-axis represents the mean value of the dependent variable (MES-W Score). The closer in value the means the more likely the assumption of equal means will prove true when conducting the test of differences (Gall, Gall, & Borg, 2007; Warner, 2012). The more similar the vertical distance between the horizontal bars for each group, the more likely homogeneity of variance holds true (Warner, 2012). From the error bar plot in Figure 6, it appears that the MES-W score means were not different. It also appears that the variance in the induction teacher (1 to 4 years) group was not different from that of the veteran teachers’ group.
Figure 6

Error Bar Plot for TAPS Overall Scores by Years of Experience

Table 16 shows summary descriptive statistics for the level of the dependent variable for each group in the Mann Whitney U test results.

Table 16

<table>
<thead>
<tr>
<th>Years of experience</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>MES-W 1 – 4</td>
<td>35</td>
<td>60.02</td>
<td>4.528</td>
<td>0.765</td>
</tr>
<tr>
<td>Score 5 or more</td>
<td>126</td>
<td>58.82</td>
<td>9.760</td>
<td>0.869</td>
</tr>
<tr>
<td>Total</td>
<td>161</td>
<td>59.08</td>
<td>8.889</td>
<td>0.701</td>
</tr>
</tbody>
</table>
The results of the Mann-Whitney U test, shown in Tables 17 and 18, display differences in the ranked positions of scores in the two teachers’ years of teaching experience groups. The results of the Mann Whitney U test showed no statistically significant difference in the mean rank MES-W scores between teachers with 1-4 years of experience (mean rank = 79.8) and teachers with 5 or more years in the profession (mean rank = 81.3). The null hypothesis was accepted [$U (161) = 2164.5, p = 0.868$]. The unequal group sizes may account for no significant difference.

Table 17

Mean and Sum of Ranks

<table>
<thead>
<tr>
<th>Years of experience</th>
<th>N</th>
<th>Mean Rank</th>
<th>Sum of Ranks</th>
</tr>
</thead>
<tbody>
<tr>
<td>MES-W 1 - 4</td>
<td>35</td>
<td>79.84</td>
<td>2794.50</td>
</tr>
<tr>
<td>Score 5 or more</td>
<td>126</td>
<td>81.32</td>
<td>10246.50</td>
</tr>
<tr>
<td>Total</td>
<td>161</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 18

Mann Whitney U Test Statistics

<table>
<thead>
<tr>
<th>MES-W Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mann-Whitney U</td>
</tr>
<tr>
<td>Wilcoxon W</td>
</tr>
<tr>
<td>Z</td>
</tr>
<tr>
<td>Asymp. Sig. (2-tailed)</td>
</tr>
</tbody>
</table>

*a. Grouping Variable: Years of experience*

Null Hypothesis Two

Research Question 2: For induction level teachers (first four years), is there a statistically significant relationship between teachers’ motivation and engagement, as measured by the MES-
W (Martin, 2012), and the results on the TAPS overall score portion of the Teacher Keys Effectiveness System (TKES) formative evaluation?

$H_02$: For induction level teachers (first four years), there is no statistically significant relationship between teachers’ motivation and engagement, as measured by the MES-W (Martin, 2012), and the results on the TAPS overall score portion of the Teacher Keys Effectiveness System (TKES) formative evaluation.

$H_12$: For induction level teachers (first four years), there is a statistically significant relationship between teachers’ motivation and engagement, as measured by the MES-W (Martin, 2012), and the results on the TAPS overall score portion of the Teacher Keys Effectiveness System (TKES) formative evaluation.

To test the hypotheses related to Research Question 2, a Pearson’s product-moment correlation coefficient (see Table 19) was performed between TAPS overall scores (TKES, 2013) and the MES-W scores controlling for only induction level teachers (1-4 years of experience). The scatterplot in Figure 7 demonstrated significant scattering of points in that the points did not follow a linear pattern. Therefore, it appeared there was no relationship between the variables. From the table and scatterplot, the null hypothesis was accepted. For induction level teachers (1-4 years), there was no statistically significant relationship between teachers’ motivation and engagement, as measured by the MES-W (Martin, 2012), and the results on the TAPS overall score portion of the Teacher Keys Effectiveness System (TKES) formative evaluation [$r (35) < 0.01, p = 0.99$].
Table 19

*Pearson’s r Correlation – Induction Teachers Only (<5 years of experience)*

<table>
<thead>
<tr>
<th>TAPS Overall Score</th>
<th>MES-W Score</th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0.000</td>
<td>0.999</td>
<td>35</td>
</tr>
</tbody>
</table>

Figure 7

Scatterplot of MES-W Scores by TAP Scores - Induction Teachers Only

It is probable that the low number of cases (n = 35) may account for the lack of correlation between TAPS overall scores and MES-W scores for induction teachers. Therefore, a Spearman’s rho correlation was conducted (see Table 20).

Table 20

*Spearman rho Correlation Between TAPS Overall Scores and MES-S Scores*

<table>
<thead>
<tr>
<th>MES-W Score</th>
<th>Spearman's rho</th>
<th>TAPS Overall Rating</th>
<th>Correlation Coefficient</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-0.182</td>
<td></td>
<td></td>
<td>0.295</td>
<td>35</td>
</tr>
</tbody>
</table>
Based on the Spearman’s rho correlation in Table 20, once again, the null hypothesis was accepted and there was no statistically significant relationship between teachers’ motivation and engagement (MES-W) and their TAPS scores [$\rho (35) = -0.182, p = 0.295$]. To verify that no component of TAPS was correlated to MES-W scores for induction teachers, a Spearman’s rho correlation analysis was conducted. As seen in Table 21, there was no statistically significant relationship between any components of TAPS Overall Score and the induction teachers’ MES-W scores.

Table 21

*Spearman rho Correlation between Components of TAPS and MES Scores—Induction Teachers*

<table>
<thead>
<tr>
<th>Component</th>
<th>Correlation Coefficient</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Knowledge</td>
<td>0.096</td>
<td>0.585</td>
</tr>
<tr>
<td>Instructional Planning</td>
<td>-0.025</td>
<td>0.884</td>
</tr>
<tr>
<td>Instructional Strategies</td>
<td>-0.017</td>
<td>0.923</td>
</tr>
<tr>
<td>Differentiated Instruction</td>
<td>0.019</td>
<td>0.912</td>
</tr>
<tr>
<td>Assessment Strategies</td>
<td>0.220</td>
<td>0.205</td>
</tr>
<tr>
<td>Assessment Uses</td>
<td>-0.140</td>
<td>0.421</td>
</tr>
<tr>
<td>Positive Learning Environment</td>
<td>-0.016</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Correlation Coefficient</td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Academically Challenging Environment</td>
<td>0.088</td>
<td>0.617</td>
</tr>
<tr>
<td>Professionalism</td>
<td>0.180</td>
<td>0.300</td>
</tr>
<tr>
<td>Communication</td>
<td>0.289</td>
<td>0.092</td>
</tr>
</tbody>
</table>

*Correlation is significant at the 0.05 level (2-tailed). n = 35*

**Null Hypothesis 3**

Research Question 3: For veteran level teachers (five or more years), is there a statistically significant relationship between teachers’ motivation and engagement, as measured by the MES-W (Martin, 2012), and the results on the TAPS overall score portion of the Teacher Keys Effectiveness System (TKES) formative evaluation?

H₀₃: For veteran level teachers (five or more years), there is no statistically significant relationship between teachers’ motivation and engagement, as measured by the MES-W (Martin, 2012), and the results on the TAPS overall Score portion of the Teacher Keys Effectiveness System (TKES) formative evaluation.

H₁₃: For veteran level teachers (five or more years), there is a statistically significant relationship between teachers’ motivation and engagement, as measured by the MES-W (Martin, 2012), and the results on the TAPS overall score portion of the Teacher Keys Effectiveness System (TKES) formative evaluation.

To test the hypotheses related to Research Question 3, a Pearson’s r correlation, as shown in Table 22 and Table 23, was performed between TAPS overall scores and the MES-W scores
for only veteran teachers (5 or more years of experience). The scatterplot in Figure 10 displayed no relationship between the variables and showed a lack of linear relationship between these two variables. From the table and scatterplot, the null hypothesis was accepted \[ r (126) = 0.141, p = 0.116 \]. For veteran teachers, there was no statistically significant relationship between teachers’ motivation and engagement, as measured by the MES-W scores \( (M = 58.8, SD = 9.8) \) and the TAPS overall scores \( (M = 21.3, SD = 2.8) \).

Table 22
*Descriptive Statistics—Veteran Teachers Only (≥ 5 years of experience)*

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAPS Overall Score</td>
<td>21.27</td>
<td>2.787</td>
<td>126</td>
</tr>
<tr>
<td>MES-W Score</td>
<td>58.82</td>
<td>9.760</td>
<td>126</td>
</tr>
</tbody>
</table>

Table 23
*Pearson’s r Correlation Between TAPS Overall Scores and MES-W Scores—Veteran Teachers Only*

<table>
<thead>
<tr>
<th></th>
<th>MES-W Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAPS Overall Score</td>
<td>Pearson Correlation</td>
</tr>
<tr>
<td></td>
<td>0.141</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td></td>
<td>0.116</td>
</tr>
<tr>
<td></td>
<td>n</td>
</tr>
<tr>
<td></td>
<td>126</td>
</tr>
</tbody>
</table>
Null Hypothesis 4

Research Question 4: While controlling for the overall score on the TAPS portion of the TKES, is there a statistically significant difference in the level of motivation and engagement level, as measured by the MES-W (Martin, 2012), between induction level teachers (first four years) and veteran level teachers (five or more years)?

H₀₄: While controlling for the overall score on the TAPS portion of the TKES, there is no statistically significant difference in the level of motivation and engagement, as measured by the MES-W (Martin, 2012), between induction level teachers (first four years) and veteran level teachers (five or more years).

H₁₄: While controlling for the overall score on the TAPS portion of the TKES, there is a statistically significant difference in the level of motivation and engagement, as measured by the MES-W (Martin, 2012), between induction level teachers (first four years) and veteran level teachers (five or more years).
The inferential test required for Research Question 4 was a One-Way Analysis of Covariance (ANCOVA). First, the ANCOVA includes a regression of the independent variable (i.e., the covariate) on the dependent variable. The residuals (the unexplained variance in the regression model) are then subjected to an ANOVA. This means that the ANCOVA tests whether the independent variable still influences the dependent variable after the influence of the covariate(s) has been removed. The ANCOVA examines the unexplained variance and attempts to explain some of it with the covariate(s) and it increases the power of the ANOVA by explaining more variability in the model (Gall, et al., 2007).

Before conducting an ANCOVA, the homogeneity-of-regression (slope) assumption should first be tested (Rovai et al., 2013). The test evaluated the interaction between the covariate-score on the TAPS portion of the TKES and the factor (independent variable-induction level teachers/ veteran level teachers) in the prediction of the dependent variable-level of motivation and engagement. A significant interaction between the covariate and the factor would suggest that the differences on the dependent variable among groups vary as a function of the covariate. If the interaction was significant (the results from an ANCOVA were not meaningful), an ANCOVA should not be conducted. The interaction source was labeled Interaction-Yrs by TAPS. The results in Table 24 indicate the interaction was not statistically significant \( F(1,157) = 0.327, p = 0.568 \). Based on this finding, the researcher continued with the ANCOVA analysis.

Table 24

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
</table>

Tests of Homogeneity-of-Regression (Slope) Assumption for MES Score
Table 25 displays the descriptive statistics for the dependent variable, the MES-W Score, which divided the participants into two groups, induction level teachers (1 – 4 years of experience) and veteran level teachers (5 or more years of experience).

Table 25  
Descriptive Statistics- Dependent Variable: MES-W Score

<table>
<thead>
<tr>
<th>Years Experience</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 4</td>
<td>60.02</td>
<td>4.528</td>
<td>35</td>
</tr>
<tr>
<td>5 or more</td>
<td>58.82</td>
<td>9.760</td>
<td>126</td>
</tr>
<tr>
<td>Total</td>
<td>59.08</td>
<td>8.889</td>
<td>161</td>
</tr>
</tbody>
</table>

From Table 26, the assumption of homogeneity of variance for the one-way ANCOVA was rejected [$F (1, 159) = 4.238, p = 0.041$]. The covariate score on the TAPS portion of the TKES was included in the analysis to control for the differences on the independent variable induction level teachers/veteran level teachers. The primary purpose of the test of the covariate was that it evaluated the relationship between the covariate and the dependent variable, controlling for the factor (i.e., for any particular group).
Table 26

*Levene's Test of Equality of Error Variances\(^a\) - Dependent Variable: MES Score*

<table>
<thead>
<tr>
<th></th>
<th>F</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.238</td>
<td>1</td>
<td>159</td>
<td>0.041</td>
</tr>
</tbody>
</table>

Tests null hypothesis that error variance of dependent variable is equal across groups.

\(a\). Design: Intercept + Yrs Experience + TAPS + Yrs Experience * TAPS

The statistical analysis, displayed in Table 27, indicates that the relationship was not statistically significant \([F(1, 157) = 0.325, p = 0.569]\). Additionally, what this showed is that there was not a significant effect between the covariate and the dependent variable, and the covariate *score on the TAPS* was not linearly related to the dependent variable *MES-W Score*. From the effect size value, the covariate *Teachers’ TAPS Scores* accounted for only 0.2% (partial \(\eta^2 = 0.002\) effect) of the variance in the *MES Score*, controlling for *Years of experience-Induction/Veteran*.

The results from Table 28 can be interpreted as follows. The group source (labeled *Years of experience*) evaluated the null hypothesis that the population-adjusted means of the independent variable were equal. The results of the analysis indicate that this hypothesis was accepted \([F(1, 157) = 0.427, p = 0.514]\).

Table 27

*Tests of Between-Subjects Effects- Dependent Variable: MES-W Score*

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III</th>
<th>Partial</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sum of Squares</td>
<td>df</td>
</tr>
<tr>
<td>Corrected Model</td>
<td>274.843(^a)</td>
<td>3</td>
</tr>
</tbody>
</table>
The overall ANCOVA model was not statistically significant. The null hypothesis for research question four was accepted \(F(3, 157) = 1.163, p=0.326\). The test assessed the differences among the adjusted means (MES-W score) for the two groups (induction level with one to four years of experience and veteran with five or more years of experience), which are reported in the Estimated Marginal Means (see Tables 28, 29, and Figure 9) for the Induction group \((M=60.02)\) and for the Veteran Teachers’ group \((M=58.75)\).

Table 28
Marginal Means - Dependent Variable: MES-W Score

<table>
<thead>
<tr>
<th>Mean</th>
<th>Std. Error</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>59.381(^a)</td>
<td>0.879</td>
<td>57.644</td>
<td>61.118</td>
</tr>
</tbody>
</table>

\(^a\) Covariates appearing in the model are evaluated at the following values: TAPS Overall Score = 21.11.
Table 29
*Estimates -Dependent Variable: MES Score*

<table>
<thead>
<tr>
<th>Years of experience</th>
<th>Mean</th>
<th>Std. Error</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 4</td>
<td>60.017*</td>
<td>1.570</td>
<td>56.916</td>
<td>63.119</td>
</tr>
<tr>
<td>5 or more</td>
<td>58.745*</td>
<td>0.792</td>
<td>57.181</td>
<td>60.309</td>
</tr>
</tbody>
</table>

*a. Covariates appearing in the model are evaluated at the following values: TAPS Overall Score = 21.11.*

Figure 9

*Estimated Marginal Means MES Score*

Table 30 displays the null hypotheses and the results of the statistical analyses for each.

Table 30
*Summary of Tests of the Null Hypotheses*

<table>
<thead>
<tr>
<th>Null Hypotheses</th>
<th>Statement</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>H₀₁</td>
<td>There is no statistically significant difference in the level of motivation and engagement, as measured by the MES-W (Martin, 2012), between induction</td>
<td>Accepted</td>
</tr>
</tbody>
</table>
level teachers (first four years) and veteran level teachers (five or more years).

**H₀₂**

For induction level teachers (first four years), there is no statistically significant relationship between teachers’ motivation and engagement, as measured by the MES-W (Martin, 2012), and the results on the TAPS portion of the Teacher Keys Effectiveness System (TKES) formative evaluation. **Accepted**

**H₀₃**

For veteran level teachers (five or more years), there is no statistically significant relationship between teachers’ motivation and engagement, as measured by the MES-W (Martin, 2012), and the results on the TAPS portion of the Teacher Keys Effectiveness System (TKES) formative evaluation. **Accepted**

**H₀₄**

Controlling for the score on the TAPS portion of the TKES, there is no statistically significant difference in the level of motivation and engagement, as measured by the MES-W (Martin, 2012), between induction level teachers (first four years) and veteran level teachers (five or more years). **Accepted**

The analyses provided in Chapter Four tested the hypotheses for the four research questions to accept or reject the null hypotheses. Chapter Five compares and evaluates the findings in Chapter Four to those results drawn by scholars, as reported in Chapter Two. In addition, the last chapter presents limitations of the study, implications for professional practice, and recommendations for future study and research.
CHAPTER FIVE: DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Discussion

In Chapter 5, the research problem of this correlational study and findings from the investigation are discussed. The subheadings of this chapter include: the research problem, summary of the findings as they relate to the literature review found in Chapter 2, discussion of the results from Chapter 4, implications, limitations, and recommendations for future research related to the topic.

Research Problem

Teacher burnout and attrition is a national phenomenon (NCTAF, 2015; Williams, 2015). The problem with this growing trend is that the quality of the workforce affects teacher effectiveness (Williams, 2015). Teachers report that there are a variety of reasons why they are leaving the profession, predominantly teacher evaluation systems and mandated assessments in which student growth determines the teacher’s effectiveness score (NCTAF, 2015). The main purpose of this correlational study was to test the Self-Determination Theory (Deci & Ryan, 2000) as it related the motivation and engagement of induction (first four years) level teachers to the motivation and engagement of veteran (five or more years) level teachers as measured by the MES-W to predict the level of proficiency on the Teacher Keys Effectiveness System (TKES, 2013) evaluation system of induction teachers’ and veteran teachers’ classrooms in northeast Georgia.

The MES-W survey is a 44-item self-report survey used to assess the motivation and engagement level of the participants. The MES-W was distributed to teachers in four school districts. There were 161 participants who completed the MES-W survey. The induction level consisted of 35 participants who had one to four years of experience and the veteran level
consisted of 126 participants with more than five years of experience. Additionally, the data were correlated to determine if the triangulation of data (TKES overall scores and years teaching experience) provided a predictive relationship to motivation and engagement as measured by the MES-W.

The Self-Determination Theory (Ryan & Deci, 2000) was a good fit for the theoretical framework for the study because it examined motivation and engagement in relation to improved intrinsic motivation, which are the key elements of the SDT (Ryan & Deci, 2000). The Motivation Engagement Scale (MES-W, Martin, 2012) survey measured the motivation and engagement level of the participants. The mean score on the MES-W for the 161 participants was $M = 59.38$. The Teacher Assessment on the Performance Standards (TAPS) portion of the Teacher Keys Effectiveness System (TKES) consisted of 10 performance standards rated by a trained and credentialed evaluator. Each standard received a score ranging from Level I (Not Evident), Level II (Needs Development), Level III (Proficient), and Level IV (Exemplary). Corresponding numerical scores were applied to the ratings to yield a TAPS overall score. The collective data provided a good match to the various aspects of the Self-Determination Theory (Ryan & Deci, 2010) by examining personality in relation to motivation and engagement and relying on choice and sense of freedom in decision-making to improve intrinsic motivation.

Summary of the Findings

The summary of the findings from the research student follows each research question in this section.

Research Question One

Is there a statistically significant difference in the level of motivation and engagement,
as measured by the MES-W, between induction level teachers (first four years) and veteran level teachers (five or more years)?

The first research question the researcher examined was whether there was a statistically significant difference between the motivation and engagement of induction (first four years) and veteran (five or more years) as measured by the Motivation and Engagement Scale (MES-W, Martin, 2012). Teachers were asked to self-report on an online survey, in which the researcher asked pertinent demographic data (years of experience) in order to divide the MES-W into the two groups (induction and veteran). The correlational design was a good fit for this research because the two groups could not be randomized.

Data were analyzed using an inferential test to determine if there was a significance difference between the two groups. The independent samples t-test could not be used, because the assumption tests of normal distribution using a Kolmogorov-Smirnov test (n ≥ 50) indicated the TKES and the MES-W were not normally distributed (Gall, Gall & Borg, 2007). Therefore, a Mann-Whitney U test was conducted to test the first null hypothesis (see Table 15 and Figures 6 and 7). MES-W scores for female teachers (M=59.2, SD=8.4) were greater than those for their male counterparts. High school teachers had the highest MES-W scores, followed by kindergarten teachers, and then middle school teachers. These data yielded different results than a previous study conducted by Martin (2006), which indicated that elementary teachers displayed higher motivation and engagement ratings on the MES-W than secondary level teachers. Martin’s (2006) study also indicated that teachers’ confidence in the subject matter increased motivation and engagement.

According to the information gathered in a thorough review of the literature, there were three broad areas related to motivation and engagement: autonomy, competency, and
relatedness (Ainley, 2004; Demir, 2011; Towndrow, et al., 2008; Ryan & Deci, 2000; Zimmerman, 1990). The MES-W measured a variety of traits of motivation and engagement, such as persistence, self-belief, and control. Self-belief, as defined by Martin (2012), is related to self-efficacy, a term most often used in the literature. These measures were consistent with the review of literature, which identified the traits and dispositions associated with high levels of motivation and engagement. Ainley (2004) suggested that the cognitive connections of self-belief and control provide the impetus for motivation and engagement. The data collected were consistent with the research of Liem and Martin (2012), which indicated a strong relationship between self-efficacy and success.

Induction level teachers (1-4 years of experience) scored at a higher mean score (\(M=60.0, \ SD=4.5\)) than veteran (5 or more years) teachers (\(M=58.8, \ SD=9.8\)). These data further corroborated the previous research, which determined that teacher attrition was affected by disengagement of teachers (Bae, et al., 2013; Birchinall, 2013; Hadjioannou & Hutchinson, 2014; Sherab, 2013; Soong, 2012). Teacher attrition rates indicated that many teachers leave the profession after four years (NCTAF, 2015; Williams, 2015). Demir (2011) cited that disengagement was a chief cause of teacher attrition. The data showed that there were no statistically significant differences in the scores for the two groups of teachers.

These data were not consistent with other studies of teacher motivation and engagement as they relate to teacher attrition (Demir, 2011; Jesus & Lens, 2005; Sargent & Hannum, 2005). In fact, previous data showed that teachers who displayed higher levels of motivation and engagement had a deeper task commitment regardless of years teaching in the classroom (Gentry et al., 2011).

The results of the Mann Whitney U test showed no statistically significant difference in
the mean rank MES scores between teachers with less than five years of experience \((mean \ rank = 79.8)\) and teachers with five or more years in the profession \((mean \ rank = 81.3)\). The null hypothesis was accepted. However, it should be noted that the unequal group sizes might have accounted for no significant difference.

**Research Question Two**

For induction level teachers (first four years), is there a statistically significant relationship between teachers’ motivation and engagement, as measured by the MES-W (Martin, 2012), and the results on the TAPS overall score of the Teacher Keys Effectiveness System (TKES) formative evaluation?

The second research question called for the investigation of the relationship between induction (first four years) level teachers’ motivation and engagement levels as measured by the MES-W and the overall score on the TAPS portion of the TKES (2013). The Teacher Keys Effectiveness System provided a numerical score based on the ratings on the summative evaluation. The 10 standards for the TKES ranged from instructional planning to professionalism and communication. The lowest overall score among the induction level (first four years) teachers \((n = 35)\) was 12. This rating placed the teacher in Level II (Needs Development).

The lowest score on the MES-W for the induction level (first four years) teachers was 41. Findings derived from the statistical analyses of the TKES overall scores and the MES-W Score were consistent with findings of Ainley (2004), Demir (2011), Dufour, et al. (2010), and Zepke and Leach (2010), whose research centered on the impact of the cognitive investment in learning. Teachers who are more cognitively engaged in a professional learning community exhibited strong, positive relationships with their peers (Dufour et al., 2010; Durksen &
Klassen, 2012; Hermansen & Nerland, 2014; Lunenburg, 2010). Additionally, research indicated that cognitive engagement created collaborative and active learning among teachers (Dufour et al., 2010; Durksen & Klassen, 2012; Hermansen & Nerland, 2014; Zepke & Leach, 2010).

While induction level teachers had lower scores on the TKES summative evaluation compared to the veteran level teachers the difference was not statistically significant. This score is also reflected in the state of Georgia overall scores for 2014-2015 (Georgia Department of Education, 2014). Induction level teachers face significant challenges as new teachers. In fact, according to The National Commission on Teaching and America’s Future (NCTAF, 2015), almost half of new teachers will leave the profession within the first five years.

These data were not consistent with the review of the literature, particularly research targeting teachers who provided better management of the classroom and were found to be more engaged and operated more efficiently to improve student academic engagement (Chait, 2009; Martin, 2009; Stronge, 2007). Teacher education programs and professional learning do not always provide teachers with the foundational skills and knowledge to manage the classroom environment (Archambault, Pagan, & Fitzpatrick, 2012; Demir, 2011; Gentry, Steenbergen-Hu, & Choi, 2011; Song, et al, 2014). There is limited exposure to professional learning communities for induction level teachers (Dufour et al., 2010; Durksen & Klassen, 2012; Hermansen & Nerland, 2014; Lunenburg, 2010). Evidence from classroom observations through the TKES research indicated that a positive learning environment is conducive to engagement. Induction level teachers often struggle with creating a positive learning environment, as the skills necessary to do so are often experiential in nature (Dufour
et al., 2010; Durksen & Klassen, 2012; Hermansen & Nerland, 2014; Lunenburg, 2010).

Based on the Spearman’s rho correlation (see Table 20), the null hypothesis failed to be rejected, as for induction level teachers (first four years), there was no statistically significant relationship between teachers’ motivation and engagement as measured by the MES-W survey (Martin, 2012) and their TAPS overall scores.

The TAPS overall scores resulted in a summative scoring range to determine the level of proficiency. Table 32 provides clarification of the range of scores for the proficiency ratings as discussed in the instrumentation section and the literature review. Teachers with an overall score of \( \leq 16 \) would be considered as needing development or ineffective (TKES, 2013).

Table 32

<table>
<thead>
<tr>
<th>Final Rating</th>
<th>Level Descriptor</th>
<th>TAPS Summative Cut Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level I</td>
<td>Ineffective</td>
<td>0 - 6</td>
</tr>
<tr>
<td>Level II</td>
<td>Needs Development</td>
<td>7 – 16</td>
</tr>
<tr>
<td>Level III</td>
<td>Proficient</td>
<td>17 – 26</td>
</tr>
<tr>
<td>Level IV</td>
<td>Exemplary</td>
<td>27 - 30</td>
</tr>
</tbody>
</table>

Research Question Three

For veteran level teachers (five or more years), is there a statistically significant relationship between teachers’ motivation and engagement, as measured by the MES-W, and the results on the TAPS overall score portion of the Teacher Keys Effectiveness System (TKES) formative evaluation?
The third research question investigated the relationship between veteran teachers’ (five or more years of experience) level of motivation and engagement as measured by the MES-W and the TAPS overall Scores on the TKES (2013). Previous research (Bryk, 2009; Chait, 2010; Eppley, 2009; Fullan, 2010; Katz, Assor, & Kanat-Maymon, 2008; Martin 2009; Miles & Frank, 2008; Pintrich & Schunk, 2002; Shannon, 2009; Whitcomb & Rose, 2008; Wilson, 2009) indicated that at the five-year mark, a large number of teachers leave the profession.

For veteran teachers, there was no statistically significant relationship between teachers’ motivation and engagement, as measured by the MES-W scores and the TKES overall scores. Controlling for only veteran teachers, the Spearman rho correlation ($r$) was significant but weak between professional knowledge and MES-W scores. Previous research, which supported this analysis, indicated that motivation and engagement were increased through self-directed learning (Demir, 2011; Liem & Martin, 2011; Martin & Hau, 2010; Song et al., 2014). Motivated and engaged veteran teachers sought to improve pedagogy through higher education and professional learning (Martin & Hau, 2010; Song, et al., 2014). Additionally, according to previous research, teachers who self-perceived high ability levels in instructional strategies or classroom management also reported higher levels of motivation and engagement (Ahmed, 2011; Cardelle-Elawar & Sanz de Acedo Lizarraga, 2010; Kuter, Frenzel, Nagy, Baumert, & Pekrun, 2011; Yilmaz, 2011). There was no statistically significant relationship between the motivation and engagement levels of veteran teachers as measured by the MES-W and the overall score on the TAPS portion of the TKES. Therefore, the null hypothesis ($H_0$3) was accepted.
Research Question Four

While controlling for the overall score on the TAPS portion of the TKES, is there a statistically significant difference in the level of motivation and engagement level, as measured by the MES-W (Martin, 2012), between induction level teachers (first four years) and veteran level teachers (five or more years)?

The fourth research question investigated the relationship between the motivation and engagement levels of induction (first four years) level teachers and veteran (five or more years) level teachers as measured by the MES-W while controlling for the predictor variables of the overall score on the TAPS portion of the TKES (2013). While the data from the TKES for veteran teachers did have a slightly higher mean score, there was no statistically significant difference to indicate that the years of experience explained the variances in scores.

According to previous research, job satisfaction is greatly affected by teacher motivation and engagement (Demir, 2011; Jesus & Lens, 2005; Sargent & Hannum, 2005). In fact, several research studies indicated that teachers who display task commitment and critical thinking skills are more motivated and engaged despite the number of years of teaching experience in the classroom. These data were consistent with the current research study.

Additionally, research indicates that teachers who have high levels of self-efficacy display higher levels of motivation and engagement (Demir, 2011; Liem & Martin, 2011; Martin & Hau, 2010; Song, Kim, Chai, & Bae, 2014). The findings in the current research study were not consistent with the review of the literature. Veteran teachers showed no significant difference in motivation and engagement levels than induction teachers, despite the fact that veteran teachers had opportunities to improve their own pedagogy through graduate degrees or
high quality professional learning (Demir, 2011; Liem & Martin, 2011; Martin & Hau, 2010; Song, Kim, Chai, & Bae, 2014).

To further dispute previous research investigated through the review of literature, there was no statistically significant relationship between the effectiveness of veteran level or induction level teachers, according to the data collected on the TKES overall score (Akey, 2006; Bryk, 2009; Chait, 2010; Cho, Xu, & Rhodes, 2010; Demir, 2011; Eppley, 2009; Fullan, 2010; Katz, Assor, & Kanat-Maymon, 2008; Martin, 2009; Miles & Frank, 2008; Pintrich & Schunk, 2002; Shannon, 2009; Whitcomb & Rose, 2008; Wilson, 2009). Conversely, Kroth (2007) postulated that beginning teachers lacked the proper preparation and skills to be highly effective within the first few years. Predominantly, research from the National Commission on Teaching and America’s Future (NCTAF, 2015) indicates that teachers leave the profession due to the pressure of current evaluation systems. Since the TKES has only currently been implemented across the state of Georgia, there is little empirical research to substantiate or refute its effect on teacher attrition.

**Discussion of the Results**

This research study provided a plethora of information about motivation and engagement, particularly in regards to the review of previous literature. The theoretical framework for this study was the Self-Determination Theory (SDT), which postulates that human beings are autonomy-oriented. The underlying premise of SDT is the volitional behaviors found in human beings: the need for autonomy, competence, and relatedness (Darity, 2008; Deci & Ryan, 2000). The major conclusion of this study indicated that there is no statistically significant difference between the motivation and engagement as measured by the MES-W for induction level teachers (1 - 4 years of experience) and the veteran level teachers (5 or more years). The statistical
analyses yielded several findings that corroborated previous research. Conversely, various aspects of the research findings were not consistent with previous research.

Findings from the literature review revealed a gap in the literature concerning teacher experience levels and teacher attrition, which suggested that teachers are leaving the profession prematurely (Bryk, 2009; Chait, 2010; Eppley, 2009; Fullan, 2010; Katz, Assor, & Kanat-Maymon, 2008; Martin, 2009; Miles & Frank, 2008; Pintrich & Schunk, 2002; Shannon, 2009; Whitcomb & Rose, 2008; Wilson, 2009). Additionally, teacher attrition is costly to the states and nation (Akey, 2006; Cho, Xu, & Rhodes, 2010; Demir, 2011). With a retention rate of only 74%, teachers leave the profession at an alarming rate. The motivation and engagement levels of teachers were measured to determine if this is a mitigating factor in teachers leaving the profession. The results from the current research could not substantiate that the level of motivation and engagement impact teacher effectiveness of either induction or veteran teachers. However, the TKES has only been implemented throughout the state of Georgia for one full school term. There was little empirical research to indicate that the overall score on the TKES provided a true measure of teacher effectiveness.

Interestingly enough, external rewards, which traditionally are used by school leaders to improve the motivation and engagement level of teachers, do not work (Demir, 2011; Deci, Koestner, & Ryan, 2001; Pink, 2009; Redding & Walberg, 2012). In the same vein, reward and punishment have not been shown to have long-term effects on improving motivation and engagement (Pink, 2009; Redding and Walberg, 2012).

Traditional evaluation systems for teachers tended to be linear in nature yielding a “satisfactory” or “unsatisfactory” rating that provided very little in terms of growth, engagement, improvement, or professional development. The Teacher Keys Effectiveness System (TKES,
2013) provides a tool to evaluate teacher effectiveness; however, there was a limiting factor of the new implementation during the 2014-2015 school year for all school districts (GDOE, 2015). With almost 150,000 teachers employed in the state of Georgia, the task of implementing and supporting a new evaluation system provided a challenge to the administrators and district leaders (GDOE, 2015).

The data collected from the MES-W survey and the TKES also provided information about teachers’ motivation and engagement levels in light of the newly implemented evaluation system in the school districts and state. The main purpose of the research study was to determine if the motivation and engagement of teachers as measured by the MES-W was correlated to a teacher’s experience level and the overall scores on the TKES. Although the data collected did not ultimately show a significant relationship among the three variables, it did provide insight into teacher motivation and engagement and connected to previous empirical research literature (Archambault, Pagan, & Fitzpatrick, 2012; Bae, et al., 2013; Birchinall, 2013; Demir, 2011; Gentry, Steenberg-Hu, & Choi, 2011; Hadjioannou & Hutchinson, 2014; Sherab, 2013; Song, et al., 2014; Soong, 2012; ). For example, the TKES has only been utilized to measure teacher effectiveness statewide for one year. The 10 performance standards are rigorous and challenging, yet most of the research study participants scored at the proficient (Level III) level. The administrators who conducted the TKES evaluations were also at the novice level in using the new instruments. Statewide, the data collected for the first year of implementation indicated that 98% of the teachers scored at Level III (proficient). As administrators become more experienced, there may be more variance in the TKES overall scores. The MES-W yielded data about the motivation and engagement levels of the participants; however, the data could be used to develop professional learning that targets improving teacher effectiveness. Additionally, a
thorough review of the literature provided research into teacher effectiveness, motivation, and engagement that could be included in professional learning for teachers and administrators.

**Implications**

The implications for this research study allowed further discussion about the role motivation and engagement play in the effectiveness of teachers. Induction level (first four years) teachers enter the profession with limited experience as an educational professional (Baron, 2006; Brown & Adler, 2008; Collins & Halverson, 2009; Liberman & Pointer, 2010). In fact, the gap in the literature revealed the need to conduct further research about motivation and engagement, particularly to examine the effects on self-efficacy, relational learning, and autonomy (Ainley, 2004; Demir, 2011; Towndrow, et al., 2008; Zimmerman, 1990).

In light of the new evaluation system in Georgia, the research study data could prove to have positive implications for the continued implementation of the TKES (2013). Through a commitment from the Georgia Legislature and Georgia Department of Education and a very large Federal grant (Race to the Top), the Teacher Keys Effectiveness System evaluation system was developed. The TKES is an evaluation system that guides administrators through a series of performance-based assessments to improve teacher effectiveness. The TKES was designed to measure the Teacher Assessment on Performance Standards (TAPS) through four walk-through observations and two formative assessment evaluations. These six points of contact yielded an overall summative assessment score. The first full implementation of the TKES was completed during the 2014-2015 school year. Therefore, the data collected through this research study could have implications on the continued implementation of the TKES. The statewide scores for the TKES fell within the same range as the sample population (N = 161), with a median overall score of 21.11. One mitigating factor for the TKES overall score is the fidelity in the
implementation, as it would affect the overall scores for the TAPS. A by-product of the TKES implementation could be a concern over the fidelity of the scoring. Administrators and teachers experienced unprecedented change with the implementation of the new evaluation system. A motivated and engaged workforce would be a positive influence on the TKES overall scores.

The MES-W (Martin, 2012), a validated instrument, was specifically chosen to provide data concerning teachers’ own perceptions about their levels of motivation and engagement. Additionally, the MES-W was easily accessible and distributed to the participants in an ethical and confidential way. Although the MES-W has been validated and widely used in Australia, New Zealand, Europe, and Asia, it has not been widely used in the United States. The implication is that the MES-W could provide school administrators with the data to improve the motivation and engagement level of teachers within the state.

**Limitations**

As in most research studies, the potential for the limitations to affect the data collection and analyses existed. In fact, Warner (2013) presented a limitation of the correlational design, which was that no causal inferences should be made, which could be a threat to internal validity. In other words, the researcher should not make assumptions about causality since it cannot be determined in a correlational quantitative research study. The correlational design is limited to making only predictions or possible significant relationships. Therefore, the research data could not determine that the predictor variables of the TKES overall scores nor the teachers’ experience levels caused higher levels of motivation and engagement as measured by the MES-W (Martin, 2012).

Additionally Gall, Gall, and Borg (2007) determined that the sample size in a research study may not translate to the entire population. Of the initial participants ($N = 161$) on the
MES-W (Martin, 2012), only about 21.7% were induction level (first four years of teaching). According to data supplied by the Georgia Department of Education (GDOE, 2015) and the Georgia Partnership for Excellence in Education (GPEE, 2015), the attrition rate in Georgia is about 74%. This meant that about 26% of the teachers in Georgia in a given school year would be at the induction level. Further investigation into this particular limitation could possibly be explained by the economy over the past eight years. The four school districts targeted in the study are small and rural. The austerity reductions placed on the districts could have presented a hiring freeze, thus limiting the number of induction level teachers (first four years). This limitation should be investigated in a future study to determine if, in fact, the economy and austerity reductions influenced the low number of induction level participants. There was also a slight threat to external validity because the sample groups (induction level $n = 35$; veteran level $n = 126$) were not randomized. The threat was mitigated since the MES-W was distributed to all teachers in the four school districts ($N = 1023$) and teachers elected whether or not to participate. Sixty-two participants had to be eliminated from further study because there were not corresponding TKES overall scores for the participants. The convenience sample ($N = 161$) was not randomized; however, the limitation was mitigated due to the self-selection process (Rovai, et al., 2013).

An additional threat to external validity is the application of the research results to the generalized population (Gall, et al., 2007; Rovai, et al., 2013). Although the induction level teachers ($n = 35$) were a small sample population and the veteran level teachers ($n = 126$) were a larger sample, the findings may not be generalized to the entire population. However, according to the National Center for Educational Statistics, nationally, 11.9% of teachers have four or less
years of teaching experience. The percentage of the induction level teachers \( (n = 35) \) for this study was 21.7\%, much higher than the national average (NCES, 2014).

Since the MES-W was a self-reported survey, the researcher provided clear instructions to mitigate the limitation of confusion or misunderstanding in completing the survey online (Gall, et al., 2007; Rovai, et al., 2013). The regression and correlational design of the research study could have provided a limitation in that no causal inferences among the variables can be determined (Warner, 2013). The research design provided for making assumptions about the predictive nature of the predictor variables, but these are not conclusive of causation (Gall, et al., 2007; Rovai, et al., 2013). The convenience group utilized for the sample population had the potential to cause a limitation in the results; however, the researcher utilized a third party statistician to collect the data results and redact any identifying information prior to the researcher receiving the data set. This not only protected the anonymity of the participants but also provided a level of privacy for the school districts involved. School district personnel (superintendents and human resources coordinators) not only provided the Regional Educational Service Agency (RESA) statistician with the TKES data file, they also distributed the MES-W to the faculty members. This also helped control for any potential bias from the researcher since there was in actuality no contact from the researcher to the participants (Warner, 2013).

**Recommendations for Future Research**

As with any research study, opportunities for further research emerge as the study unfolds. One such opportunity could be a replication of the study targeting specific content areas in relation to other content areas. One such study could be determining if there is a statistically significant relationship between the motivation and engagement level as measured by the MES-W score and specific content area teachers (math, science, English language arts, social studies,
CTAE, or special education). Additionally, using the current data collected, correlations among the four school districts to use the data on motivation and engagement as measured by the MES-W to predict culture or climate relationships could provide valuable information on school improvement of climate ratings. Moderating factors such as gender or race could provide an interesting research study, using those factors to determine any statistical significant relationships. There would need to be additional data collected since the current study did not gather information concerning race and there were very few male participants. A longitudinal or perhaps a qualitative research study where the researchers interviewed participants to identify trends, such as in a case study, would also prove very interesting.

Future research will provide additional empirical data and opportunities to continue to discover ways to improve teaching and learning through improving motivation and engagement of teachers. Motivation and engagement are not only quantitative measures (Martin, 2010). The intensity of interactions and the quality of engagement tasks greatly influence job satisfaction, task persistence, and commitment (Akey, 2006; Demir, 2011; Garcia-Reid et al., 2005; Mercer & DeRosier, 2010). Therefore, continued research into how to capitalize on the motivation and engagement levels of teachers to improve teacher quality and lessen teacher attrition would benefit not only K-12 education but ultimately would increase teacher effectiveness (Akey, 2006; Bryk, 2009; Chait, 2010; Cho, Xu, & Rhodes, 2010; Demir, 2011; Eppley, 2009; Fullan, 2010; Katz, Assor, & Kanat-Maymon, 2008; Martin, 2009; Miles & Frank, 2008; Pintrich & Schunk, 2002; Shannon, 2009; Whitcomb & Rose, 2008; Wilson, 2009).

Upon further examination of the data for both null hypotheses (H02) and (H03), there was no danger of a Type I error for the third null hypothesis (H03). Continued research would benefit the study to enlist a larger sample size (n = 35) for the induction level (first four years)
teachers in order to provide a more accurate interpretation of the second null hypothesis (H$_{02}$).

Additionally, Martin (2010) has developed a variety of motivation and engagement surveys to target specific student populations (junior high, high school, and college). It would be interesting to conduct a qualitative research study to determine if the motivation and engagement levels of teachers, as measured by the MES-W correlated with the motivation and engagement levels of their students.

There is a variety of future research opportunities connected with the research data gathered for this study and current literature concerning motivation and engagement, which could provide valuable empirical data for teacher effectiveness. As teachers and administrators become more familiar with the new evaluation system (TKES, 2013) and particularly as the implementation will eventually provide a value-added score, or a Teacher Effectiveness Measure (TEM, TKES, 2013), it is likely that motivation and engagement could be affected. An operationalized measure, such as the MES-W could be an invaluable tool for administrators and teachers. Delving into the culture piece paired with the continued implications of the new teacher evaluation system (TKES, 2013) could redefine teacher effectiveness in the state of Georgia.
REFERENCES


Georgia Department of Education. (2013). *Teacher keys evaluation system (TKES)*.


Hoigaard, R., Giske, R., & Sundsli, K. (2012). Newly qualified teachers’ work engagement and
teacher efficacy influences on job satisfaction, burnout, and the intention to quit.


Pintrich, P. R. (2000). An achievement goal theory perspective on issues of motivation
doi: 10.1006/ceps.1999.1017

Pintrich, P. R., & Schunk, D. H. (2002). Motivation in education: Theory, research, and
Applications (2nd ed.). Columbus, OH: Merrill-Prentice Hall.

learning, and transformative experience: A study of deep engagement in science. *Wiley
Interscience, 1*-29. doi: 10.1002/sce.20344

Tomorrow's Teachers. *A brief history of teacher professionalism*. Washington, DC:
Government Printing Office.

Institute. *Promoting learning in rural schools*. Lincoln, NE: Center on Innovation and
Improvement.

165-185.

A practitioner's guide to research methods and SPSS analysis. Chesapeake, VA:
Waterpress.

motivation and engagement during middle school. *American Educational Research
Journal, 38*(2), 437-460. doi:10.3102/00028312038002437


APPENDIX A

Motivation and Engagement Scale: Work (MES-W)

Andrew J. Martin PhD

Welcome to the Motivation and Engagement Scale - Work (MES-W). Thank you for your participation and attention to this survey. Your responses are anonymous and will not be used in any way except for research (a dissertation study).

This survey is to examine your motivation and engagement in the workplace. There are no right or wrong answers. Your responses need to reflect what you really think about yourself. There are some questions that are very similar to each other. This is not a trick, it is just the type of survey questions to determine how you think about yourself.

Demographic information is collected for statistical purposes only. Please provide the following:

Certificate # ____________________________

Teaching Position:

- K-5
- 6-8
- 9-12
- Other (Please Specify): __________________

Subject(s) Taught:

- Math
- ELA
- Science
- Social Studies
- CTAE
- Fine Arts
- Health/PE
- Reading
- Other: ________________
Number of years you have taught:

- 1 – 3
- 4 or more

Gender:

- Male
- Female

Age: (voluntary information)

- 20 – 24
- 25 – 28
- 29 – 35
- 36 – 40
- 41 – 45
- 46

Sample Items - Motivation and Engagement Scale – Work (MES-W)

Andrew J. Martin PhD

<table>
<thead>
<tr>
<th>Disagree Strongly</th>
<th>Disagree</th>
<th>Disagree Somewhat</th>
<th>Neither Agree or Disagree</th>
<th>Agree Somewhat</th>
<th>Agree</th>
<th>Agree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

Please choose one number for each statement:

*The MES-W, used with permission from Lifelong Achievement Group, is not available for reproduction.

©2012 Lifelong Achievement Group
### APPENDIX B

#### Georgia Department of Education – TAPS Performance Standards and Rubrics

<table>
<thead>
<tr>
<th>Performance Standard 1: Professional Knowledge:</th>
<th>Level I</th>
<th>Level II</th>
<th>Level III</th>
<th>Level IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>The teacher demonstrates an understanding of the curriculum, subject content, pedagogical knowledge, and the needs of students by providing relevant learning experiences.</td>
<td>The teacher inconsistently demonstrates an understanding of the curriculum, subject content, pedagogical knowledge, and student needs, or lacks fluidity in using the knowledge in practice.</td>
<td>The teacher inconsistently demonstrates understanding of curriculum, subject content, pedagogical knowledge, and student needs, or uses strategies, resources, or data in planning to meet the needs of all students.</td>
<td>The teacher continuously demonstrates extensive content and pedagogical knowledge, enriches the curriculum, and guides others in enrolling the curriculum. (Teachers rated as Level IV continually seek ways to serve as role models or teacher leaders.)</td>
<td>The teacher consistently demonstrates an understanding of the curriculum, subject content, pedagogical knowledge, and student needs, or effectively engages students in active learning and uses instructional strategies relevant to the content.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance Standard 2: Instructional Planning:</th>
<th>Level I</th>
<th>Level II</th>
<th>Level III</th>
<th>Level IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>The teacher plans using state and local school district curricula and standards, effective instructional strategies, resources, and data to address the differentiated needs of all students.</td>
<td>The teacher does not plan, or plans without adequately using state and local school district curricula and standards, or without using effective instructional strategies, resources, or data or fails to meet the needs of all students.</td>
<td>The teacher consistently plans using state and local school district curricula and standards, effective instructional strategies, resources, and data to address the differentiated needs of all students.</td>
<td>The teacher does not plan, or plans without adequately using state and local school district curricula and standards, or without using instructional strategies relevant to the content the area. The strategies do not engage students in active learning or acquisition of key skills.</td>
<td>The teacher continually plans using state and local school district curricula and standards, effective instructional strategies, resources, and data to address the differentiated needs of all students.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance Standard 3: Instructional Strategies:</th>
<th>Level I</th>
<th>Level II</th>
<th>Level III</th>
<th>Level IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>The teacher promotes student learning by using research-based instructional strategies relevant to the content to engage students in active learning and to facilitate the students' acquisition of key knowledge and skills.</td>
<td>The teacher does not use research-based instructional strategies, nor are the instructional strategies relevant to the content area. The strategies do not engage students in active learning or acquisition of key skills.</td>
<td>The teacher inconsistently uses research-based instructional strategies. The strategies used are sometimes not appropriate for the content area or for engaging students in active learning or for the acquisition of key skills.</td>
<td>The teacher continuously uses research-based instructional strategies. The strategies used are always appropriate for the content area or for engaging students in active learning or for the acquisition of key skills.</td>
<td>The teacher consistently uses research-based instructional strategies relevant to the content.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance Standard 4: Differentiated Instruction:</th>
<th>Level I</th>
<th>Level II</th>
<th>Level III</th>
<th>Level IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>The teacher challenges and supports each student's learning by providing appropriate content and developing skills which address individual learning differences.</td>
<td>The teacher does not challenge students by providing appropriate content or by developing skills, which address individual learning differences.</td>
<td>The teacher inconsistently challenges students by providing appropriate content or by developing skills, which address individual learning differences.</td>
<td>The teacher consistently challenges and supports each student's learning by providing appropriate content and developing skills which address individual learning differences.</td>
<td>The teacher continually challenges and supports each student's learning by providing appropriate content and developing skills which address individual learning differences.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance Standard 5: Assessment Strategies:</th>
<th>Level I</th>
<th>Level II</th>
<th>Level III</th>
<th>Level IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>The teacher systematically chooses a variety of diagnostic, formative, and summative assessment strategies and instruments that are valid and appropriate for the content and student population.</td>
<td>The teacher chooses an inadequate variety of diagnostic, formative, and summative assessment strategies or the instruments are not appropriate for the content or student population.</td>
<td>The teacher inconsistently chooses a variety of diagnostic, formative, and summative assessment strategies or the instruments are not always appropriate for the content or student population.</td>
<td>The teacher systematically chooses a variety of diagnostic, formative, and summative assessment strategies and instruments that are valid and appropriate for the content and student population.</td>
<td>The teacher consistently chooses a variety of diagnostic, formative, and summative assessment strategies relevant to the content area.</td>
</tr>
</tbody>
</table>
### Performance Standard 6: Assessment Uses

The teacher systematically gathers, analyzes, and uses relevant data to measure student progress, to inform instructional content and delivery methods, and to provide timely and constructive feedback to both students and parents.

<table>
<thead>
<tr>
<th>Level I</th>
<th>Level II</th>
<th>Level III</th>
<th>Level IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>The teacher systematically gathers, analyzes, and uses relevant data to measure student progress, to inform instructional content and delivery methods, and to provide timely and constructive feedback to both students and parents.</td>
<td>The teacher inconsistently gathers, analyzes, or uses relevant data to measure student progress, inconsistently uses data to inform instructional content and delivery methods, or inconsistently provides timely or constructive feedback.</td>
<td>The teacher does not gather, analyze, or use relevant data to measure student progress, to inform instructional content and delivery methods, or to provide feedback in a constructive or timely manner.</td>
<td>(Teachers rated as Level IV continually seek ways to serve as role models or teacher leaders.)</td>
</tr>
</tbody>
</table>

**In addition to meeting the requirements for Level III**

- The teacher systematically demonstrates expertise in using data to measure student progress and leads others in the effective use of data to inform instructional decisions. (Teachers rated as Level IV continually seek ways to serve as role models or teacher leaders.)

**Performance Standard 7: Positive Learning Environment**

The teacher provides a well-managed, safe, and orderly environment that is conducive to learning and encourages respect for all.

<table>
<thead>
<tr>
<th>Level I</th>
<th>Level II</th>
<th>Level III</th>
<th>Level IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>The teacher inadequately addresses student behavior, displays a negative attitude toward students, ignores safety standards, or does not otherwise provide an orderly environment that is conducive to learning or encourages respect for all.</td>
<td>The teacher inconsistently provides a well-managed, safe, and orderly environment that is conducive to learning and encourages respect for all.</td>
<td>The teacher consistently provides a well-managed, safe, and orderly environment that is conducive to learning and encourages respect for all.</td>
<td>(Teachers rated as Level IV continually seek ways to serve as role models or teacher leaders.)</td>
</tr>
</tbody>
</table>

**In addition to meeting the requirements for Level III**

- The teacher consistently engages students in a collaborative and self-directed learning environment where students are encouraged to take risks and ownership of their own learning behavior. (Teachers rated as Level IV continually seek ways to serve as role models or teacher leaders.)

**Performance Standard 8: Academically Challenging Environment**

The teacher creates a student-centered, academic environment in which teaching and learning occur at high levels and students are self-directed learners.

<table>
<thead>
<tr>
<th>Level I</th>
<th>Level II</th>
<th>Level III</th>
<th>Level IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>The teacher does not provide a student-centered, academic environment in which teaching and learning occur at high levels, or where students are self-directed learners.</td>
<td>The teacher inconsistently provides a student-centered, academic environment in which teaching and learning occur at high levels or where students are self-directed learners.</td>
<td>The teacher consistently creates a student-centered, academic environment in which teaching and learning occur at high levels and students are self-directed learners.</td>
<td>(Teachers rated as Level IV continually seek ways to serve as role models or teacher leaders.)</td>
</tr>
</tbody>
</table>

**In addition to meeting the requirements for Level III**

- The teacher continually engages in a high level of professional growth and application of skills and contributes to the development of others and the well-being of the school and community. (Teachers rated as Level IV continually seek ways to serve as role models or teacher leaders.)

**Performance Standard 9: Professionalism**

The teacher exhibits a commitment to professional ethics and the school’s mission, participates in professional growth opportunities to support student learning, and contributes to the profession.

<table>
<thead>
<tr>
<th>Level I</th>
<th>Level II</th>
<th>Level III</th>
<th>Level IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>The teacher inconsistently supports the school’s mission or seldom participates in professional growth opportunities.</td>
<td>The teacher consistently supports the school’s mission or seldom participates in professional growth opportunities.</td>
<td>The teacher consistently engages in a high level of professional growth and application of skills and contributes to the development of others and the well-being of the school and community. (Teachers rated as Level IV continually seek ways to serve as role models or teacher leaders.)</td>
<td>(Teachers rated as Level IV continually seek ways to serve as role models or teacher leaders.)</td>
</tr>
</tbody>
</table>

**In addition to meeting the requirements for Level III**

- The teacher continually engages in professional growth opportunities to support student learning, and contributes to the profession.

**Performance Standard 10: Communication**

The teacher communicates effectively with students, parents or guardians, district and school personnel, and other stakeholders in ways that enhance student learning.

<table>
<thead>
<tr>
<th>Level I</th>
<th>Level II</th>
<th>Level III</th>
<th>Level IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>The teacher inadequately communicates with students, parents or guardians, district and school personnel, or other stakeholders by poorly acknowledging concerns, responding to inquiries, or encouraging involvement.</td>
<td>The teacher inconsistently communicates with students, parents or guardians, district and school personnel, or other stakeholders or communicates in ways that only partially enhance student learning.</td>
<td>The teacher communicates effectively and consistently with students, parents or guardians, district and school personnel, and other stakeholders in ways that enhance student learning.</td>
<td>(Teachers rated as Level IV continually seek ways to serve as role models or teacher leaders.)</td>
</tr>
</tbody>
</table>

**In addition to meeting the requirements for Level III**

- The teacher continually uses communication techniques in a variety of situations to proactively inform, network, and collaborate with stakeholders to enhance student learning. (Teachers rated as Level IV continually seek ways to serve as role models or teacher leaders.)
APPENDIX C

Dear Superintendent:

I am completing a doctoral dissertation at Liberty University entitled "A Correlational Study of the Motivation and Engagement in Teachers: Experience and Effectiveness." I am seeking permission to survey teachers in the Pioneer RESA district. In addition, I will need access to the competency rating on the Teacher Keys Effectiveness System (TKES) summative assessment rating for each teacher who participates in the research study. Staff from Pioneer RESA will aid in acquiring the data to protect the identity of the participants. No identifying information of the teachers, schools, or school systems will be utilized or disseminated in the study. The survey will be the Motivation and Engagement Scale, created by Andrew J. Martin, a research professor at the University of Sydney in Australia. It will be administered online, with a numeric identifying system rather than names that will be correlated to the TKES summative assessment rating. I believe this data will provide important insight into the motivation and engagement level of teachers at the induction level (first four years) and veteran teachers (more than four years) in our region and predict outcomes on the TKES. This data could prove powerful as we study why some teachers are leaving the profession after four years. Attached you will find a brief description of the dissertation proposal and the research questions.

The requested permission extends to any future revisions and editions of my dissertation, including non-exclusive world rights in all languages, and to the prospective publication of my dissertation by ProQuest through Liberty University. ProQuest may produce and sell copies of my dissertation on demand and may make my dissertation available for free Internet download at my request.

Your signing of this letter will also confirm that you give permission for me to obtain assent and consent to participate from your principals, teachers and parents. If these arrangements meet with your approval, please sign this letter below. Thank you very much for your time and consideration.

Sincerely,

Cynthia A. Phillips

PERMISSION GRANTED FOR THE USE REQUESTED ABOVE:

________________________________   ______________________________________
Superintendent’s Signature    School System

Date: ____________________
IRB APPROVED STAMPED INFORMED CONSENT FORM

A Correlational Study of the Motivation and Engagement in Teachers: Experience and Effectiveness

Cynthia A. Phillips Liberty University School of Education

You are invited to be in a research study to determine if there is a relationship between teacher motivation and engagement, years teaching experience, and the TAPS score on the Teacher Keys Effectiveness System. You were selected as a possible participant because you teach in a school in northeast Georgia. I ask that you read this form and ask any questions you may have before agreeing to be in the study.

Cynthia A. Phillips, a doctoral candidate in the School of Education at Liberty University, is conducting this study.

Background Information:

The main purpose of this study is to determine if the motivation and engagement level of the teachers, as measured by the Motivation Engagement Scale (MES-W, 2012), in a school directly correlate to the experience levels based on the Self-Determination Theory (Ryan & Deci, 2000). The MES-W (2012) surveys will be divided into two groups. The induction level consists of those with less than four years of experience, and the veteran level consists of teachers with more than four years of experience. Additionally, the two groups will be correlated to the TAPS score on the Teacher Keys Effectiveness System (TKES, 2013) to determine if the triangulation of data can predict whether motivation and engagement levels can predict teacher attrition.

The variables of interest, motivation, and engagement will be generally defined as “the general desire or willingness of someone to do something; stimulus, incentive, or
drive” (Akey, 2006; Demir, 2004; Deci, Koestner & Ryan, 2001; Kearsley & Shneiderman, 1999; Kurtz & Knight, 2003; Martin 2007; Ryan & Deci, 2000; Zhang & Bartol, 2010).

**Procedures:**

If you agree to be in this study, I would ask you to do the following things:

1. Complete the Motivation Engagement Scale (MES-W, 2012), which consists of 44 items. The survey should take about 30 minutes to complete. Your responses on the MES-W (2012) are confidential. The researcher will not receive any identifying information.

2. Included in the MES-W (2012), you will be asked to report your years of teaching. This data will be used to separate the participants into two groups:
   a. Induction level – 1 to 4 years teaching experience
   b. Veteran level – 5 or more years teaching experience

3. Your school district will share your TAPS score on the Teacher Keys Effectiveness System (TKES, 2013). Your name will be removed so that the data are confidential. A statistician at Pioneer RESA will be responsible for removing all identifying information prior to the principal researcher receiving the data.

**Risks and Benefits of being in the Study:**

The risks involved in this study are minimal and no more than the participants would face in everyday life.

Although there are no personal benefits, the benefits to participation will enable the principal researcher to discover if there is a correlation between the variables of interest (motivation and engagement, years of experience, and the TAPS score on the TKES (2013).
Compensation:
You will receive no financial or other compensation.

Confidentiality:
The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely and only the researcher will have access to the records.

Your name will be removed so that the data are confidential. A statistician at Pioneer RESA will be responsible for removing all identifying information prior to the principal researcher receiving the data. The data files collected for the research project will be stored on a password protected computer and kept for a minimum of three years. After that time period, all data will be securely deleted.

Voluntary Nature of the Study:
Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

Contacts and Questions:
The researcher conducting this study is Cynthia A. Phillips. You may ask any questions you have now. If you have questions later, you are encouraged to contact her at XXX-XXX-XXXX, caphillips8@liberty.edu. You may also contact the research’s faculty advisor, Dr. Linda Holcomb, at ljholcomb@liberty.edu

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you are encouraged to contact the Institutional Review Board, 1971
University Blvd, Suite 1837, Lynchburg, VA 24515 or email at irb@liberty.edu.

Please notify the researcher if you would like a copy of this information to keep for your records.

Statement of Consent:

I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

(NOTE: DO NOT AGREE TO PARTICIPATE UNLESS IRB APPROVAL INFORMATION WITH CURRENT DATES HAS BEEN ADDED TO THIS DOCUMENT.)

Click on the survey link to take the survey:

https://www.surveymonkey.com/r/KBXN92K
July 15, 2015

Cynthia A. Phillips
IRB Exemption 2242.071515: A Correlational Study of the Motivation and Engagement in Teachers: Experience and Effectiveness

Dear Cynthia,

The Liberty University Institutional Review Board has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study to be exempt from further IRB review. This means you may begin your research with the data safeguarding methods mentioned in your approved application, and no further IRB oversight is required. Your study falls under exemption category 46.101(b)(2, 4), which identifies specific situations in which human participants research is exempt from the policy set forth in 45 CFR 46.101(b):

(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior; unless:
(i) Information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects’ responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects’ financial standing, employability, or reputation.

(4) Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

Please note that this exemption only applies to your current research application, and any changes to your protocol must be reported to the Liberty IRB for verification of continued exemption status. You may report these changes by submitting a change in protocol form or a new application to the IRB and referencing the above IRB Exemption number.

If you have any questions about this exemption or need assistance in determining whether possible changes to your protocol would change your exemption status, please email us at irb@liberty.edu.

Sincerely,

Fernando Garzon, Psy.D.
Professor, IRB Chair
Counseling

(434) 592-4054

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