A Study of the Marzano Focused School Leader and Teacher Evaluation Models and Student Proficiency and Growth in Middle Schools in A Large Suburban School District in South Florida

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The purpose of this study was to investigate whether the Marzano Focused School Leader and Teacher Evaluation Models impacted school leader and teacher effectiveness to increase student proficiency and growth. This quantitative, non-experimental study was conducted using existing data in all middle schools in a large suburban school district in South Florida for 2017-2018. Four research questions guided this study regarding the relationship and predictability among the variables of school leader and teacher instructional practice scores, quantity of observations reported in iObservation® and student proficiency and growth in Florida Standard Assessment (FSA) Developmental Scale Scores (DSS) in English Language Arts (ELA) and Mathematics or corresponding End-of-Course (EOC) assessment.

The linear regression analyses indicated that instructional practice was a statistically significant predictor of Grade 6-8 FSA ELA and Mathematics or corresponding EOC performances. The linear regression analyses indicated that there is a relationship between student proficiency and growth as measured by the developmental scale mean scores on FSA ELA and FSA Mathematics or corresponding EOC. These findings were based on data for one school year, and thus caution must be taken when deducing these findings.

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The Race to the Top (RttT) grant incentivized all United States (U.S.) to focus on educational transformation, which spawned from the Great Recession from 2007-2009 that affected the education sector (U.S. Department of Education, 2012). In a critical response, the American Recovery and Reinvestment Act (ARRA) regulation was ratified by the U.S. Congress and intended to energize the economy (Federal Communications Commission, 2009). In order to stimulate the education sector, the focus was to enhance school leader and teacher effectiveness to increase student proficiency and growth (U.S. Department of Education, 2012). Consequently, states deliberately created school leader and teacher evaluation systems to assess the impact of teachers on student achievement (American Institutes for Research, 2020).

Historical national initiatives such as Sputnik in 1957, National Defense Education Act of 1958 (Public Law 85-864), A Nation at Risk in 1983, No Child Left Behind Act of 2001, The Rising Above the Gathering Storm report of 2005 and Race to the Top in 2010, have challenged the rigor and progress of the education system in the U.S. (Flowers, 2013). Marzano (2012) asserts that evaluations serve two purposes: measuring the effectiveness of teachers and developing teachers. School leadership interventions under The Every Student Succeeds Act (ESSA): Evidence Review (2015) acknowledged the Marzano Focused School Leader Evaluation Model as one of the evidence-based leader evaluation systems (Herman et al., 2017; Manna & Petrilli, 2008). This study investigates whether the Marzano Focused School Leader and teacher evaluation models impacted school leader and teacher effectiveness to increase student achievement and growth more precisely than prior evaluation models.

In Florida's legislation (S.B. 736) all school districts were directed to create or implement an evaluation system that calculates a minimum of 50% of a teacher's final evaluation on a state performance indicator, such as the Florida Standards Assessment (FSA), and for non-assessed subject area teachers, a district-wide common assessment is required (The Florida Senate, 2011). A large suburban school district in South Florida approved the Marzano Focused School Leader and Teacher Evaluation Models (Florida Department of Education, 2020).

Florida Standards Assessments are foundational to the Florida Department of Education K-12 assessment program that collectively holds districts, schools, teachers, administrators, and students accountable for determining learning proficiency and academic growth (Florida Department of Education, 2019; Kolen & Brennan, 2004; Livingston, 2004; Pommerich et al., 2004). Students in Grades 6, 7 and 8 take the FSA Mathematics or corresponding Mathematics End-of-Course (EOC) assessment, and English Language Arts (ELA) assessments that measure student proficiency and growth on the Florida Standards.

The FSA ELA assessment consists of a combined score that includes student performance in both the Writing and Reading sections. Student performance on Florida's statewide assessments is classified into five achievement levels, where the lowest score of Level 3 is the passing score for each grade level and subject (Florida Department of Education, 2019). In compliance with §1008.22(3)(b)2., Florida Statutes (F.S.), middle grades students are not be tested on both FSA Mathematics and a Mathematics End-of-Course (EOC) assessment. Middle grade students enrolled in Algebra 1 or Geometry must take the corresponding EOC assessment, not the grade-level FSA Mathematics assessment (Florida Department of Education, 2019)

Conceptual Context

The demanding assessment system in Florida is aligned with the instructional process to ensure that graduating students are college or career ready for success through rigorous coursework. The data are disaggregated to determine if the academic goals are being achieved to drive instruction by school administrators and teachers. The Florida Department of Education assigns school and district grades to evaluate progress towards educational goals. There is currently robust research into the accountability system for K-12 students, however, there is a need for research into the effectiveness of standards-based accountability measures for teachers and educational leaders.

Additionally, the majority of school districts in Florida utilize the Marzano Focused School Leader and Teacher Evaluation Models. Practitioners need to implement both models with fidelity in order to ensure effectiveness, however, there is a lack of research that investigates whether the Marzano Focused School Leader and Teacher Evaluation Models, specifically, impacted school leader and teacher effectiveness to increase student proficiency and growth more precisely than prior evaluation models.

Literature Review

School Leader and Teacher Evaluation Models

There is robust research in school leader and teacher evaluation models. Based on meta-analyses, average effects of specific instructional strategies increase student proficiency and growth (Marzano et al., 2001). When the desired effects of instructional strategies are achieved, such as summarizing and note-taking, identifying similarities and differences, and reinforcing effort and giving recognition, percentile gains of 29-45 points can be yielded (Marzano et al., 2001). The purpose of school leader and teacher evaluation systems are to give feedback for enhancing professional practice (Carbaugh et al., 2015). Performance improvement pertains to the individualized growth factor and includes assisting teachers to learn content, reflect, and enhance their pedagogy. A formal Performance Improvement Plan (PIP) settles workplace efficiency concerns and assists workers in achieving success by specifying indispensable directions for attaining particular goals (Sen, 2017).

On the contrary, the accountability function reveals an assurance to the goals of expertise and quality performance leadership-focused coaching, an approach to support instructional leadership skills and responsibilities (Gray, 2018). A value-added assessment structure quantifies student learning over a period based on a projected growth rate (Misco, 2008). The preliminary goal of value-added assessment models (VAM) was to encourage positive shifts in instructional practice (Amrein-Beardsley, 2008).

> A value-added model (VAM) measures the impact of teaching on student learning by accounting for other factors that may impact the learning process. These models do not evaluate teachers based on a single year of student performance or proficiency or evaluate teachers based on simple comparison of growth from one year to the next. VAM levels the playing field by accounting for differences in the proficiency and characteristics of students assigned to teachers. It is designed to mitigate the influence of differences among the entering classes so that schools and teachers do not have advantages or disadvantages simply as a result of the students who attend a school or are assigned to a class. (Florida Department of Education, 2020, p. 1)

However, VAM measures have been disparaged by researchers and policy makers because of the sensitivity of the model results across various outcome measures (Hawley et al, 2017).

Achievement Gaps in the United States

The Elementary and Secondary Education Act (ESEA) of 1965 (Public Law 89-10) was legislated to target students from low socioeconomic families (Pugh-Walker, 2016). The ESEA (1965) strived to narrow the achievement gap of low socioeconomic students who were academically underperforming as compared to their peers. This report cited the systemic cause of learning and achievement differences among students on fiscal imbalance and limited accessibility to resources. A Nation at Risk (1983) focused on public apprehensiveness and the viewpoint that the education system in the U.S. was impaired. A pivotal domain in this report was centered on "assessing the quality of teaching and learning" in our schools (p.31). This was in opposition to holding fiscal disparities such as the ESEA accountable in the 1983 report that directed disparagement on the education system as a whole (Flowers, 2013; Herman et al., 2017; Pugh-Walker, 2016).

In order to narrow the historical achievement gaps in the United States, there needed to be a focus on leadership philosophies and development in addition to teacher development. This ensured that the positive impact of effective leadership on teacher growth is evident. It has been widely recognized that school leaders (principals) play a significant part in efforts to enhance teaching and learning (Fink & Resnick, 2001; Leithwood et al., 2004; Marzano et al., 2005; Nelson et al., 2004; O'Day, 2002; Smylie et al., 2003; Spillane et al., 2002; Woody et al., 2004). Schools that work (that are successful by different measures) have leadership that promotes meaningful staff development (Marzano et al., 2005). The meta-analysis of 70 studies of student achievement and leadership examined the effects of certain leadership practices (Marzano et al., 2005; Waters et al., 2003). The results confirm that the school (principal) leadership is positively correlated with student achievement with an average effect size of .25. Knowledge of curriculum and instruction, which encompasses assessment procedures and coaching teachers on enhancing pedagogy, also had an effect size of .25.

Bridging historical achievement gaps in Florida. Since 1999, Florida has implemented education reform initiatives that consist of charter schools, virtual learning, public-school choice, private-school choice, merit-based pay for performance, alternative teacher certification programs, school and district grading systems that include graduation rates and standardized assessments (Florida Department of Education, 2020). Charter schools are public schools of choice that have autonomy in innovation where programs cater to diverse groups of students (Florida Department of Education, 2019). Florida has the third largest charter school enrollment in the U.S. and in 2017-18, 654 charter schools educated 282,924 students in 46 counties (Florida Consortium of Public Charter Schools, 2020). Florida is considered a frontrunner in online learning as more than 71,000 students in the state take courses online, and successful completion of an online course is a high school graduation requirement (Florida Department of Education, 2020).

Students in low-performing Florida public schools have the option to relocate to a higher-performing public school of their parents' selection and students with disabilities are eligible for the McKay Scholarship that offers vouchers to attend a private school (Florida Department of Education, 2020). Florida has engaged in teacher salary reform using student performance to offer the maximum raises to teachers with optimal results or most improvement from their students comparable to how the private sector would offer performance reviews with bonuses. The pay for

performance reward system in Florida awards bonuses for teachers who attain student gains and proficiency and also teachers who increase the number of students who pass advanced placement courses, which has led to an increase in both student passing and participation rates on advanced placement exams (Florida Department of Education, 2020).

Prior to 2011, the state adopted teacher evaluation system in Florida was the Florida Performance Measurement System (FPMS). The FPMS was the main instrument for teacher evaluation and gave a valid and reliable method to observe teacher behaviors (Lavely et al., 1994). Peterson, Kromrey, Micceri, and Smith (1987) affirmed that the FPMS instrument was valid and reliable and permitted objective "coding and analysis of lessons" (p. 144). However, on the FPMS instrument, teachers were rated as either effective or less effective, but not ineffective. As a result, the FPMS was not a growth model and lacked a focus on student proficiency and growth and was replaced by the Marzano Focused Teacher Model. Further, MacMillan, and Pendlebury (1985) opined that the Florida Performance Measurement System was a widespread effort to transform research on instruction into real-world application for professional development, assessing, and compensating teachers but missed the target because of an absence of the intrinsic values in instruction that neglected the passion of teaching.

Impact of Leadership

The Marzano Focused School Leadership Evaluation Model is grounded on thorough research in effective educational leadership. Blase and Blase (2000) postulate that effective school leaders offer opportunities through professional development that infuse the study of professional literature and successful programs, implementation of new skills, peer coaching, utilize action research concentrated on student data, and monitor the effect of innovative strategies on students. The Marzano Focused School Leadership framework stems from surveys on school leader competencies that influence student proficiency and growth. Superior results are attained when principals inspire school staff to dynamically analyze data for improving results (Zmuda et al., 2004).

Leadership impact on student proficiency, growth and instructional practice level. The literature on leadership impact on student proficiency, growth and instructional practice level postulate that the implementation of the Marzano Focused School Leader and Teacher Evaluation Model has an impact on school leader and teacher effectiveness more precisely than prior models of school leader and teacher evaluation (Blase & Blase, 2000; Zmuda et al., 2004; Carbaugh et al., 2015). A vast majority of Florida school districts apply the Marzano Focused School Leader and Teacher Evaluation Model. Practitioners need to implement the model with fidelity in order for it to be effective. With the rigidity of standards-based accountability in the K-12 school system, the onus is on educators and administrators to utilize research-based strategies to bridge the achievement gap to ensure that all students have adequate and equitable access to quality public school education.

It is critical to have a comprehensive understanding of adult knowledge acquisition and learning satisfaction levels to foster a relevant culture of andragogy. This can be facilitated by collaborating on an action plan for continuous improvement in learning to promote student achievement. In order to enhance pedagogy and andragogy, deliberate practice needs to eventuate in a methodical process such as internships and group experiences to share best practices. There are implications of gaps in academic achievement among racial and socioeconomic groups in the U.S. There is a need for educational reform initiatives from a socio-educational perspective and the need to investigate whether the Marzano Focused School Leader and Teacher Evaluation Model impacted school leader and teacher effectiveness to increase student achievement and

growth more precisely than prior evaluation models.

The research base of the Marzano School Focused Leader Evaluation Model is extensive. Carbaugh et al. (2015) postulated that the research defining the Marzano Focused School Leader Evaluation Model was extracted from four critical contemporary and historical research documents about school leadership: (a) The Wallace Study conducted and issued conjointly by the Center for Applied Research and Educational Improvement (CAREI) at the University of Minnesota and the Ontario Institute for Studies in Education at the University of Toron. (b) The 2011 study of *What Works in Oklahoma Schools* (Marzano Research Laboratory, 2011) conducted by Marzano Research Laboratory with the Oklahoma State Department of Education over the 2009-2010 and the 2010-2011 school years; (c) The Marzano, Waters, and McNulty meta-analysis of school leadership published in 2005 in *School Leadership that Works*; and (d) The Marzano study of school effectiveness published in 2003 in *What Works in Schools*.

The Wallace Foundation (2013) is the pivotal analysis of the relationship between school leader actions and behaviors and student academic achievement. The report ratified through quantitative data that effective school leadership is interrelated to student achievement and determined that school leaders (principals) assume the predominant role in leadership, while "collective leadership" shared among stakeholders such as teachers are contributing roles. It was also discovered that instructional leadership aimed at pedagogical improvement has a substantial ancillary impact on student proficiency and growth.

The Marzano Focused School Leadership Evaluation Model classifies 21 elements of principal activities and behaviors that have been ordered into six domains. Accompanying scales with exemplary evidence of success have been established. “When principals and school administrators empower and support teachers and promote a school-wide emphasis on student academic growth, the quality of achievement for students, teachers, schools, and communities improves" (Marzano et al., 2005, p. 67). Thus, it is essential to develop effective educational leaders with leadership philosophies that focus on improving student academic achievement. According to Carbaugh et al. (2015), a summary of the domains and elements are as follows:

- Domain 1 – A Data-Driven Focus on School Improvement (3 elements)
- Domain 2 – Instruction of a Viable and Guaranteed Curriculum (5 elements)
- Domain 3 – Continuous Development of Teachers and Staff (3 elements)
- Domain 4 – Community of Care and Collaboration (4 elements)
- Domain 5 – Core Values (3 elements)
- Domain 6 – Resource Management (3 elements)

Leadership impact on narrowing historical achievement gaps. Leadership is intricate to define and growing in popularity around the world. The majority of leadership definitions include the common thread that "leadership is an influence process that assists groups of individuals towards goal attainment" (Northouse, 2018, p. 15). The notion of what makes an effective leader is evolving, and businesses are continually searching for leaders to enhance their companies and increase productivity. Degree programs in leadership serve to equip aspiring leaders with skills to navigate complex situations to meet organizational goals. Accomplishing school goals involves individual and shared efforts (Kyrtheotis & Pashiardis, 1998b).

Further, Burns (1978) proposed transformative leadership and stated that leadership is evident "when one or more persons engage with others in such a way that leaders and followers

raise one another to higher levels of motivation and morality" (p. 83). Thus, transformative leadership is an agent for immense organizational and personnel change. Effective leadership is vital to increase workers' expertise in knowledge, problem-solving, and charisma to increase output. Thus, leadership is credited as a critical component to organizational affluence, mediocrity, or collapse (March & Weil, 2005; Northouse, 2018). An understanding of leadership as a process is essential in developing leadership skills for all employees. Ruben and Gigliotti (2017) postulated that leadership is influential and affective between the leader and the employees. Professional development opportunities serve to foster professional expertise. It is understood that some individuals, because of their past experiences, maybe better suited for specific leadership positions. However, professional leadership development and college-level leadership courses can be used to improve the leadership skills of all leaders regardless of past experiences.

There are ramifications of gaps in academic achievement among racial and socioeconomic groups in the U.S. There must be an understanding of the historical perspective in order to discuss improvement efforts within the social, educational context to influence educational reform efforts involving school accountability. D'Amico (2001) proposed that the achievement gap is evident in a multitude of educational success indicators that include grades, test scores, dropout rates, college entrance/completion rates, and in every kind of school district and socioeconomic group. In Florida, these educational success indicators factor into the school grading system by the Florida Department of Education and, thus, greater emphasis is placed on student achievement and postsecondary readiness.

Self-Efficacy in Andragogy

Adult learning opportunities have a plethora of definitions. Adult learning offers a roadmap to district and school administrators for changing current professional development programs into more efficient and groundbreaking learning experiences that advance onsite skill while still supporting school and district priorities (Rodman, 2019). Coto et al (2020) opine that teachers are adult learners and there should be a community of practice approach to professional development. According to Kim, Hagedorn, Williamson, and Chapman (2004), adult learning opportunities, as defined by The National Center for Education Statistics, are two-fold: optional and lifelong learning opportunities in addition to ongoing professional growth courses.

Clardy (2005) interprets andragogy as educational practices pertinent to adults. Andragogy serves as a configuration for choosing instructional experiences to equip aspiring leaders with the tools to be effective leaders. According to McCauley, Hammer, and Hinojosa (2017, p. 312), “they offer examples of leadership instructional tools that align with andragogical assumptions and provide suggestions for scaling these assignments and activities to address students' learning needs at different stages of adulthood.” Thus, the aspiring leader is scaffolded to gauge their current leadership level and engage their leadership knowledge and skills to promote active learning and relevant experiences. Principals need to tap the expertise of teacher leaders in their schools in order to enhance improvement efforts and results (Marks & Printy, 2003).

An emotional connection facilitates remembrance so that aspiring leaders can reflect on their teaching practice. It can be debated that adults have specific learning habits, which can impact their learning. It is always a good idea to share how the activity would enhance their overall self-learning and ensure that it is adult appropriate and where the content and learning goals align with each other.

Knowles (1968, p. 351) suggested that andragogy is "a new label and a new technology" to differentiate it from early childhood education. This was oppositional to pedagogy since it encompassed the methodology of adult learning. Knowles (1980, p. 44-45) espouses the following:

1. As a person matures, his or her self-concept moves from that of a dependent personality toward one of a self-directing human being.
2. An adult accumulates a growing reservoir of experience, which is a precious resource for learning.
3. The readiness of an adult to learn is closely related to the developmental tasks of his or her social role.
4. There is a change in time perspective as people mature - from future application of knowledge to immediacy of application. Thus, an adult is more problem-centered than subject-centered in learning."

In subsequent publications, Knowles made an addendum by adding two more presumptions:

1. The most potent motivations are internal rather than external (Knowles, 1984, p. 12).
2. Adults need to know why they need to learn something (Knowles, 1984).

Though andragogy is a base for understanding adult learners, some are not proponents of this theory. Merriam (2001) discusses two of these critiques: first, it is debatable if it is categorically a theory of adult learning and, second, the question if the beliefs apply to all adults. After being criticized, Knowles (1984, p. 12) conceded that andragogy was not a learning theory; instead, it is a "model of assumptions about learning or a conceptual framework that serves as a basis for an emergent theory." In other words, there is a possibility that adult learners can be instructor-dependent for direction based on their mastery.

The adult learning theory. The Adult Learning Theory offers presumptions for understanding the optimal learning environment for adults (Zuga, 1999). There must be a comprehensive understanding of how adults learn in terms of knowledge acquisition and enjoyment of learning to create the most meaningful climate for learning. It is equally important to ensure that the instructional level adheres to the andragogical framework and meets the needs of adult learners. Nesbit (2001) supports Knowles' model of andragogy in that adult learners have specific demands as when contrasted to younger students, but Merriam (2001) argues that andragogy neglects to recognize the sociocultural influence on the adult learner.

According to Stokes (2006), there is an excess of 90 million adult learners who are 25 years or older that are enrolled in higher education. This is in direct response to the U.S. Department of Labor, Bureau of Labor and Statistics (2004) report that estimated that within the next twenty years, 80% of all new jobs would need a higher education credential. Learners need to find their best learning environment to effectively adhere to the cultural, fiscal, and competitive needs of the US.

Historical trainings in self-efficacy in andragogy. In the dynamic fields of educational leadership for school leaders and pedagogy for educators, there needs to be a paradigm shift from traditional pedagogy and andragogy to more innovative ways to engage the 21st-century technology-savvy student and adult learner. Kerka (1999) proposed that younger generations of students and teachers made the internet a norm and were on the cutting edge of self-directed learning. Merriam et al. (2007) "offered a detailed discussion of its key components: the centrality

of experience, the process of critical reflection, and transformative learning's link to adult development."

Current trainings in self-efficacy in andragogy. In a large suburban school district in South Florida, USA, the Deliberate Practice framework is utilized for instructional staff and educational leaders via the Professional Growth Plan (PGP). Deliberate Practice is a means for teachers and educational leaders to enhance their expertise through structured, reflective, and collaborative activities. It involves a systematic approach of formulating personal goals, focused practice with prescriptive feedback, observing and discussing best practices in teaching and leadership practices, and progress monitoring (The School District of Palm Beach County, Professional Development Deliberate Practice, 2019). Thus, Deliberate Practice challenges teachers and educational leaders to attain innovative levels of mastery by increasing the rigor of current practices to achieve the desired effect. Effective principals rely on the expertise of teacher leaders to enhance school effectiveness (Leithwood et al., 2004). All instructional staff and educational leaders in a district must have similar descriptions of effective teaching methodologies.

All educational leaders should have effective leadership methodologies. This conventional description must not be confined to a checklist of strategies for classroom and building utilization and should be broad enough to reflect the variety of actions that can impact student learning in a positive manner (City et al., 2009; Marzano, 2010). It is recommended that instructional staff, with the support of an educational leader, choose a couple of strategies to improve, and one routine, content, and enacted on the spot strategy should be chosen yearly for improvement. It is also recommended that the educational leader, with the support of a higher rank educational leader (such as a Principal if the educational leader is an Assistant Principal and an Area Superintendent if the educational leader is a Principal), also chooses strategies to improve.

Monitoring school leader and teacher progress. According to Marzano (2007), monitoring teacher and educational leader progress in the chosen strategies call for a description of performance levels regarding the strategies. Each scale delineates five performance levels: Not using (1), Beginning (2), Developing (3), Applying (4), and Innovating (5). "Not using" means that the strategy is necessary, but the teacher or educational leader is not utilizing the strategy. "Beginning" means that the teacher or educational leader is misusing the strategy or with errors. "Developing" means that the teacher or educational leader is using the strategy appropriately but in an automated manner. "Applying" means that the target level for expertise has been reached by the teacher or educational leader without errors while simultaneously monitoring for the desired effect on teachers or students. "Innovative" means that the strategy has reached the desired effect and tailored to the unique needs of every teacher or student. The performance system must contain a developmental scale or rubric to progress monitor school leader and teacher development (Marzano et al., 2011).

Knowles (1984) found the Eight Process-Components of an Andragogical Process Design, which focuses on having the adult learner involved in her/his self-directed learning plan. This breaks from the corporate model of efficiency, where profit and output supersede the learners' self-esteem and self-actualization. Merriam et al. (2007) agree with Maslow's hierarchy of needs, where the motivation to learn is intrinsic and the desire for self-actualization.

Adult learners can execute their professional development plans aligned with the Principles of Andragogy and promote experiential learning through internships and group experiences such as collaborative workshops to share best practices. According to Merriam et al. (2007), earlier theories such as the behaviorist orientation that learning consists of numerous single theories and forms the basis of adult learning, and the humanist orientation that looks at the viewpoint of human growth potential.

Knowles (1996) proposes that in a productive learning environment, continuous informal observations and useful descriptive feedback should be time-sensitive and targeted to remove the stigma of stressful evaluations and may involve the use of evaluative questionnaires. For educational leaders, this is extremely important because ineffective strategies and procedures can be quickly eliminated, and the focus on student achievement and improving school climate will occur.

Research Design

This quantitative, non-experimental study was conducted using data obtained from the Florida Standards Assessments (FSA) Test Score Report for Grades 6-8 in all middle schools in a large suburban school district in South Florida for the school year 2017-2018. School leader and teacher data are reported in iObservation® and it was determined if the desired effect of the instructional practice was achieved or if there needed to be additional strategies implemented to achieve the desired effect. Prescriptive feedback for instructional improvement is given to the school leader and teacher.

A quantitative methodology using non-experimental design was used to investigate whether there was a relationship between (a) two variables, student proficiency and growth, and teacher evaluation performance and (b) student proficiency and growth and usage/number of standard observations accounted for in the Marzano iObservation® system. The included existing data of all students who were enrolled in Grades 6-8 in all middle schools in a large suburban school district in South Florida (31451 based on October 2017 Full-Time Equivalent or FTE) for the school year 2017-2018 (Florida Department of Education, 2020). Additionally, the study encompassed existing data of all teachers assigned to teach English Language Arts and/or Mathematics in Grades 6-8 in all middle schools in a large suburban school district in South Florida for the school year 2017-2018. Existing data will show that school leaders conduct teacher observations in the fall and continue in the spring of the academic year. There were 407 teachers assessed through formal observations, informal observations, and walkthroughs based on various dominant elements within the design questions and domains. Data from the school year 2017-2018 were accumulated from the student assessment window, which ran from February - April 2018. The data were reported in May-June 2018. The observation data during the subsequent summer and reflected the students who were in the classes in the 2017-2018 school year.

Research Questions

This research will attempt to answer the following four questions:

1. What is the relationship between student proficiency and growth as measured by the developmental scale mean scores on FSA English Language Arts for sixth-grade, seventh-grade, and eighth-grade students, and the instructional practice school level mean of teacher performance as measured by the Marzano Focused Teacher Evaluation Model?
2. What is the relationship between student proficiency and growth as measured by the developmental scale mean scores on FSA Mathematics or corresponding EOC assessment for sixth-grade, seventh grade and eighth-grade students, and the instructional practice school level mean of teacher performance as measured by Marzano Focused Teacher Evaluation Model?

3. What is the relationship between the usage/number of Standard Observations on the Marzano iObservation® system used by school leaders in middle schools in a large suburban school district in South Florida, and student proficiency and growth as measured by the developmental scale mean scores on FSA English Language Arts for sixth-grade, seventh-grade and eighth-grade students?
4. What is the relationship between the usage/number of Standard Observations on the Marzano iObservation® system used by school leaders in middle schools in in a large suburban school district in South Florida, and student proficiency and growth as measured by the developmental scale mean scores on FSA Mathematics or corresponding EOC assessment for sixth-grade, seventh-grade and eighth-grade students?

For Research Questions 1-2, a Pearson *r* was performed to determine the relationship between the variables of student achievement (English Language Arts and Mathematics DSS scores) and teacher evaluation performance scores. The data was aggregate because specific student groups were not matched to their teacher. A linear regression was also performed to examine predictability between the two variables: Predictor = teacher instructional practice evaluation score and criterion = student achievement DSS score (Spatz, 2011; Steinberg, 2011). For Research Questions 3-4, a Pearson *r* was performed to determine the relationship between the variables of student achievement (English Language Arts and Mathematics DSS scores) and usage rates/number of standard observations computed on the Marzano iObservation® system. A linear regression was be performed to determine predictability between the two variables: predictor = iObservation® usage/number of standard observations and criterion = student achievement DSS scores (Steinberg, 2011; Spatz, 2011).

Assessment System

The standardized assessment system in Florida is closely associated with the curriculum to ensure that rigorous coursework is taught, and student achievement occurs (Florida Department of Education, 2020). This study adds to the research base of the accountability system for 12 students and assesses the effectiveness of standards-based accountability measures for teachers and educational leaders. Teacher Evaluation systems are intended to enable school leaders to differentiate between levels of teacher performance impartially and empirically, and equally important is the practice of enhancing pedagogy to enact instructional changes to meet the rigor of high-stakes assessments (Marzano et al., 2005; Waters et al., 2003).

Results

The summary is ordered by grade level and content for the assessments using the ELA and Mathematics FSA or corresponding EOC developmental scale scores (DSS) and instructional practice and observation mean data analysis for Grades 6, 7 and 8.

Grade 6, 7 and 8: English Language Arts Results and Instructional Practice

The regression analysis indicated that instructional practice was a statistically significant predictor of Grade 6, 7 and 8 FSA ELA performance. There is a weak positive correlation between usage/number of standard observations because the Pearson's correlation coefficient was found to be 0.1978. There is a linear regression. The p-value was found to be less than 0.00001, which is less than 0.05. Thus, the test was statistically significant. Hence, there is a weak positive correlation between the usage/number of standard observations and the mean scale score in ELA.

Table 1

Summary of Linear Regression Analysis: Instructional Practice as a Predictor of Grade 6, 7 and 8 FSA ELA DSS (N = 522)

	Instructional Practice as a Predictor of Grade 6, 7 and 8 FSA ELA DSS
Coefficient r:	0.198 *N: 522.0 T-statistic: 4.60 p-value:* 0.0

**p < .05. **p < .01.*

Note. FSA = Florida Standards Assessment; DSS = Developmental Scale Score; ELA = English Language Arts.

Grade 6, 7 and 8: FSA Mathematics or Corresponding EOC Results and Instructional Practice

The linear regression analysis indicated that instructional practice was a statistically significant predictor of Grade 6, 7 and 8 FSA Mathematics or corresponding EOC performance. The Pearson's correlation coefficient was found to be 0.1589. There is a linear regression. The p<.001 and thus the test was statistically significant. Thus, we reject the null hypothesis. Hence there exists a weak positive correlation between the average instructional practice scores and the mean scale score for FSA Mathematics or corresponding EOC assessment.

Table 2

Summary of Linear Regression Analysis: Instructional Practice as a Predictor of Grade 6, 7 and 8 FSA Mathematics or Corresponding EOC DSS (N = 407)

	FSA Mathematics or Corresponding EOC DSS Instructional Practice Mean			
Coefficient r: 0.159	*N:* 407	*T-statistic:* 3.239	*p-value:* 0.0

**p < .05. **p < .01.*

Note. FSA = Florida Standards Assessment; DSS = Developmental Scale Score; EOC = End-of- Course.

Grade 6, 7 and 8: English Language Arts Results and Observation Mean

The regression analysis indicated there is a relationship between student proficiency and growth as measured by the developmental scale mean scores on FSA ELA. There is a weak positive correlation between usage/number of standard observations because the Pearson's correlation coefficient was found to be 0.1978. There is a linear regression. The p-value was found to be less than 0.00001, which is less than 0.05. Thus, the test was statistically significant. Hence, there is a weak positive correlation between the usage/number of standard observations and the mean scale score in ELA.

Table 3

Summary of Linear Regression Analysis: Observation as a Predictor of Grade 6, 7 and 8 FSA ELA DSS (N = 522)

	Observation as a Predictor of Grade 6, 7 and 8 FSA ELA DSS
Coefficient r:	*0.198 N: 522.0 T-statistic: 4.60 p-value: 0.0*

**p < .05. **p < .01.*
Note. FSA = Florida Standards Assessment; DSS = Developmental Scale Score; ELA = English Language Arts.

Grade 6, 7 and 8: FSA Mathematics or Corresponding EOC and Observation Mean

The linear regression analysis indicated there is a relationship between student proficiency and growth as measured by the developmental scale mean scores on FSA Mathematics or corresponding EOC assessment. There is a weak positive correlation between usage/number of standard observations because the Pearson's correlation coefficient was found to be 0.1227. There is a linear regression. The p-value was found to be less than 0.00001, which is less than .05. Thus, the test was statistically significant. Hence, there is a weak positive correlation between the usage/number of standard observations and the mean scale score in Math or the corresponding EOC.

Table 4

Summary of Linear Regression Analysis: Observation as a Predictor of Grade 6, 7 and 8 FSA Mathematics or Corresponding EOC DSS (N = 407)

	Observation as a Predictor of Grade 6, 7 and 8 FSA Mathematics or Corresponding EOC
Coefficient r:	*0.123 N:* 407.0 *T-statistic:* 2.49 *p-value: 0.0*

**p < .05. **p < .01.*
Note. FSA = Florida Standards Assessment; DSS = Developmental Scale Score; EOC = End-of-Course.

The findings of the study were consistent with existing literature. Teacher and school leader evaluations have a trifold function: (1) to develop teacher instructional practice, (2) to enhance school leader observations and inter-rater reliability, and (3) to increase student proficiency and

growth (Donaldson & Papay, 2014; Marzano & Toth, 2013). The Marzano Focused Teacher Evaluation model is an appraisal system established on impartial standards-based approaches and its system creates consistency for participants and streamlines teacher evaluation (Marzano et al., 2005). This interactive approach accentuates discernible elements with specific confirmations of efficacy to conclude scores and give prescriptive feedback for instructional improvement. A deficiency in thorough and consistent training of evaluators can skew the objectivity and reliability of any teacher and school leader evaluation system (Stumbo & McWalters, 2011).

The impact of effective school leadership on student proficiency and growth is evident in the high level of engagement in professional learning communities that fosters collaboration and enhances a student-focused culture (Marzano, 2007; Marzano et al., 2011). A positive culture that is supportive at the individual classroom as well as the school improvement level leads to increases in student achievement. Danielson (2011) asserts that even when evaluators are correctly trained, they still need multiple opportunities to exercise their skills and calibrate their findings with peer school leaders to confirm inter-rater reliability. School leaders and teachers require high-quality professional development on the evaluation processes to guarantee that evaluations are accurate and impactful to pedagogy and student results (Donaldson, 2009). It is critical that as the education profession evolves, new research-based strategies are developed to ensure students are college and career ready.

Teachers and school leaders need to have a growth mindset when it comes to attaining feedback on pedagogy and reflection on leadership practices to reach the desired effect to impact teacher, school leader and school improvement goals (Marzano et al., 2005; Nelson et al., 2004; O'Day, 2002; Smylie et al., 2003).

Implications

This study generated results that disclosed partial evidence of statistical significance among observation, instructional practice, and FSA English Language Arts and Mathematics or corresponding EOC performance. These findings can be purposeful and form the framework of continuous professional development and training for school leaders and teachers.

There are four recommendations for implementation. First, progress monitoring of FSA and EOC data should occur in correlation to instructional practice scores at the specific class level for statistical significance and predictability between instructional practice scores and student proficiency and growth. Second, intentional pathways should be developed whereby school leaders can conduct administrative learning walks to calibrate teacher evaluation and provide targeted and reflective feedback for instructional improvement to achieve the desired effect of elements. Third, class level data by grade level and instructional practice scores should be observed to continuously monitor data trends for targeted instruction for instructional remediation or acceleration. Lastly, there should be ongoing professional development and training for school leaders on inter-rater reliability and teachers on deliberate practice to improve pedagogy. Based on the data analysis from the study, several recommendations are suggested for subsequent research. A quantitative study should be conducted that is focused on improving student performance to investigate if there is an improvement in FSA ELA and Math or corresponding EOC scores through the implementation of deliberate practice of the Marzano Focused School Leader and Teacher Evaluation Model.

Further, a brief overview of the data highlighted a low level of variability between the majority of teachers scoring a 3.0 (effective) and 4.0 (highly effective) on the Marzano Focused School Leader for deliberate practice on a 4.0 scale. Thus, further studies need to be done to determine focused professional development and perhaps incorporate a deliberate practice scale

from 0 to 10 to make the scoring more quantitative instead of relying on the school leader's subjectivity. Also, the length of the study needs to be increased to examine longitudinal data from the last five years to observe data trends.

In addition, a study should be conducted that is qualitative in nature to investigate the implementation of the Marzano Focused School Leader and Teacher Evaluation Model, and address concerns from labor groups such as teacher unions and school leader professional associations regarding the evaluation process and inter-rater reliability to meet the needs of the adult learner. Further, a study should be conducted involving comparable suburban districts with similar demographics that utilize the Marzano Focused School Leader and Teacher Evaluation Model. A quantitative study should be conducted incorporating the elementary and high school levels to investigate if there is an improvement in FSA ELA and Math or corresponding EOC scores through the implementation of the Marzano Focused School Leader and Teacher Evaluation Model.

Moreover, a quantitative study should be conducted to investigate if there is an improvement in other assessed content areas such as FSA Civics, and Biology 1, and US History EOC scores through the implementation of the Marzano Focused School Leader and Teacher Evaluation Model. A study should be conducted to determine if the pay for performance reward system in Florida that awards bonuses for teachers who attain student gains and proficiency and also teachers who increase the number of students who pass advanced placement courses, produces highly effective teachers.

It is essential that teacher observation promotes pedagogical improvement where prescriptive feedback leads to enhance educational practitioners. School leaders require a standards-based evaluation system that provides inter-rater reliability and fosters deliberate practice. Although the formal, informal and walkthroughs on iObservation® are a critical part of the evaluation process, it must be considered that the pre-planning conference, post-conference and student interviews work in tandem to provide a holistic view of pedagogy, adult learning, school leadership and their combined impact on student growth and proficiency to ensure that students are college and career ready.

References

American Institutes for Research (2020). Measuring the Impact of Teacher and Leader Evaluation Systems on Student Learning and Performance. https://www.air.org/project/measuring-impact-teacher-and-leader-evaluation-systems- student-learning-and-performance

Amrein-Beardsley, A. (2008). Methodological concerns about the education value-added assessment system. *Educational Researcher, 37*(2), 65-75

Blase, J. & Blase, J. (2000). Effective instructional leadership: Teachers' perspectives on how principals promote teaching and learning in schools. *Journal of Educational Administration, 38(2),* 130-141.

Burns, J. M. (1978). *Leadership.* Harper & Row Publishers.

Carbaugh, B. G., Marzano, R. J., & Toth, M. D. (2015). *School leadership for results: Shifting the focus of leadership evaluation*. Learning Sciences International.

City, E. A., Elmore, R. F., Fiarman, S. E., & Teitel, L. (2009). *Instructional rounds in education: A network approach to improving teaching and learning.* Harvard University Press.

Clardy, A. (2005). *Andragogy: Adult learning and education at its best?* Retrieved from ERIC database. (ED 492132)

Coto, M., & Dirckinck-Holmfeld, L. (2020). *Professional Development to Promote Online Communication, Collaboration and Learning Among Faculty: A Community of Practice Approach*.

D'Amico, J. J. (2001). A closer look at the minority achievement gap. *ERS Spectrum, 19*(2), 4-10.

Donaldson, M.L. (2009). *So long Lake Wobegon?; Using teacher evaluation to raise teacher quality.* Retrieved from Center for American Progress website: http://www.americanprogress.org

Donaldson, M. L., & Papay, J. P. (2014). Teacher evaluation reform: Policy lessons for school principals. *Principal's Research Review, 9*(5), 1-8.

Elementary and Secondary Education Act of 1965, Pub. L No. 89-10, §

Federal Communications Commission (2009). American Recovery and Reinvestment Act of 2009. https://www.fcc.gov/general/american-recovery-and-reinvestment-act-2009

Fink, E., & Resnick, L. B. (2001). Developing principals as instructional leaders. *Phi Delta Kappan*, *82(8),* 578-606.

Florida Consortium of Public Charter Schools (2020). *Learn about Florida's Charter Schools.* https://www.floridacharterschools.org

Florida Department of Education (2019). *2017-18 Guide to Calculating School and District Grades.* http://www.fldoe.org/core/fileparse.php/18534/urlt/SchoolGradesCalcGuide18.pdf

Florida Department of Education (2020). *Approved District Performance Evaluation Systems.* http://www.fldoe.org/teaching/performance-evaluation/approved-dis-performance- evaluation-sy/

Florida Department of Education (2020). *Data Publications and Reports: Enrollment/Membership by District by Grade 2017-18, Final Survey 2.* http://www.fldoe.org/accountability/data-sys/edu-info-accountability-services/pk-12- public-school-data-pubs-reports/archive.stml

Florida Department of Education (2020). *Performance Evaluation.* http://fldoe.org/teaching/performance-evaluation/

Flowers, A. (2013). *A study of the Marzano teacher evaluation model and student achievement at 24 elementary schools in a large suburban school district in Central Florida.* (Doctoral dissertation). Electronic Theses and Dissertations. (https://stars.library.ucf.edu/etd/2625)

Herman, R., Gates, S. M., Chavez-Herreias, E. R., & Harris, M. (2017). *School leadership interventions under the Every Student Succeeds Act.* RAND Corporation.

Kerka, S. (1999). Self-directed learning. Myths and Realities No. 3 Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education. (ERIC Document Reproduction Service No. ED 435 834)

Kim, K., Hagedorn, M., Williamson, J., & Chapman, C. (2004). Participation in Adult Education and Lifelong Learning: 2000-01. National Household Education Surveys of 2001. NCES 2004-050. *US Department of Education.*

Knowles, M. S. (1968). Andragogy, not pedagogy. *Adult leadership, 16*(10), 350-352, 386.

Knowles, M. S. (1980). *The modern practice of adult education: From pedagogy to andragogy* (2nd ed.). Cambridge Books.

Knowles, M. S. (1984). *Andragogy in action: Applying modern principles of adult learning.* Jossey-Bass.

Knowles, M. S. (1996). *Adult learning.* In R. L. Craig (Ed.), The ASTD training and development handbook: A guide to human resources development (4th ed., pp. 253-265). McGraw-Hill.

Kolen, M. J., & Brennan, R. L. (2004). *Test equating, scaling, and linking*. Springer.

Lavely, C., Berger, N., & Blackman, J. (1994) Contemporary teacher classroom performance observation instruments. *Education, 114*(4), 618-624.

Leithwood, K., Seashore Louis, K., Anderson, S., & Wahlstrom, K. (2004). *How leadership influences student learning*. Learning From Research Project: University of Minnesota, Center for Applied Research and Educational Improvement (CAREI); Ontario Institute for Studies in Education at the University of Toronto (OISEUT); and The Wallace Foundation.

Leithwood, K.A. & Riehl, C. (2003). *What we know about successful school leadership*. Laboratory for Student Success, Temple University.

Livingston, S. A. (2004). *Equating test scores (without IRT)*. Educational Testing Service (ETS).

Louis, K. S., Leithwood, K., Wahlstrom, K. L., & Anderson, S. E. (2010). *Investigating the links to improved student learning: Final report of research findings*. The Wallace Foundation.

MacMillan, C. J. B. & Pendlebury, S. (1985). The Florida Performance Measurement System A Consideration. *Teachers College Record, 87*(1), 67-78.

Manasse, A.L. (1985). Vision and leadership: Paying attention to intention. *Peabody Journal of Education, 63*(1), 150-173.

Manna, P. & Petrilli, M. J. (2008). "Double Standard? 'Scientifically Based Research' and the No Child Left Behind Act." In F. M. Hess, ed. *When Research Matters: How Scholarship Influences Education Policy*. Harvard Education Press.

March, J. G., & Weil, T. (2005). *On leadership.* Blackwell.

Marks, H. M. & Printy, M.S. (2003) Principal Leadership and School Performance: An Integration of Transformational and Instructional Leadership. *Educational Administration Quarterly, 39,* 370-397.
Marzano, R. J., & Toth, M. D. (2013). *Teacher evaluation that makes a difference: A new model for teacher growth and student achievement.* Alexandria, VA: ASCD.
Marzano Research. (2019). Marzano, R. J. https://www.marzanoresearch.com
Marzano Research Laboratory. (2011). *What works in Oklahoma schools: Phase I state report.* Author.
Marzano, R. J. (2007). *The art and science of teaching: A comprehensive framework for effective instruction.* ASCD.
Marzano, R. J. (2010). The art and science of teaching/What teachers gain from deliberate practice. *Educational Leadership, 68*(4), 82-85.
Marzano, R. J. (2012). The two purposes of teacher evaluation. *Educational Leadership, 70*(3), 14-19.
Marzano, R. J. (2003). *What works in schools: Translating research into action*. Association for Supervision and Curriculum Development.
Marzano, R. J., Frontier, T., & Livingston, D. (2011). *Effective supervision: Supporting the art and science of teaching.* ASCD.
Marzano, R. J., Pickering, D. J., & Pollock, J. E. (2001). *Classroom instruction that works: Research-based strategies for increasing student achievement.* Association for Supervision and Curriculum Development.
Marzano, R. J., Waters, T., & McNulty, B. A. (2005). *School leadership that works: From research to results.* Association for Supervision and Curriculum Development.
McCauley, K. D., Hammer, E., & Hinojosa, A. S. (2017). An andragogical approach to teaching. *Management Teaching Review, 2*(4), 312-324.
Merriam, S. B. (2001). Andragogy and self-directed learning: Pillars of adult Learning theory. *New Directions for Adult and Continuing Education, 2001*(89), 3-14.
Merriam, S., Caffarella, R., & Baumgartner, L. (2007). *Learning in Adulthood, 3rd ed.* Jossey- Bass.
Misco, T. (2008). Was that a result of my teaching? A brief explanation of value added assessment. *The Clearing House, 92*(7), 11-14.
A Nation at Risk: The Imperative for Educational Reform. (1983). National Commission on Excellence in Education. U.S. Government.
National Defense Education Act of 1958, Pub. L. No. 85-864, § 72 Stat. 1580 (2019).
Nelson, B. S., Benson, S., & Reed, K. M. (2004). *Leadership Content Knowledge: A Construct for Illuminating New Forms of Instructional Leadership.* Paper presented at the National Council of Supervisors of Mathematics.
Nesbit, T. (2001). *Extending graduate education to non-traditional learners.* Vancouver, BC: Centre for Credit & Integrated Studies. (ERIC Document Reproduction Services No. ED 452 75)
Northouse, P. G. (2016). *Leadership: Theory and practice* (7th ed.). Sage Publications, Inc.
Northouse, P. G. (2018). *Leadership: Theory and practice* (8th ed.). Sage Publications, Inc.
O'Day, J. (2002). Complexity, accountability, and school improvement. *Harvard Educational Review, 72*(3), 293-329.
Peterson, D., Kromrey, J., Micceri, T., & Smith, O. (1987). Florida performance measurement system: An example of its application. *Journal of Educational Research, 80*(3), 141-148.

Pommerich, M., Hanson, B., Harris, D., & Sconing, J. (2004). Issues in conducting linkage between distinct tests. *Applied Psychological Measurement*, *28*(4), 247–273.
Prestine, N. & Nelson, B. S. (2003). How Can Educational Leaders Support and Promote Teaching and Learning? In W. A. Firestone & C. A. Riehl (Eds.), *A new agenda for research in educational leadership* (pp. 46-60). Teacher's College Press.
Pugh-Walker, J. P (2016). The Impact of Every Student Succeeds Act (ESSA) on Equitable Title I Services for Nonpublic School Students. *Dissertations.* 117.
Ruben, B. D. & Gigliotti, R. A. (2017). Communications: Sine qua non of Organizational leadership theory and practice. *International Journal of Business Communication, 54*(1), 12-30.
Ruebling, C., Stow, S., Kayona, F. & Clarke, N. (2004). Instructional Leadership: An Essential Ingredient for Improving Student Learning. *The Educational Forum, 68,* 243-253.
Samuel, A. (2015). *The effects of the Marzano observation system training on the self-efficacy of teacher observers* (Doctoral dissertation). Electronic Theses and Dissertations. (https://stars.library.ucf.edu/etd/1200)
Sen, N. (2017). *The role of feedback in employee performance improvement* (Doctoral dissertation). Electronic Theses and Dissertations. (https://www.researchgate.net/publication/321310320)
Sendjaya, S., & Sarros, J.C. (2002). Servant leadership: Its origin, development, and application in organizations. *Journal of Leadership & Organizational Studies, 9*(2), 5744 (Document ID: 275645021).
Sergiovanni, T. J. (2001). *Leadership: What's in it for schools?* Taylor & Francis.
Smylie, M. A., Wenzel, S. A., & Fendt, C. R. (2003). The Chicago Annenberg Challenge: Lessons on Leadership for School Development. In J. M. A.
Datnow (Ed.), *Leadership Lessons from Comprehensive School Reforms.* Corwin Press, Inc.
Spatz, C. (2019). *Exploring Statistics: Tales of Distributions.* Outcrop Publishers.
Spillane, J. P., Diamond, J. B., Burch, P., Hallett, T., Jita, L., & Zoltners, J. (2002). Managing in the middle: school leaders and the enactment of accountability policy. *Educational Policy, 16*(5), 731-762.
Steinberg, W. J. (2011). *Statistics alive!* (2nd Ed.). SAGE.
Stokes, P. J. (2006). *Hidden in plain sight: Adult learners forge a new tradition in higher education.* (Issue Paper No. 11). Retrieved from http://www.ed.gov/about/bdscomm/list/hiedfuture/reports/stokes.pdf
Student Assessment Program for Public Schools of 2013, § 1008.22(3)(b)2., Florida Statutes (2019).
Stumbo, C. & McWalters, P. (2010). Measuring effectiveness: What will it take? *Educational Leadership*, *68*(4).
The Elementary and Secondary Education Act (ESEA) of 1965, Pub. L. No. 89-10 § 79 (2019). The Florida Senate. (2011). CS/CS/SB 736: Education Personnel. http://www.flsenate.gov/Session/Bill/2011/0736/BillText/er/PDF The School
District of Palm Beach County (n.d.). Professional/Leadership Development. https://www.palmbeachschools.org/careers/professional-leadershipdevelopment
The U.S. Department of Education. (2012). Race to the Top Assessment Program. http://www2.ed.gov/programs/racetothetopassessment/index.html
The U.S. Department of Labor, Bureau of Labor and Statistics. (2004). http://www.bls.gov/cps
The Wallace Foundation. (2013). *The school principal as leader: Guiding schools to better*

teaching and learning http://www.wallacefoundation.org/knowledge-center/Documents/The-School-Principal- as- Leader-Guiding-Schools-to-Better-Teaching- and-Learning-2nd-Ed.pdf

Waters, T., Marzano, R. J., & McNulty, B. (2003). *Balance Leadership: What 30 years of research tells us about the effect of leadership on student achievement.* Mid-Continent Regional Educational Lab.

Woody, E. L., Buttles, M., Kafka, J., Park, S., & Russell, J. (2004). *Voices from the Field: Educators Respond to Accountability*. University of California, Berkeley, Stanford University, University of California, Davis.

Zmuda, A., Kuklis, R., & Kline, E. (2004). *Transforming schools: Creating a culture of continuous improvement*. Association for Supervision and Curriculum Development.

Zuga, K. F. (1999). Addressing women's way of knowing to improve the Technology education environment for all students. *Journal of Technology Education, 10*(2).