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An Analysis Of Student Achievement Outcomes Of Teachers Who Have Earned The Reading Endorsement Offered Through Brevard Public Schools Compared To Those Who Earned The Reading Endorsement Through Other Means, And Those Who Have Not Earned A Reading Endorsement

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AN ANALYSIS OF STUDENT ACHIEVEMENT OUTCOMES OF TEACHERS WHO
HAVE EARNED THE READING ENDORSEMENT OFFERED THROUGH
BREVARD PUBLIC SCHOOLS COMPARED TO THOSE WHO EARNED THE
READING ENDORSEMENT THROUGH OTHER MEANS, AND THOSE WHO
HAVE NOT EARNED A READING ENDORSEMENT

by

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A dissertation submitted in partial fulfillments of the requirements
for the Degree of Doctor of Education
in the School of Teaching, Learning, and Leadership
in the College of Education and Human Performance
at the University of Central Florida
Orlando, FL

Summer Term
2013

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ABSTRACT

This study sought to determine relationships between the independent variables of teaching years of experience and participation in Reading Endorsement professional development offered through Brevard Public Schools and the dependent variables of student outcome measures, as determined through teacher aggregated reading Value Added Model (VAM) scores. The significance of the study was that it will add to the literature by being the first study of its kind for the Brevard Public School District. This study will also provide information as to the reading instruction preparation effectiveness examined through student performance outcomes. This study used multiple statistical procedures to analyze the data in order to answer four research questions. A bivariate correlation, an analysis of variance, an independent samples T-Test, and a factorial analysis of variance were used. The study's findings demonstrated that there was not a correlation between the years of teaching experience and the teachers' VAM scores of the targeted population, yet when categorically grouped teachers with six or greater years of teaching experience had statistically significant greater VAM scores than those with less years of experience. There was not a statistically significant difference among teachers of varying Reading Endorsements.

This dissertation is dedicated to my husband, Kevin, who has been my rock throughout this process; to my son, Christopher, who always had a few minutes to remind me that basketball, football, and Wii games were likewise important; and to my daughter, Lillian, for always being willing to share her glitter and positive energy. Go team Chance!

ACKNOWLEDGMENTS

I am blessed to have had this opportunity. Without the following individuals my journey would have been increasingly more difficult and not nearly as enjoyable. I am incredibly grateful

~To my son Christopher, for always reminding me how important it is to buy grapes and showing me that I still can play a decent game of HORSE.

~To my daughter Lillian, for teaching me that it is OK to get your hands dirty as long as you are wearing a tiara.

~To my husband, Kevin, without whom this journey would be purposeless. Ohana.

~To Dr. Barbara A. Murray, with your encouragement I was able to take the first step and with your guidance I was able to see it through. Thank you for your continuous support from start to finish. You have been more than a committee chair.

~To Dr. Ken Murray, Dr. Rosemarye Taylor, and Dr. Lynn Spadacni for the recommendations and support of my dissertation committee along the way.

~To Dr. Baldwin and Dr. Carr for their statistically sound advice.

~To Dr. Shelton, Debra Pace, and Lynn Conroy for offering the support of Brevard Public Schools with access to the necessary data and information without which this study could not have happened.

To Dr. Pawlas for his kind way of correcting errors

~Finally, to my dear friends, K.R., K.S., L.S, B.F., and the UCF Peeps. Your laughter and unwavering support made it so that I could think straight during the most stressful of conditions.

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CHAPTER 1: INTRODUCTION

Background of the Study

Professional development has been generally regarded as an important instrument used by savvy instructional leaders to increase student achievement and close the achievement gaps. As stated by Guskey, cited in Putman, Smith, and Cassady (2009), “high quality professional development is a central component in nearly every modern proposal for improving education” (p. 208). Although many opportunities for professional learning existed, the concerted focus of educational practitioners in the state of Florida has been professional development that has been assumed to positively affect reading proficiency and effective reading instruction. The State of Florida developed the Reading Endorsement, implemented in 2002 it provided professional development activities in the form of six competencies with what has been proven through research to be effective tools for reading instruction. Whether or not these professional development programs improve student achievement at a statistically significant degree has not been thoroughly researched for the purpose of improving professional learning opportunities.

Since the release of *A Nation at Risk* (1983) educators were aware of a real problem: they were not living up to the goal of educating all children. In comparison to other countries the United States fell further behind on test scores and this has created a serious long term effect on America’s role as a global competitor (Members of the 2005 “Rising Above the Gathering Storm” Committee, 2010). Some have suggested that

deselecting the bottom performing five percent of teachers based on standardized test scores would have a dramatic impact on our economic advantage as a nation (Hanushek, 2009). Never before was there such a demand for educational reform related to the assessment of teachers.

One wide reaching piece of legislation was the No Child Left Behind (NCLB) Act of 2001. According to Diane Ravitch, “the largest expansion of federal control in the history of American education,” came during the Bush administration under NCLB (Ravitch, 2010, p.21). NCLB required all schools to meet Adequate Yearly Progress (AYP) towards having all students on grade level in mathematics and reading by 2014 or suffer consequences which could have been as extreme as school closures. Accountability in the form of data-based decision making replaced educational standards as the means to a productive citizenry (Ravitch, 2010).

NCLB was issued as a reauthorization of the Elementary and Secondary Education Act (ESEA) of 1965. NCLB called for sweeping educational reform with a heavy burden of that placed on reading instruction (Putman, et al., 2009). Subpart 1, Sections 1201-1208 of NCLB outlined the *Reading First* program which gave states very strict guidelines with an end goal of improving “reading achievement for all children” (No Child Left Behind Act of 2001, 20 U.S.C. § 6319). NCLB also contained recommendations on how the state licensure and certification standards in the area of reading might be improved. Also detailed in No Child Left Behind were the essential components of reading instruction: phonemic awareness, phonics, vocabulary

development, reading fluency, and comprehension, which became the solid basis of the Reading Endorsement competencies in Florida (*Just Read, Florida!* 2012a). The school grading criteria for the 2001-2002 school year was amended by Florida House Bill CS-1633 which placed a greater emphasis on reading education. Florida Statutes Section 229.57(3) (b) 7 required all students for whom it was determined to be educationally appropriate to participate in the statewide testing system known as the Florida Comprehensive Assessment Test (FCAT). The student achievement results for all participating students were to be used for configuring the school grade as well as determining student progression.

During this time, Reading First was established in Florida as *Just Read, Florida!* (Just Read, Florida, 2012b). The guide for Reading First in Florida / *Just Read, Florida!* mentioned the creation of a Reading Endorsement certification add-on for the fall of 2002 under the section entitled training and certification initiatives. Three primary delivery models for endorsement course offerings from which teachers of reading in Florida could choose were established: they could obtain a Reading Endorsement through professional development opportunities within a school district, they could obtain a Reading Endorsement through university coursework, or they could opt to not obtain a Reading Endorsement, as it was not a requirement for teachers in the elementary grades. Teachers might have opted to take some of the coursework through a university and some of it through a school district. It was likewise possible for a teacher to take some of the competencies in combination with English to Speakers of Other Languages (ESOL)

courses and achieve both certifications under the guidelines of the Reading Endorsement Bundle (REESOL) or Reverse Crosswalk model, as many of the reading competencies contain ESOL learning objectives and ESOL strategies embedded in them (Just Read, Florida!, 2012a).

As years progressed, budgetary shortfalls resulted in delineation of which programs were valued and which were not. From a memo dated April 11, 2010 on the Florida Department of Education website, the Florida DOE was no longer able to provide funding to support the Florida Online Reading Professional Development course (FOR-PD) or coursework through North East Florida Education Consortium (NEFEC) which many teachers used as online options. Reductions in funding were likely to affect in house district inservice opportunities and placed a heavier reliance on universities to prepare effective reading teachers.

Given the trends in education reform and the focus on high stakes testing to determine teacher effectiveness, if a connection could not be made linking professional learning dollars to student achievement outcomes, it was quite possible that more professional learning dollars would be cut back from decisions made at the state level (Putman et al., 2009). A few attempts were made to relate teacher perceptions of professional development and the affect the development had on their practice. There was a gap in the literature supporting the effectiveness of professional development based on student achievement outcome measures (Hunsaker, Nielsen, & Bartlett, 2010; Lee, Maerten-Rivera, Penfield, LeRoy, & Secada, 2007; Putman, et al., 2009).

Statement of the Problem

To date there was not a quantifiable approach to examine the effectiveness of the Reading Endorsement program in practice within the target school district. No analysis was made to evaluate comparisons of teacher effectiveness who obtained the Reading Endorsement through the in house program at the Brevard Public School District, those who earned a Reading Endorsement through other means, and those who did not earn a Reading Endorsement.

Purpose of the Study

The purpose of this study was to analyze the student outcome measures of teachers who earned the Reading Endorsement through the Office of Professional Development for the targeted school district compared to those who earned a Reading Endorsement through other means, and those who have not earned a Reading Endorsement.

Significance of the Study

The significance of the study was that it will add to the literature by being the first study of its kind for the Brevard Public School District. This study will also provide information as to the reading instruction preparation effectiveness examined through student performance outcomes.

Definition of Terms

Brevard Public Schools (BPS): A school district in Brevard County, Florida (Brevard Public Schools Office of Professional Development, 2004).

Competency: There were five competencies that are required to earn the reading endorsement. A competency is one unit or course. The five competencies were as follows: Competency 1, Foundation of Reading Instruction, Competency 2, Application of Research Based Instructional Practices, Competency 3, Foundations of Assessment, Competency 4, Foundations and Applications of Differentiated Instruction, and Competency 5, Demonstration of Accomplishment (Just Read, Florida!, 2012a).

Florida Comprehensive Assessment Test 2.0 (FCAT 2.0): The Florida state standardized test administered to students in grades 3-11 which is used to determine schools' school grades and student progression (Florida Department of Education, 2005). The FCAT 2.0 was phased in to assess the Next Generation Sunshine State Standards (NGSSS) for reading in the spring of 2011 (Reckase, 2010).

Florida Department of Education (FLDOE): The state-run administrative body which controls standardization and budgetary needs of individual school districts in accordance with legislative directives (Florida State Constitution, art. IX).

Not Reading Endorsed (READ-No): Teachers who did not earn a Reading Endorsement.

Reading Endorsed through other means (READ –O): Teachers who are Reading Endorsed through coursework at a university or through inservice opportunities with other school districts.

Reading Endorsed through Brevard Public Schools (READ-BPS): Teachers who are reading endorsed primarily through inservice opportunities with Brevard Public Schools. Due to the need to have a substantial sample size in order to make inferences, these teachers will have taken three out of the five courses through Brevard Public Schools.

Reading Endorsement: a certification rider added through specialized specific instruction in reading processes and strategies. This process is explained in more detail in the literature review (Just Read, Florida!, 2012b).

Scaffolding: the act of giving support to those that need it in order for them to successfully learn the expected material (Brevard Public Schools Office of Professional Development, 2004).

Students: students who were enrolled in fourth, fifth, and sixth grade classes in Brevard Public Schools at the time of the administration of the FCAT 2.0 in April, 2012 in Brevard Public Schools.

Teachers: teachers of fourth, fifth, and sixth grade students.

Value-Added Model (VAM): the statistical model used in the state of Florida at the time of this study to determine the effect of an individual teacher on the outcome measures of their students (Sanders, 1998; Student Success Act, 2011).

Conceptual Model

The conceptual model that was examined is the INTENT model developed by Putman, et al. (2009). They conducted research supporting teacher intentionality in reading instruction and professional development choice as a means of promoting change. The researchers developed the Intentional Teaching Model (INTENT) to address the notion that, “inherent within the development of intentionality is the internal recognition by an individual that a change must occur with regards to a personally relevant goal” (Putman et al., p. 210). The INTENT model was implemented in two schools for a period of three years. The first year of INTENT was focused on reading curriculum and instruction in whole group meetings involving Kindergarten through third grade teachers. During the second and third years of INTENT the teachers met as a whole faculty for INTENT professional development purposes five to six times each year. Also at that time the teachers participated in weekly grade level meetings. Each meeting was goal focused and centered on school, grade level, and teacher needs in the areas of reading curriculum and instruction. The entire process was university supported. The university team worked collaboratively with the teachers throughout the process. According to the authors both schools were exceeding state averages on reading achievement tests following the three year program; whereas when they started both schools were labeled at risk. The authors attributed this growth to a “culture of sustainability” (Putman et al., p. 215).

The model consisted of four phases: individual theory articulation, preparation, active change, and sustainability (See Figure 1). One of the key foundations of the INTENT model was that there was a continuous open dialogue between the change agent and the participants of the professional development. Equally important was the premise of a shared vision and mission which was emphasized throughout each phase of the model.

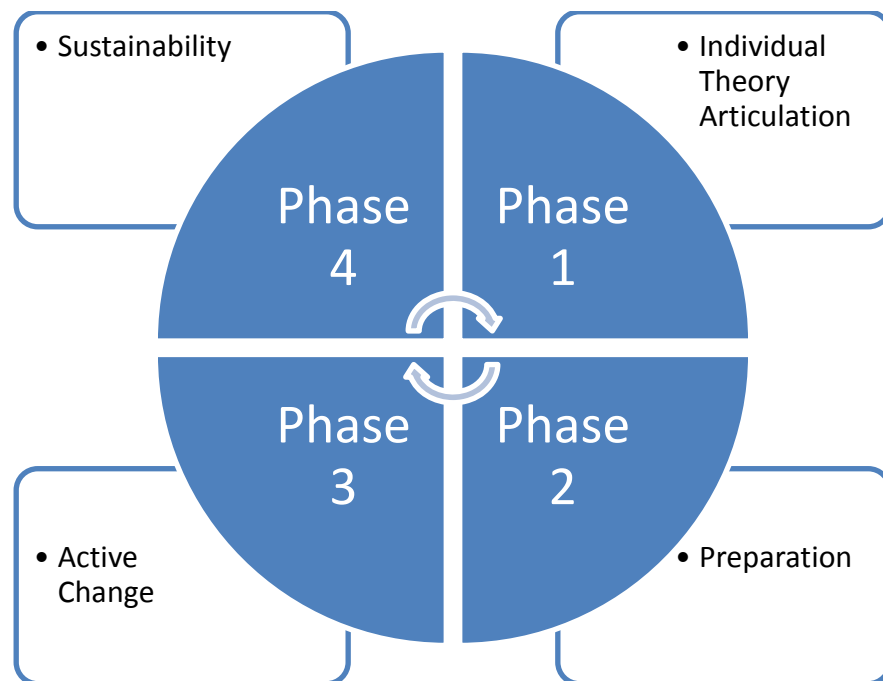


Figure 1: INTENT Model

The first phase of INTENT could have been akin to a needs assessment. This phase may have included peer and administrator observations of instructional practices.

During this phase the facilitator, or change agent, of the professional development activity tapped into the participants' reflective practice. The participants were required to take an assessment to express their beliefs of their instructional practices, and how that related to where they think they should be with their craft. Their answers gave clues as to the teachers' theoretical beliefs of teaching. Once that information was shared, the practitioner and participants had a baseline from which to build. This was similar to building on background knowledge in the classroom. By examining the belief systems the facilitator was able to determine possible areas where change was needed, and any resistance that they faced to improve instructional practice. This phase was similar to the creation of an action plan, which stipulated a shared understanding of current conditions and a vision of where they wanted to be, and how those two were interrelated (Putman et al., 2009).

The second phase of INTENT was preparation. During this phase, the participants and the facilitator created attainable goals based on their vision and needs, and actively began the process of change. Throughout, the facilitator related the teachers back to the positive student outcomes that they believed would take place based on the goals they developed. All involved created specific actions to achieve the goals. During this phase the facilitator ensured that the teachers had the resources they needed to act. The teachers who were reluctant to change began to show their resistance at this time (Putman et al., 2009).

The goal of the third phase of INTENT, active change, “ is to allow teachers to try the concepts or skills associated with the goals and to actively reflect on their practices in relation to these goals” (Putman, et al., 2009, p. 212). Educators would equate this phase to progress monitoring. They tested their theories, saw what was working, and tried something new when it was not working. Data were key components in this phase. Every small accomplishment was celebrated along the way, as each goal that was reached began to build buy in from those teachers who were resistant to change (Putman et al).

During sustainability, phase four of the INTENT model, teachers were independent. They had the tools of the INTENT and were able to move within and revisit different phases of the model without facilitator support. Intentional teachers maintained the momentum at this phase. They were reflective practitioners who did what was needed to meet their students at their level. Those teachers who did not have INTENT returned to their methods used prior to the process and saw little or no student gains as a result (Putman et al., 2009).

The research of Putman et al. (2009) connected intentionality of the participant in professional development and their student achievement outcomes and also emphasized that teachers conducted needs analysis and determined which areas of their professional practice required growth (Parr & Timperley, 2010). Elementary teachers in the state of Florida were not required to have earned a Reading Endorsement in order to instruct reading. When elementary teachers invested their time and focus in the competencies, they were acknowledging an intentional commitment to their craft. According to the

study by Putman et al., their students' achievement would be greater and their instruction would improve due to their intentionality.

Delimitations

This study was delimited to the following:

1. This study was delimited to elementary schools in the Brevard Public School District.
2. This study was delimited to fourth, fifth, and sixth grade teachers of reading.
3. This study was delimited to the fourth, fifth, and sixth grade students who took the FCAT 2.0 Reading test during the Spring 2012.
4. This study was delimited to the classification of teachers as READ-BPS, READ-O, or READ-No.
5. This study was delimited to the classification of teachers as either READ-BPS or READ-O if they added the endorsement prior to April 1, 2012.

Limitations

The study was limited by the following parameters:

1. The fourth, fifth, and sixth grade teachers who earned the Reading Endorsement through professional development opportunities with Brevard Public Schools did so due to personal choice and were not required to by their employer.

2. The teachers' certification and professional learning information were accurately recorded in the professional development software.
3. Teachers who earned the Reading Endorsement through other means maintained the endorsement through certification renewals.
4. The certification and professional learning information were accurately entered into the statistical software.
5. The students' FCAT 2.0 scores were accurately entered into the data software.
6. Each student's data were assigned to the teacher who instructed them during the 2011-2012 school year.
7. Each student was administered the assessment coded with their name.
8. The years of teaching experience of each teacher could not be controlled for by this researcher.
9. At the time of this dissertation the author was unable to locate statistical information to support the validity and reliability of FCAT 2.0 on the FLDOE website.
10. BPS was a major university service area. Graduates of that university may have dominated the workforce of BPS.
11. The VAM scores were calculated correctly and accurately measure the growth of the students.
12. The VAM scores were accurately translated into z scores and then to t scores.

Research Questions and Hypotheses

This study was designed to answer the following research questions within regards to the relationships of the variables. The independent variables, or factors in this case, for Research Question 1 were READ-BPS, READ-O, or READ-No. The independent variables for Research Question 2 were the years of teaching experience. The independent variables for Research Question 3 were the years of teaching experience grouped as interval data, 0-5 years and 6 or greater years. The independent variables for Research Question 4 were both the years of teaching experience grouped as interval data, 0-5 years and 6 or greater years, and READ-BPS and READ-No. The dependent variable for all questions was the reading VAM score for the 2011-2012 school year for the sampled teachers of grades four through six. The null hypotheses follow each question.

Research Question 1

To what extent, if any, was there a difference in the reading VAM score for the 2011-2012 school year between the fourth through sixth teachers who completed the Reading Endorsement through BPS and through other means to those teachers who had not earned a Reading Endorsement?

The null hypothesis was that there was not a statistically significant difference in the reading VAM score for the 2011-2012 school year between the fourth through sixth teachers who completed the Reading Endorsement through BPS and through other means to those teachers who had not earned a Reading Endorsement.

Research Question 2

To what extent was there a relationship between years of teaching experience of the fourth through sixth grade teachers in Brevard Public Schools and their reading VAM score for the 2011-2012 school year?

The null hypothesis was that there was not a relationship between the years of teaching experience of the fourth through sixth grade teachers in Brevard Public Schools and their reading VAM score for the 2011-2012 school year.

Research Question 3

Was there a significant difference in the reading VAM score for the 2011-2012 school year of fourth through sixth grade teachers who had taught for 0-5 years or 6 years or greater?

The null hypothesis is that there was not a statistically significant difference in the reading VAM score for the 2011-2012 school year of fourth through sixth grade teachers who had taught for 0-5 years or 6 years or greater.

Research Question 4

To what extent, if any, was there an interaction between the years of teaching experience and the completion of the Reading Endorsement through BPS upon the reading VAM score for the 2011-2012 school year of fourth through sixth grade teachers?

The null hypothesis was that there was not an interaction between the years of teaching experience and the completion of the Reading Endorsement Program through BPS upon the reading VAM score for the 2011-2012 school year of fourth through sixth grade teachers.

Organization of the Study

This research study was presented in five chapters. Chapter 1 included the background of the study, statement of the problem, purpose of the study, significance of the study, definition of terms, conceptual model, delimitations, limitations, research questions and hypotheses, and the organization of the study.

Chapter 2 will contain a review of the literature, which includes an introduction, an analysis of professional development in the human resource frame, effectiveness of professional development, amount of professional development, reading professional development, the Reading Endorsement in the state of Florida, READ-BPS, READ-O, teacher experience, and Value-Added Model. Chapter 3 will contain a description of the methodology used for this research study. It includes an introduction, the selection of participants and the population and sampling procedures, data collection, the four research questions and hypotheses followed with data analysis for each, and a summary.

Chapter 4 will contain a presentation of the study's findings, including demographic information, the results of data analysis for the four research questions, additional data analysis, and a summary. Chapter 5 provides a summary for the entire study, discussion of the findings, implications of the findings for practice, recommendations for further research, and conclusions.

CHAPTER 2: REVIEW OF THE LITERATURE

Introduction

According to Loucks-Horsley and Matsumoto and cited so eloquently by Shymansky, Wang, Annetta, Yore and Everett (2012), “to focus on student outcome somehow devalues professional development’s impact on teacher knowledge and practice, improved leadership, changes in pedagogical strategies, and implementation of new programs in the classroom – outcomes that are assumed to translate into student learning” (p. 2). This sense of devaluation could have explained the gap in the literature connecting professional development to student achievement outcomes. However, as Shymansky et al. (2012) stated, our State Departments of Education, legislators, and thusly school district personnel require such information when determining the allocation of professional development dollars.

An Analysis of Professional Development in the Human Resource Frame

Douglas McGregor’s Theory X and Theory Y referred to the beliefs about people that administrators possess. These social constructs are not simply the administrator’s personal opinions; they also affected the way in which leaders lead, which in turn affected the way that followers follow. Theory X maintained that administrators view employees as inherently ineffectual when left to their own devices. Administrators who followed the premises of Theory X will maintain a behaviorist “carrot and stick”

approach to management, referred to as Behavior Pattern A, due to the implication that employees did not possess an intrinsic motivation outside of simply wanting to retain employment (Owens & Valesky, 2007).

Administrators who conceptually owned the beliefs of the Theory Y construct will follow an entirely different approach with their employees, known as Behavior Pattern B. Administrators who followed Behavior Pattern B will likewise carry high demands for the quality of work of their employees. However, due to their assumption that people are intrinsically motivated and desire to be participants in their organization's direction, leaders who operated within the framework of Theory Y appreciate a collaborative approach with their employees. This in turn allowed the employees to be participative in the organization and follow their own initiative in order to achieve organizational goals and objectives (Owens & Valesky, 2007).

As Sergiovanni stated in a book authored by Owens and Valesky (2007), "By treating teachers in a kindly way, it is assumed that they will become sufficiently satisfied and sufficiently passive so that supervisors and administrators can run the school with little resistance" (p. 120). Owens and Valesky cautioned that there is a difference in leadership style between Behavior Pattern A soft and Behavior Pattern B. Behavior Pattern A soft is much more coercive in style as described by Sergiovanni's statement. By leading in a coercive manner, administrators will not tap into the creative, self-directed nature of their employees (Owens & Valesky).

Leaders that followed Behavior Pattern B and owned the mindset of the Theory Y construct demonstrated created a collaborative environment with high demands placed on employees which yielded greater human capital. Human capital is an investment in people and what they will be able to accomplish. Human capital is created through the experiences and education of each person and may not be transferred from one person to another as simply as a desk or office supplies. Human capital stays with each person through the duration of their lives. As each teacher is invested in through education and professional development opportunities, such as the reading endorsement competencies, their human capital grows and so does their ability to make a substantial difference in the academic achievement of their students (Brimley, Verstegen, & Garfield, 2012).

As human capital is created by education, it also gives to the education of others in the form of teachers. The concept of the virtuous circle described the relationship as it relates to the field of education. The virtuous circle was simply a positive event or experience which created another positive event or experience, which in turn gave back to the first. In this example, highly effective teachers' students performed well academically, which lead to a well educated populace, which lead to additional highly effective teachers. Self motivated teachers engaged in development opportunities that brought about a higher educated citizenry recognized their role in the virtuous circle (Brimley et al., 2012). These teachers have a symbiotic relationship with leaders who subscribed to Theory Y and Behavior Pattern B (Owens & Valesky, 2007).

Effectiveness of Professional Development

The review of literature regarding professional development provided an assumed connection between professional development and student achievement outcome measures (Shumack & Forde, 2011). Various studies focus in the problems of the impact of professional development abound. These problems are related to the rigor of the design of the experiment. According to Garet et al. (2011) only nine out of a study of 1,343 studies of professional development actually had the experimental design that was at the level necessary from which to make causal inferences. Most studies applied a qualitative design and supported the connection between professional development and student outcome measures based on the teacher perceptions. One research study team surveyed individuals to determine if the professional development of school board members was needed to improve student achievement. Acknowledging the lack of rigor, the authors recommended a correlational study to determine if the need they proposed actually existed (Roberts & Sampson, 2011).

Garet, et al. (2011) studied the impact of the professional development of middle school mathematics teachers for two years. Their review of the literature demonstrated a gap in this area as only four studies out of 1, 343 concentrated on the area of mathematics, and none of those centered around the middle school arena. Adding the second year to the study proved to be problematic as teachers were lost to attrition and the positive results that they were seeing as far as an increase in achievement leveled off after the first year. The hours of professional development provided for each teacher was

sixty-eight hours the first year and forty-six hours the second year. The results found that at the completion of the study the program had neither a statistically significant impact on overall teacher knowledge nor student achievement as measured by the standardized test. The authors cited difficulty with teacher mobility as a primary concern for the results of the study not supplying evidence that supported the idea that more professional development equated greater student performance. (Garet et al., 2011).

Few sources are available to predicate science professional development related to student achievement. Research conducted by Lee, et al. (2007) stated a statistically significant outcome measure of student achievement data wherein their teachers received a professional development treatment. A study of 450 elementary teachers that received a science professional development treatment demonstrated that teachers' beliefs about science teaching did not change from before the professional development to after the treatment occurred. In that same study the researchers discovered that gender did play a role in the self-efficacy of the teachers with males outperforming females. Also, they found that teacher self-efficacy combined with professional development predicted student outcome measures (Lumpe, Czerniak, Haney, & Beltyukova, 2012). In a study by Santau, Maerten-Rivera, and Huggins (2011) that yielded statistically significant increases in science from pretest to posttest, the authors noted that, "the (professional development) intervention's potential impact on student achievement was mediated by teacher's classroom practices with their students" (p. 779). These researchers also

marked the importance of increasing the content knowledge of the participants, as opposed to altering their pedagogy to include “teaching to the test” (Santau et al., p. 789).

Parr and Timperley (2010) asserted that multiple “black boxes,” or contexts exist in learning which do not exist independently of one another, rather they often work together or influence other facets of learning. As noted by Standerford in Kragler, Martin, and Kroeger, (2008) teachers who participated in professional development activities made, “incremental changes that fit with their basic practices and beliefs about teaching” (p. 530). Shymansky, et al. (2012) used regression analysis to study student achievement outcomes in relationship with professional development hours in which teachers participated. The study’s content acknowledged the difficulty of pulling out the pure impact of professional development on student achievement as schools are multi-contextual organizations; however, they determined that the need to define a means to make that connection was invaluable due to, “the link between what a teacher does and what a student learns is the de facto basis of all formal programs of teacher education, certification, and licensure!” (Shymansky, et al., p.3) Their research study involved a regression analysis using the mean hours of professional development as the independent variable and the mean number of students who achieved a proficient or advanced score on their high stakes science assessment as their dependent variable. The authors studied the data for three separate grade levels. All three grade levels had statistically significant positive results. The authors surmised from their data that the mean of their school district professional development hour was a “positive, significant, predictor of gains in

all cases in the percent of students showing proficient or advanced performance” on their science assessment (p. 15).

Amount of Professional Development

A study by Shumack and Forde (2011) found that there was no correlation between the hours of professional development of teachers and the achievement level of the students associated with those teachers. However, Wayne, Yoon, Zhu, Cronen and Garet (2008) determined that between thirty and one hundred hours of professional development demonstrated the most positive results for teachers and students. The seventy hour range of effective professional development does not help pinpoint an exact amount for educators. Supovitz and Turner (2000) asserted that any amount of professional development under eighty hours does not yield a statistically significant result. Lumpe, et al. (2012) asserted that over one hundred hours of science professional development for a teacher can produce “significant gains in their science teaching self-efficacy” (p. 153).

Reading Professional Development

The Reading First Impact study used student achievement data to prove effectiveness of the program. According to the results, the program was effective at a statistically significant level for first grade decoding skills (U.S. Department of

Education, National Center for Educational Evaluation and Regional Assistance, 2008a). However, if one considered that the ultimate preferred outcome for every young reader was to comprehend what one had read, then the program should be deemed as ineffectual based on the lack of statistical significance of student comprehension achievement for grades first through third. Surveys associated with the Reading First study indicated that the program increased access to coaches and professional development which in turn increased hours spent on reading instruction with an emphasis on the five essential components of reading instruction (U.S. Department of Education, National Center for Educational Evaluation and Regional Assistance, 2008a). Gersten, Dimino, Jayanthi, Kim, Edwards, and Santoro (2010) studied 468 first grade students and their 81 teachers that were housed in nineteen Reading First schools. Although the teacher knowledge base grew significantly compared to nonparticipants, the student achievement outcomes were only marginally significant compared with students of nonparticipating teachers.

One study showed particular bias in its experimentation method (U.S. Department of Education, National Center for Educational Evaluation and Regional Assistance, 2008b). First of all, in the review of the literature the authors mentioned that there has a proven correlation between the amount of time that was spent on professional development and student achievement. However, the researchers set up the experimentation to include only twenty hours of professional development for the control group. Also, twenty hours was also the amount of time that coaches spent in professional development to prove the impact of coaching. The results of the study demonstrated no

statistical significance of either professional development or coaching on student achievement data (U.S. Department of Education, National Center for Educational Evaluation and Regional Assistance, 2008b). It was possible that this study was completed using historical data.

McIntyre, Kyle, Chen, Munoz, and Beldon (2010) found that professional development did have a statistically significant impact on student achievement data. However, they also noted that it was impossible to eliminate all of the confounding variables. This finding was in line with the thoughts of Wolf, McClelland, and Stewart (2010) who stated that, “Research has shown that effective teachers affect student achievement and that teachers are more effective when they receive quality professional development” (p. 309). They discovered a statistically significant relationship between teacher perceptions of the quality of professional development and Adequate Yearly Progress, which was calculated using student achievement data. The authors did note that it was difficult to identify effective professional development and that this process was often subjective (McIntyre, et al.).

Powell, Diamond, Burchinal, and Koehler (2010) conducted a hierarchical linear model analysis on the outcome measures of the students of Head Start Teachers who participated in the professional development treatment. The treatment was comprised of coaching and a two day workshop which totaled sixteen hours. The coaching treatment varied between two groups. One group received on-site coaching and one group received remote coaching participated in on average 7.07 sessions which were an average 180

minutes in length. The remote coaching group participated in hypermedia activities including online case modules, research based strategies for literacy, related articles, and videotaped classroom instruction. The treatment group received on-site coaching. The researchers conducted a stratified random sample to ensure that each treatment group was comprised of teachers with similar characteristics in their degree program, median number of years teaching, and backgrounds in general, thus limiting the potential of teacher experience being a confounding variable in their study. Pre-tests and post-tests were given to the students to assess effectiveness of the interventions. Teachers who received the on-site coaching had students with significantly larger gains ($d=0.71$) than those students with teachers who participated in the remote coaching group (Powell, et al., 2010).

Scanlon, Gelzheiser, Vellutino, Schatschneider, and Sweeney (2008) focused professional development for teachers as a Tier 1 intervention within the framework of Response to Intervention (RtI). Critics of RtI argued that there were not enough data to support the use of RtI in schools. However, there was plenty of research to support the use of data in schools and many researchers have proven that interventions provided successful and statistically significant results when infused with differentiated instruction (DeBaryshe, Gorecki, & Mishima-Young, 2009; Geisler, Hessler, & Lovelace, 2009; Reis, McCoach, Little, Muller, & Kaniskan, 2011; Tobin, & McInnes, 2008; Walker-Dalhouse, & Risko, 2009). In addition, as RtI found itself in the language of the Individuals with Disabilities Education Act (IDEA) when it was reauthorized in 2004, the

practice of Response to Intervention was not an option (Gersten, Compton, Connor, Dimino, Santoro, Linan-Thompson, & Tilly, 2008).

RtI varied from state to state, district to district, and school to school. Teachers' understandings of RtI were many times limited to RtI as part of their school culture. Some schools embraced RtI as a means of offering students an opportunity for a more successful school career. Other schools were in culture shock with the issue of how to implement RtI successfully to its' students. Kozleski and Huber (2010) argued that, "change is context-sensitive and, therefore, systems must invest in multiple strategies for implementing RtI" (p. 258). Employing professional development as a Tier I intervention for RtI at a school site employs one such strategy (Scanlon, Gelzheiser, Vellutino, Schatschneider, & Sweeney2008).

According to Harlecher, Sanford and Walker (2010), "effective instructional planning lays the groundwork for a successful lesson (p. 6)." RtI should limit the number of retentions because effective planning addresses each student's needs in a timely manner with regards to what they must master in order to progress to the next grade level (Herman et al., 2008). Likewise, RtI should have limited the number of students that qualified for special education services as each student's specific needs were being addressed in a timely manner with research supported teaching methods (Gersten, et al., 2008). As Johnston (2010) asserted, "There must be a context and a process for examining the data that enables teachers to confront challenging data, and to gain support for changing teaching accordingly" (Johnston, p. 602). The incorporation and

acknowledgement of professional development activities as a part of the core, also referred to as Tier I, allowed for the treatment to be applied to the entire school, as the teachers confronted schoolwide data.

According to Mesmer and Mesmer (2008) interventions cannot take the place of solid core instruction. The work of Scanlon et al. (2008) concurred with Mesmer and Mesmer and acknowledged a gap in the literature related to core instruction. As stated by Fuchs and Fuchs (1998) and cited in the literature review presented by Scanlon et al., the very foundation of RtI was ascertaining that the problem the student was experiencing with their learning did not stem from poor core instruction. The research of Scanlon et al. (2008) used a longitudinal study to examine three intervention treatments for at risk kindergartners: professional development, Tier 2 interventions for the student, and professional development and Tier 2 interventions for the student. All three treatments produced a decline in the number of at risk Kindergartners. More importantly for the Scanlon et al. study, the effect of the professional development treatment alone reduced the number of at risk Kindergartners by 50%, thus supporting the need for professional development to enhance means of effective instruction.

Reading Endorsement in the State of Florida

According to Parr and Timperley (2010), "The focus of professional development to hone practice, learning requires the building of certain kinds of knowledge, particularly content knowledge (p. 159). Rule 6A-4.0163 described five competencies that must be

completed to earn a Reading Endorsement, which built content knowledge in the area of reading and reading pedagogy. This rule was updated and amended in 2011 based on more current reading instructional research and the standards for the competencies were adjusted at that time (*Just Read, Florida!*, 2012a). The five competencies were as follows: Competency 1, Foundation of Reading Instruction, Competency 2, Application of Research Based Instructional Practices, Competency 3, Foundations of Assessment, Competency 4, Foundations and Applications of Differentiated Instruction, and Competency 5, Demonstration of Accomplishment (*Just Read, Florida!*, 2012a). See Appendix C for a list of Reading Endorsement Competencies Performance Indicators.

Florida Text Rules 6A-4.0291 and 6A-4.0292 dictated that by July 2006, in order to be considered highly qualified to instruct secondary reading courses the teacher must have earned either a K-12 Reading Endorsement or K-12 reading certification. However, under this rule elementary school teachers of reading were required to possess either elementary education certification, K-12 Reading Endorsement or K-12 Reading certification.

READ-BPS

The variable Reading Endorsed through Brevard Public Schools (READ-BPS) were teachers who were reading endorsed primarily through inservice opportunities with the Brevard Public Schools. Due to the need to have a substantial sample size in order to make inferences, these teachers took at least three out of the five required courses

through Brevard Public Schools. Teachers who took courses to earn a Reading Endorsement through Brevard Public Schools must have held a valid Florida Professional Educator's Certificate. Thus, the prerequisite to have added the Reading K-12 Endorsement to a Florida certificate is at minimum a bachelor's degree (Brevard Public Schools Office of Professional Development, 2004).

Parr and Timperley (2010) delineated findings from their research which included the roles of professional development facilitators as agents of change. In addition to mastery of content knowledge, these individuals possessed an understanding of their role in their organization and their power to reform education in a positive way to impact students. Kennedy and Shiel (2010) asserted that the role of the facilitator was not limited to personal actions, but also produces impact through the relationships that they developed with the participants; thusly, forced professional development lacked the ability to truly affect change in the participant due to the hostile nature of the intervention. The Reading Endorsement Program of Brevard Public Schools was not forced, but rather optional (Brevard Public Schools Office of Professional Development, 2004).

Instructors for the Reading Endorsement Program through the Brevard Public Schools were selected by district staff. They were successful reading teachers recognized in the district for their presentation skills and content knowledge. Dr. Patricia Shelton, Director of Certification and Professional Development for Brevard Public Schools, was the staff member responsible for overseeing the program; she verified that student

outcome measures of instructors for the program were considered a part of their selection. All instructors are state-certified in Reading K-12 as well as at least one other content certification. The instructors also participated in specific “reading instructor” training that prepared them for their positions. In order to instruct Competency 6, the practicum, an instructor also showed evidence of three successful years of experience, or “in a comparable reading/leadership position” (Brevard Public Schools Office of Professional Development, p. 22).

The Reading Endorsement inservice program offered through the Office of Professional Development at Brevard Public Schools was developed through a collaborative process with counties in Region 3. According to the Florida Department of Education website those counties were Indian River, Lake, Martin, Orange, Osceola, and St. Lucie. The understanding was that if this program was implemented students with intensive reading needs would have access to teachers that were trained to meet those needs. Moreover, the teachers would have a greater content knowledge and greater abilities in reading instruction across the board (Brevard Public Schools Office of Professional Development, 2004).

The guidelines set by Florida’s Professional Development Evaluation Protocol in their Planning, Delivery, Follow-up and Evaluation Standards were used to maintain efficacy throughout the Reading Endorsement Program. The team of educators worked together to not only meet state and national standards for successful implementation, but they also pulled outside research and resources which may have set them apart from other

school districts in the state of Florida. “Guidelines other than those listed by the State for the K-12 Reading Endorsement (including Specialization Requirements for Certification in Reading, Grades K-12; Certification Requirements for Exceptional Student Education; Specialization Requirements for Adding English for Speakers of Other Languages) were consulted. Such guidelines included International Reading Association’s Standards for Reading Professionals, National Institute for Literacy’s Using Research and Reason in Education, National Institute for Child Health and Development’s Preventing Reading Difficulties in Young Children, and the National Reading Panel’s Teaching Children to Read” (Brevard Public Schools Office of Professional Development, p. 2). Content literacy for Competency 1 was based primarily on Literacy Essentials for Teachers of Reading and Spelling (LETRS) by Dr. Louisa Moats, Modules 1-6 and Module 10. Prior to the elimination of funding for Florida Online Reading and Professional Development (FORPD) by the state of Florida, FORPD was the means for Competency 2. Brevard Public Schools also developed a face-to-face model for Competency 2 (P. Shelton personal communication, December 2012). Competencies 4 and 5 were rooted heavily in the FlaRe Differentiated Instruction Model (Brevard Public Schools Office of Professional Development, 2004).

Putman et al. (2009) argued that, “key features of effective professional development are increasingly recognized to include reflective practice, immediate classroom applicability, creation of “safe” environments to attempt unfamiliar new practices, and clear means of assessing the impact of new practices on student learning”

(p. 208). As the READ-BPS teachers were exposed to the competencies during their classroom teaching experience, they had the opportunity to attempt those practices in their classroom as soon as they were exposed to them. Those teachers saw their impact on students and reflected immediately (Brevard Public Schools Office of Professional Development, 2004). The clinical activities delineated by Brevard Public Schools Reading Endorsement guidelines included but were not limited to, “working with students from among diverse groups of elementary and secondary readers (such as students reading at grade level, AIP (Academic Improvement Plan) students, ESE (Exceptional Student Education) inclusion students, and LEP (Limited English Proficient students), (the) assessment of student(s) to generate comprehensive student reading profiles, (the) analysis of data, applications of appropriate instructional practices and resources to meet reading needs of students, tracking student reading development over time, (and) use of differentiated reading instruction to meet needs of students with varying reading needs” (Brevard Public Schools Office of Professional Development, p. 4). Participants were also required to participate in a number of reflection opportunities based on their practice, use of lesson plans, and viewing of other teachers using research based instructional and assessment practices (Brevard Public Schools Office of Professional Development, 2004). The practice of the continuous learning cycle was in line with the research of Putman et al. (2009).

With the ultimate goal being student success, teachers were provided multiple opportunities to learn and grow throughout the competencies. Scaffolding was provided

to the participants who needed it throughout the study of competencies 1 and 2. However, to the author's knowledge, scaffolding was not provided beyond that point. Successful completion of each competency was based on scores at 80% or higher on content tests and competency rubrics. After completion of each competency, an opinion survey created by Marianne Schmutte was given to the participant to demonstrate the component evaluation (See Appendix D). Instructors compiled the results.

In 2007 the school district switched over to the Electronic Register Online (ERO) as a means to track professional development data, and the survey was changed to the satisfaction survey questions asked of every participant in any inservice offering in Brevard Public Schools (See Appendix E). Dr. Shelton also described her process of looking at that data to determine how much each participant learned. Question number 3 of that survey asked all participants if they could use what they learned in their jobs. According to Dr. Shelton, 86%-92% agreed or strongly agreed with the statement. The Office of Professional Development reviewed both survey and practicum observation data in order to have improved their course offerings to best serve teachers and ultimately students.

A formal investigation of the Reading Endorsement Program using student outcome measures had not been completed in the Brevard Public Schools (Brevard Public Schools Office of Professional Development, 2004). The Brevard Public Schools originally had hired a consultant to assist with a comprehensive program evaluation. She was able to create a logic study, a matrix, and a plan to evaluate the program.

Unfortunately, the funding available for the school district to pay for the consultant diminished before she was able to complete the evaluation. The success of the Reading Endorsement program in Brevard Public Schools can be measured by the number of teachers who have taken the endorsement course offerings and added the Reading K-12 Endorsement to their certificate. In early 2000 a mere fifteen teachers were certified throughout the county's K-12 schools. In 2013 491 teachers have the Reading Endorsement, and 75 teachers have the Reading K-12 Coverage in BPS, as reported in the March 1, 2013 in the BPS AS400 data system (P. Shelton personal communication, December 2012).

READ-O

As described in the definition of terms, the variable Reading Endorsed through other means (READ –O) were teachers who were Reading Endorsed through coursework at a university or through inservice opportunities with other school districts (*Just Read, Florida!*, 2012). These teachers could have instructed students at the time of their participation in the reading competencies if they earned their endorsement through other school districts. However, if they earned their Reading Endorsement through a university, then they did not have access to a classroom environment in which to examine their practice and reflect during their participation in the reading competencies. As Read-O covered Reading Endorsement throughout the 61 other counties in the state of Florida as well as the university possibilities, it would be near impossible to delineate all of the

characteristics of each endorsement option. The Read-O would have to meet Florida Department of Education state guidelines, but they would not necessarily have the additional outside research and resources used by the Brevard Public Schools. For the purpose of this study they were referred to as the Other, a conceptual reference meaning that they were not the same.

Teacher Experience

Some school districts based pay scales on payment for years of experience (Clotfelter, Ladd, & Vigdor, 2006). Education reforms, such as the Student Success Act in Florida (Florida S. 0736, 2011) required salaries for all new teachers to be based on a value added model to demonstrate growth in student achievement as opposed to traditionally bargained salary schedules. The literature supported the trend towards student achievement models.

Three different studies linked little direct connection between teacher experience and student achievement. One study stated the smaller class sizes demonstrated more of a positive growth in student achievement than any “observable characteristics such as education or experience” (Rivkin, Hanushek, & Kain, p. 417). According to the study by Clotfelter, et al. (2006) the connection between teacher experience and student achievement was nonlinear. Inexperienced teachers were found to have the lowest scores in this study. The authors did note a peak in the curve at some point between 13 and 26 years of experience.

A 2005 study by Hanushek, Kain, O'Brien, and Rivken used a semi-parametric approach based in student achievement growth data to remove extenuating factors, or possible confounding factors from blurring the results of the study. Their study demonstrated that experience and certification were responsible for very little of an observable affect on student achievement. Initial examinations demonstrated “no experience effects beyond five years of experience” (Hanushek, et al., p. 17). As they were seeing a highly nonlinear relationship between experience and student achievement, they narrowed the study to include only teachers with zero to five years of teaching experience. Scores improved dramatically after the first year of teaching, and there was an additional increase in estimated impact of experience following the fourth year of teaching experience.

Value-Added Model

The Tennessee Value-Added Assessment System (TVASS) written into the language of the Education Improvement Act and signed into law by Governor Ned McWherter in March 1992 offered the first glimpse into accountability using a growth model to measure student achievement. This model, developed by William L. Sanders, was able to not only show growth of individual students, but also determined the effect that an individual teacher had on each student (Sanders, 1998). Sanders stated, “The single largest factor affecting academic growth of populations of students is differences in effectiveness of individual classroom teachers” (Sanders, p. 2-3). Eleven years later,

Erik Hanushek argued the same point (Hanushek, 2009). Sanders added that the other factors, such as socioeconomic status of students and the nonrandom assignment of students to classrooms, were extremely weak statistically in comparison of their effects on student academic growth (Sanders, 1998).

Arne Duncan, the United States Secretary of Education in 2013, took the trend of data based educational reform of NCLB to the next level. Under *Race to the Top*, a federally funded 4.3 billion dollar program, Secretary Duncan required that any state that applied for this money, which Florida received, adopted performance assessments that provided a link between teacher and administrator effectiveness ratings and student assessments (Ravitch, 2010). In 1996 the National Commission on Teaching & America's Future had argued against such methods. They criticized the standardized test scores stating that they, "do not take into account the different backgrounds and prior performances of students, the fact that students (were) not randomly distributed across schools and classrooms, the shortcomings in the kinds of learning measured by current standardized tests, and the difficulty in sorting out which influences among many – the home, the community, the student him- or herself, and multiple teachers – are at play" (Ravitch, p. 178).

Despite opposition from critics as to the usage of student assessment data to determine teacher effectiveness, in 2011 the Florida State Senate passed Bill 0736 which required that 50% of the performance assessment of education professionals be accounted for by value-added assessment of student test scores (Fl. S.0736, 2011). As stated in

lines 178-183 of Florida State Senate Bill 0736, FCAT must be used for FCAT tested grades and subjects; however, school districts may determine which assessments were used for grades and subjects that were not tested using the FCAT (Fl. S.0736, 2011).

Opponents of the Value-Added Model (VAM) argued for other means by which to have teachers evaluated. Some researchers stated that the model was lacking due to lack of random assignment of students among various classroom teachers (Koedel & Betts, 2009; Rivkin, 2007; Wiley, 2006) and classroom teachers among various schools (Rivkin, 2007). Some researchers argued that if students were assessed with different tests, the teacher's value-added score may be different than that which it was under the selected assessment (Papay, 2010). Some defended that the peer review process and statistical procedure itself were lacking validity (Amerin-Beardsley, 2008). Overall, the major argument from opponents of VAM throughout the reviewed literature was that the VAM should not be used for the primary measurement of teacher effectiveness in a high stakes testing environment (Amrein-Beardsley, 2008; Koedel & Betts, 2009; Papay, 2010; Rivkin, 2007; Wiley, 2006).

The retention of highly qualified teachers was of a paramount concern for human resource professionals in the field of education. Florida Senate Bill 736, the Student Success Act, set powerful guidelines in sweeping legislation that required only the best for the state's children. As a result of this massive overhaul in teacher evaluation and retention procedures, some education leaders were speculative of VAM, especially in

areas that were already in precarious positions where teacher retention was concerned, urban centers (Ravitch, 2010).

According to the 1966 Coleman Report a correlation existed between student achievement and the influences of the family and community in which the student resided (Bracey, 2004). Forty-six percent of children in Florida were considered in the low-income level as set by the National Center for Children in Poverty. Low-income was defined as, “less than twice the federal poverty threshold” (nccp.org, 2009). In 2008, 40% of children in Florida would have been considered living in low-income households according to the same resource. Children who grew up in poverty were at risk for a great number of developmental delays due to no fault of their own. “One of the most consistent associations in developmental science is between economic hardship and compromised child development” (Hanson & Lynch, 2004, p.130). In short, if a child did not have the right environment for his/her brain to develop properly, then they were set at a disadvantage early on. Also, the effect of poverty was noted to have some relationship to school achievement in the older age groups as well. Older students who were impoverished showed a lower number of graduation rates and total years of schooling attained (Hanson & Lynch, 2004). As stated in the report “America’s Children: Key Indicators of Well-Being” (2011), “64% of children ages 3-5 in homes above the poverty value were read to daily. Forty% of children ages 3-5 in homes below the poverty level were read to daily.” Those numbers were staggering considering the role that at home reading plays in early learning and child development (Bracey, 2004).

Even when given the opportunity to learn in a classroom environment these same students struggled to make gains due to the continued lack of parental support and involvement in their education (Caillier, 2010).

It had been argued that the majority of teachers that teach in schools that primarily serve students in poverty were beginning teachers or those with less experience or less proven effectiveness. The disparity was so great in one study that it would appear the worst teacher at a school serving economically advantaged students could still outperform the best teacher in a school serving primarily low socioeconomic students (Rice, 2010). Various Organizations have attempted methods to employ and retain professional, highly effective teachers in urban school districts and provided an equitable education to low socioeconomic status students. In 1990, Wendy Kopp, a Princeton graduate, developed Teach for America (TFA). Her concept was a noble one: place recent graduate of Ivy League schools into urban classroom settings in order to close the achievement gap. The preparation of these teachers included their four year degree which was not in education in addition to minimal teacher preparation courses. Different studies of the results demonstrated different degrees of effectiveness. Some TFA teachers had a negative impact on student achievement to a slightly larger growth than that of certified teachers. In either case, the differences were not statistically significant and would prove no difference in closing the achievement gap, which was the mission of the organization. TFA teachers committed to a two year tour of duty and most of them resigned when their contracted agreement was completed. Again, this program was

noble, but it did nothing to solve the crisis of teacher turnover in urban centers; in fact, it may have contributed to teacher attrition due to the nature of the program (Ravitch, 2010).

A longitudinal study of a cohort of 26 students that were in the Multicultural Urban Secondary English Credential and MA program (MUSE) at the University of California, Berkeley (UC Berkeley) followed preservice teachers who were trained in the needs of students in urban centers and worked with the graduates as they began teaching. The teachers graduated with their undergraduate degree and began teaching. At that point, they were still a part of their cohort, had regular meetings, and conducted a research project related to their practical, in field experience in order to obtain their masters degree. Not only could this be classified as preservice experience, but it could also aid in the induction program as well. The Freedman and Appleman (2008) found that, “for a program such as MUSE, the importance of clearly articulating program goals and philosophy is essential to attract students whose predispositions to urban teaching will help create an effective and supportive cohort” (p. 122). It could be argued that this program was extremely beneficial compared to the teacher retention rate of TFA, with 73% of teachers in the program remaining in the classroom after five years of teaching (Freedman & Appleman, 2008). Unfortunately, this program was a rare gem in the area of teacher preparation.

Diane Ravitch (2010) summed up her beliefs as to how to attract and retain good teachers by stating simply, “to make teaching attractive to well-educated young people

who are just starting their careers, teaching should offer good salaries and good working conditions” (p. 191). Although simplistic enough in view, any teacher would be inclined to agree to that statement. According to Maslow’s Hierarchy of Needs the basic security needs of any professional must be met before self-actualization was possible (Owens & Valesky, 2007). With VAM scores not taking into account the influence of socioeconomic status of students and the scores being tied to teacher salary and tenure, there was no doubt that the security needs of teachers in urban centers had not been met.

It was argued that if policy makers fail to understand the impact of their actions on teacher retention, they will see a mass exodus from the teaching community (Bracey, 2004) and will ultimately need to spend even more money on the training of new teachers (Rebore, 2011). Speculation surrounded the issue, and policy makers were unsure if it was due in part to inconsistent teacher preparation or inadequate compensation when compared to fields outside of education that demanded equal university preparation time. Teacher turnover was an area that demanded especially sincere consideration in schools where the majority of the student population resided in low-income level households and the schools were facing greater obstacles to close the achievement gap.

Teacher attrition in urban school settings was a serious issue for human resource professionals in the field of education. An increasing number of students in the State of Florida were living in low-income households. Those students had greater needs, and were at greater risk of not achieving academic success. They did not have the parental or community support at the same level as their peers and they often fell behind

academically without consistent intervention from highly effective teachers. Unfortunately, it was difficult to retain highly effective teachers in urban, low-socioeconomic populated schools. The majority of teachers who opted to serve at these schools were in their first three years of teaching or were not high performing teachers in terms of student growth. Programs such as TFA offered a positive construct of what teachers should be, noble in purpose, but lacked the effectiveness of highly trained teachers in the area of pedagogy. The MUSE program offered an extremely positive concept of a preservice/induction program with clearly delineated goals and preparation points along the way. As Diane Ravitch (2010) pointed out, at the end of the day the teachers' needs must also have been considered. Moreover, a combination of compensation and professional support for developing professionals will have a positive impact on teacher retention in urban school districts. As stated previously, those that oppose VAM, argued that it should not have been included as a means for a high stakes evaluation purposes; moreover, they protested that socioeconomic status of the students should have been a variable included in the VAM model to have accounted for the difficulty to make growth with students that were faced with tremendous odds (Amrein-Beardsley, 2008; Koedel & Betts, 2009; Papay, 2010; Rivkin, 2007; Wiley, 2006).

Proponents of VAM argued that the process was peer reviewed and had demonstrated statistical validity (Sanders & Wright, 2008). According to Sanders and Wright, the tests used to determine Value-Added scores must meet certain provisions in psychometrics prior to being used to maintain the validity as a tool for measuring teacher

effectiveness. They stated that the tests must be, “(1) highly reliable, (2) ...highly correlated with curricular objectives, and (3) ... sufficient stretch in the reporting scale to measure the achievement of both very low and very high achieving student in a grade and subject” (Sanders & Wright, p. 7). Rivkin supported the Value-Added Model for estimating teacher effectiveness when results were averaged, such as the three year average used in the state of Florida. Using multiple years of data limits the influence of other factors that could have altered the data, such as the above aforementioned lack of randomization of students and teachers. However, Rivkin asserted that using multiple years of data may have deterred teachers from the desire to polish their craft because they will not see the effect that their one year of teaching had on those particular students (Rivkin, 2007).

Scholars on both sides of the VAM argument have supported using the VAM for the purpose of formative assessments. With the high stakes testing and evaluative stress removed from the VAM, the literature supported the use of VAM as a means to pursue growth as it was the most statistically accurate way to determine the effect of the teacher (Amrein-Beardsley, 2008). The VAM that had been used in the state of Florida could pinpoint with great accuracy the effect of the school on the student and the value that each teacher added to their students. Moreover, the VAM has been used to determine the effect that groups of teachers with specific certifications have had on their students (Clotfelter, et al., 2006) and the effect that groups of teachers with specific certification

pathways have had on their students (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2006).

Summary

If the competencies taken in order to achieve the Reading Endorsement were in fact quality professional development, then according to Wolf, McClelland and Stewart (2010) that positive impact will be demonstrated in positive increases in student achievement. Administrators in Brevard Public Schools did not require the professional development opportunities offered through the Reading Endorsement competencies for their elementary teachers. They offered them as an optional possibility for the advancement of knowledge and allowed for teachers to determine if they would benefit from the content knowledge and instructional methodologies, and were operating under the Theory Y, Behavior Pattern B (Owens & Valesky, 2007). Concurrently, as the teachers were not required to participate, but rather chose to do so, they were operating under the Intent Model (Putman, et al., 2009) discussed in the Conceptual Framework in Chapter 1. Unlike the study by Garet, et al. (2011), the Reading Endorsement certification was not school site specific and teacher mobility would not influence the ability of the teachers to receive the professional development measures. The Reading Endorsement was designed to increase content knowledge of reading (*Just Read, Florida!*, 2012a) which was stressed as being important factor in student achievement by Santau, et al. (2011). Likewise, if there was a correlation between amount of time spent

in professional development and student achievement (Supovitz & Turner, 2000), then the 300 hours spent in professional development to achieve the Reading Endorsement through Brevard Public Schools (Brevard Public School Office of Professional Development, 2004) may demonstrate a positive impact on student achievement. Moreover, although VAM had been hotly debated by researchers, policy makers, and teacher organizations as a method for teacher evaluation, support grew for VAM to be used as a mean for program evaluation and formative assessments (Boyd, et al., 2006; Clotfelter et al., 2007).

CHAPTER 3: METHODOLOGY

Introduction

The purpose of this study was to analyze student performance outcome among teachers who earned the Reading Endorsement offered by the Brevard Public Schools Office of Professional Development and compare those students whose teachers earned a Reading Endorsement through other means, and also those who have not earned a Reading Endorsement at all. The student outcome measures that will be used are the fourth, fifth, and sixth grade Reading FCAT 2.0 data from the 2011-2012 school year, which were used to create the VAM scores for the teachers of reading, and translated into t scores for ease of use in this study.

According to the Florida Department of Education website, FCAT 2.0 was introduced to Florida 3rd grade Reading students in the Spring of 2011 in order to measure the Next Generation Sunshine State Standards (NGSSS) which were adopted January 25, 2007. The FCAT 2.0 Test Item Specifications Grade 3-5 manual reported that the test questions were carefully written and examined to ensure that the questions were a valid measurement of NGSSS (Florida Department of Education, 2012a). The manual entitled Understanding FCAT 2.0 Reports (2012b) supplied information regarding a vertical scaling study conducted in the Fall of 2011. This study enabled FCAT 2.0 results to be reported along a developmental score scale, as the results were reported for FCAT previously. A study by Mark D. Reckase dated August 19, 2010 and

posted on the FLDOE website detailed best practices when setting vertical scale scores. Reckase (2010) also created recommendations for the creation of FCAT 2.0, which included having psychometric staff available to policy makers during the time of test specification development.

The FCAT 2.0 results for the 2011-2012 school year were displayed with the FCAT 2.0 developmental scale score as appropriately identified by the vertical scaling study, the content area raw score, and the achievement levels. Although this author could not find specific statistical information to support the reliability of the instrument, the authors of the Understanding FCAT 2.0 Reports manual did state that educators should be able to ascertain reliability based on the comparisons of FCAT 2.0 scores from school to school, district to district, and compared to the state mean scores. According to the manual, more information would be available concerning the reliability of the test once three years of trend data were collected. The authors of Understanding FCAT 2.0 Reports (2012b) also stated that, “the Florida Department of Education encourages educators to use FCAT 2.0 results in any way that is statistically appropriate” (p.8). As this study used the aggregated VAM scores for reading for the FCAT 2.0 as a means to compare teacher to teacher, it was a statistically appropriate use of data.

Selection of Participants

Population

The population from where samples was drawn was all fourth through sixth grade reading teachers employed by the School Board of Brevard County, Florida who were not

certified in Reading. The total number of participants was 631. Of those 631 participants 214 taught fourth grade, 205 taught fifth grade, and 205 taught sixth grade. The remaining 7 teachers taught multiage classrooms: 5 taught a fifth/sixth grade combination class, 1 taught a fourth/fifth combination class, and 1 taught a fourth-sixth combination class.

Samples

For Research Question 1, the total population for each of the fourth through sixth grade teachers was divided into three groups: those with a Reading Endorsement through the Office of Professional Development at Brevard Public Schools (BPS), those with a Reading Endorsement through other means, and those without a reading endorsement. Those teachers who had earned a Reading Certification and had not earned the Reading Endorsement were removed from the study. Random samples of equal sizes were drawn using statistical software. The samples were chosen to determine the effectiveness of Reading Endorsement professional development offered through Brevard Public Schools. Adding Reading Certification would be comparing apples to oranges and defeat the purpose of the study.

For Research Question 2, the entire population was used as it was a correlational study which did not require equal samples such as parametric measures require.

For Research Question 3, the total population of teachers was sorted into two equal samples ($n = 70$) of teachers who have taught for 0-5 years and teachers who have

taught for six or greater years. These samples were chosen to determine if there was significance in student outcome measures between the two groups.

For Research Question 4 the total population for each of the fourth, fifth, and sixth grade teachers was sorted into four groups. Once again, statistical software was used to draw random samples. The four samples were:

1. READ-BPS with 0-5 years of teaching experience
2. READ-BPS with 6 or more years of teaching experience
3. READ-No with 0-5 years of teaching experience
4. READ-No with 6 or more years of teaching experience

	0-5 years of teaching experience	6 or more years of teaching experience
READ-BPS		
READ-No		

Figure 2: Visual Example of Sampling for the Factorial Analysis of Variance

Research Questions, Hypotheses and Data Analysis

This study was designed to answer the following research questions within regards to the relationships of the variables. The independent variables, or factors in this case, for Research Question 1 were READ-BPS, READ-O, or READ-No. The

independent variables for Research Question 2 were the years of teaching experience.

The independent variables for Research Question 3 were the years of teaching experience grouped as interval data, 0-5 years and 6 or greater years. The independent variables for Research Question 4 were both the years of teaching experience grouped as interval data, 0-5 years and 6 or greater years, and READ-BPS and READ-No. The dependent variable for all questions was the reading VAM score for the 2011-2012 school year for each of the fourth through sixth grade students of the sampled teachers which was translated into a t score for easier viewing and statistical analysis. The null hypotheses and data analysis method follow each question.

Research Question 1

To what extent, if any, was there a difference in the reading VAM score for the 2011-2012 school year between the fourth through sixth teachers who completed the Reading Endorsement through BPS and through other means to those teachers who had not earned a Reading Endorsement?

The null hypothesis was that there was not a statistically significant difference in the reading VAM score for the 2011-2012 school year between the fourth through sixth teachers who completed the Reading Endorsement through BPS and through other means to those teachers who had not earned a Reading Endorsement.

For Research Question 1 an analysis of variance was conducted and analyzed. The analysis of variance determined which level of Reading Endorsement participation had the greatest statistical significance, whether READ-BPS, READ-O, or the control group. The alpha level was set at 5% for all data analysis procedures, as is standard in

tests of educational statistical significance. Thus statistical significance between the scores of the students that had teachers who participated in READ-BPS, READ-O, or READ-No was clear.

Research Question 2

To what extent was there a relationship between years of teaching experience of the fourth through sixth grade teachers in Brevard Public Schools and their reading VAM score for the 2011-2012 school year?

The null hypothesis was that there was not a relationship between the years of teaching experience of the fourth through sixth grade teachers in Brevard Public Schools and their reading VAM score for the 2011-2012 school year.

For Research Question 2 a bivariate correlation was analyzed in order to examine the strength of the relationship between years of teaching experience and mean Reading FCAT 2.0 growth scores for each teacher. The Pearson r statistic is listed, as well as examined for statistical significance.

Research Question 3

Was there a significant difference in the reading VAM score for the 2011-2012 school year of fourth through sixth grade students whose teachers had taught for 0-5 years or 6 years or greater?

The null hypothesis is that there was not a statistically significant difference in the reading VAM score for the 2011-2012 school year of fourth through sixth grade students whose teachers had taught for 0-5 years or 6 years or greater.

For Research Question 3 two samples were created ($n = 70$) for each of the two subpopulations, teachers who have taught for 0-5 years and teachers who have taught for

6 or greater years. An Independent Samples T-test was analyzed to determine if there was a statistically significant difference between the student performance outcome measures of the samples and the effect size was listed.

Research Question 4

To what extent, if any, was there an interaction between the years of teaching experience and the completion of the Reading Endorsement through BPS upon the reading VAM score for the 2011-2012 school year of fourth through sixth grade teachers?

The null hypothesis was that there was not an interaction between the years of teaching experience and the completion of the Reading Endorsement Program through BPS upon the mean reading VAM score for the 2011-2012 school year of fourth through sixth grade teachers.

For Research Question 4 a factorial analysis of variance was used to analyze main effects, as well as if there was an interaction between the interval groups of years of teaching experience and the classification as either READ-BPS or READ-No which were related to the mean Reading FCAT 2.0 growth scores for each teacher. As stated previously, the four samples were:

1. READ-BPS with 0-5 years of teaching experience
2. READ-BPS with 6 or more years of teaching experience
3. READ-No with 0-5 years of teaching experience
4. READ-No with 6 or more years of teaching experience

Data Collection

A request for research was completed for Brevard Public Schools in July 2012. Following the University of Central Florida Institutional Review Board approval in the fall of 2012, Reading Endorsement data for the population of fourth, fifth, and sixth grade teachers were gathered in order to create random samples. First, in January 2013, the Office of Professional Development took the entire population of fourth, fifth, and sixth grade teachers and removed teachers that were coded as 1046-6 by the State of Florida Department of Education for teacher professional development tracking purposes. These teachers had earned the Reading Certification through a traditional university preparation option and were removed from the study entirely. Secondly, teachers that were Reading Endorsed at the time of the data being collected, but were not endorsed as of April 1, 2012 were removed from the selection of teachers that were deemed to be “Reading Endorsed” for the purpose of this study. They were added to the collection of teachers identified as READ-NO. All names and personal information were removed from the information which the researcher reviewed. The researcher categorized each remaining participant as either READ-BPS or READ-OTHER based upon the whether the individual had taken three out of the five courses through Brevard Public Schools.

Once the categorization of each of the participants was determined, the entire list of READ-BPS, READ-OTHER, and READ-NO was turned over to the Brevard Public Schools Office of Professional Development where another layer of descriptive data were added in January 2013. At that point, staff at BPS added the years of experience each

teacher had according to the following descriptions: Florida Public School Experience, Florida Non-Public School Experience, Out of State Public School Experience, and Out of State Non-Public School Experience. For the purpose of this study, only the total years of teaching experience were examined; thus, those total years were added prior to the input of the file into the statistical software program.

Once the BPS Office of Professional Development was able to add the appropriate information to the file, the information was then sent to the Office of Research and Accountability in January 2013 where the aggregated VAM reading score and the aggregated Standard Error of the aggregated VAM were added to the file. The file was once again cleaned up to remove any recognizable personal information and assigned teacher numbers kept instructional staffs' information confidential. The VAM scores were then translated into t scores to improve analysis by removing many decimal places and transferring all numbers to positive numbers. A locked safe was employed to ensure the security of the human participants' information.

Summary

Chapter 3 contained a description of the methodology used for this research study. It included an introduction, the selection of participants both the population and sampling procedures, research questions, hypothesis, and data analysis, data collection, and a summary. Random sampling procedures were used. An analysis of variance was conducted to answer Research Question 1. A correlation coefficient was discussed in

regards to Research Question 2. A factorial analysis of variance was used to answer Research Questions 3 and 4. By determining statistical significance of READ-BPS, READ-O, or READ-No, the correlation of years of teaching experience and student outcome measures, as well as any interaction between interval years of teaching experience and READ-BPS or READ-No, this methodology was designed to address the four research questions.

CHAPTER 4: PRESENTATION AND ANALYSIS OF DATA

Introduction

The purpose of this study was to analyze the student outcome measures of teachers who earned the Reading Endorsement through the Office of Professional Development for the targeted school district compared to those who earned a Reading Endorsement through other means, and those who have not earned a Reading Endorsement. Chapter 4 includes an overview of descriptive statistics, a restatement of the research questions and hypotheses, the analysis of data, and a summary. This chapter was formatted similarly to Chapter 3; each research question was followed immediately by a restatement of the hypothesis for that question, an analysis of data for that question, and the acceptance or rejection of the hypothesis for that particular question. This method of organization was selected with the reader in mind, given that there were multiple questions and multiple analysis techniques used.

Descriptive Statistics

The descriptive statistics for the endorsement variable paint a very clear picture. Of the 595 teachers who had Reading VAM scores in grades 4-6, 542 teachers (91.1%) did not have a Reading Endorsement, 27 teachers (4.5%) were classified as READ-OTHER for the purpose of this study, and 26 teachers (4.4%) were classified as READ-BPS for the purpose of this study. The classification of each teacher was based on data collection described in Chapter 3, such that all teachers that were Reading Endorsed at

the time of the data being collected, but were not endorsed as of April 1, 2012 were removed from the selection of teachers that were deemed to be “Reading Endorsed” for the purpose of this study. They were added to the collection of teachers identified as READ-NO, or those who were not Reading Endorsed. The researcher categorized each remaining participant as either READ-BPS or READ-OTHER based upon the whether the individual had taken three out of the five courses through Brevard Public Schools. Thus, there were a great deal more teachers who were not reading endorsed, and of the ones who were there was a fairly even distribution between the READ-BPS and READ-OTHER categories. See Table 1.

Table 1: Reading Endorsement Frequencies

	Frequency	Percent
READ-NO	542	91.1
READ-OTHER	27	4.5
READ-BPS	26	4.4
Total	595	100.0

The descriptive statistics for the variable of years of teaching experience offered a wider variety of results. The mean number of years of teaching experience for teachers in this data set was 14.94 years with a standard deviation of 8.635. The data set had a

normal distribution with a range of teaching experience of 0 to 43 years. See Table 2 and Figure 3.

Table 2: Years of Teaching Experience

N	595
Mean	14.94
Median	14.00
Standard Deviation	8.635
Range	43

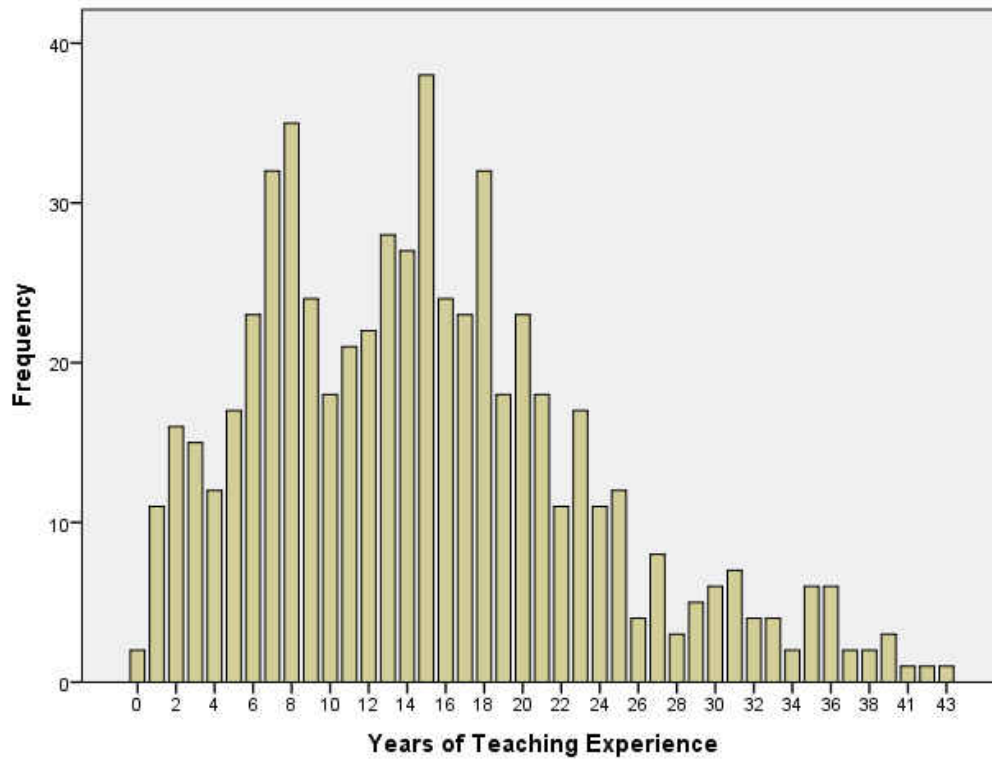


Figure 3: Years of Teaching Experience

The descriptive statistics for the categorically grouped years of teaching experience combine the data into two categorical columns, 0-5 years of experience, and 6 or more years of experience. Table 3 displays that there were more teachers whose data were analyzed that would fit into the category of having 6 or more years of teaching experience, 521 teachers (87.6%). Seventy-four (12.4%) of the teachers selected for this study had 0-5 years of teaching experience. See Table 3.

Table 3: Categorically Grouped Years of Teaching Experience

	Frequency	Percent
0-5 years of teaching experience	74	12.4
6 or more years of teaching experience	521	87.6
Total	595	100.0

The aggregated VAM scores were adjusted to t scores in order to make the numbers a little clearer to interpret by their having less decimal places than the VAM scores and all be positive numbers. The descriptive statistics for the t scores demonstrate a mean of 50 and a standard deviation of 10, as is standard with t scores. The median score is 49.3070, and the range of the data is 85.43. See Table 4 and Figure 4.

Table 4: Aggregated VAM Reading Scores as t scores

N	595
Mean	50.0000
Median	49.3070
Standard Deviation	10.0000
Range	85.43

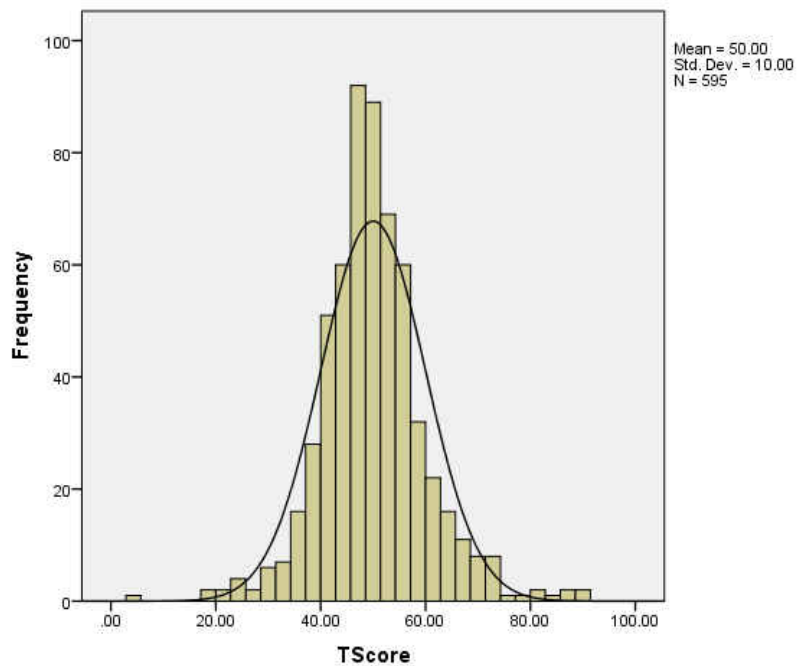


Figure 4: Aggregated VAM Reading Scores as t scores

Research Questions, Hypotheses, and Analysis of Data

This study was designed to answer the following research questions with regards to the relationships of the variables. The independent variables, or factors in this case, for Research Question 1 were READ-BPS, READ-O, or READ-No. The independent

variables for Research Question 2 were the years of teaching experience. The independent variables for Research Question 3 were the years of teaching experience grouped as interval data, 0-5 years and 6 or greater years. The independent variables for Research Question 4 were both the years of teaching experience grouped as interval data, 0-5 years and 6 or greater years, and READ-BPS and READ-No. The dependent variable for all questions was the reading VAM score for the 2011-2012 school year for each of the fourth, fifth, and sixth grade students of the sampled teachers which were translated into t scores. The null hypotheses follow each question.

Research Question 1

To what extent, if any, was there a difference in the reading VAM score for the 2011-2012 school year between the fourth through sixth grade teachers who completed the Reading Endorsement through BPS and through other means to those teachers who had not earned a Reading Endorsement?

The null hypothesis was that there was not a statistically significant difference in the reading VAM score for the 2011-2012 school year between the fourth through sixth grade teachers who completed the Reading Endorsement through BPS and through other means to those teachers who had not earned a Reading Endorsement. For Research Question 1 an analysis of variance was conducted and analyzed to determine which level of Reading Endorsement participation had the greatest statistical significance, whether READ-BPS, READ-O, or the control group. In order to conduct the ANOVA, certain assumptions were made. Each sample must be equal in number so that equal variances can be assumed. In order to adjust the sample size, a random sample of 26 teachers was

taken from the 542 teachers that comprised the READ-NO sample. The alpha level was set at 5% for all data analysis procedures, as is standard in tests of educational statistical significance.

An analysis of variance was used to determine which degree of the Reading Endorsement professional development had the greatest affect on student achievement in the outcome measures of VAM scores translated into t scores: The Reading Endorsement offered through Brevard Public Schools ($M = 52.31, SD = 10.45$), the Reading Endorsement offered through other means ($M = 50.55, SD = 10.72$), or the control group not having a Reading Endorsement ($M = 46.82, SD = 10.93$). Although Figure 5 displays a difference among the groups' mean t score results, the analysis of variance revealed that the main effect of Reading Endorsement was not statistically significant, $F(2, 75) = .1786, p = .175$. As none of the means were statistically different, the performance of a post hoc test was unnecessary. The null hypothesis for Research Question 1 was accepted. See Table 5 and Figure 5.

Table 5: ANOVA Output Data

	Sums of Squares	df	Mean Square	F	Sig.
Between Groups	409.304	2	204.652	1.785	.175
Within Groups	8592.570	75	114.568	-----	-----
Total	9001.874	77	-----	-----	-----

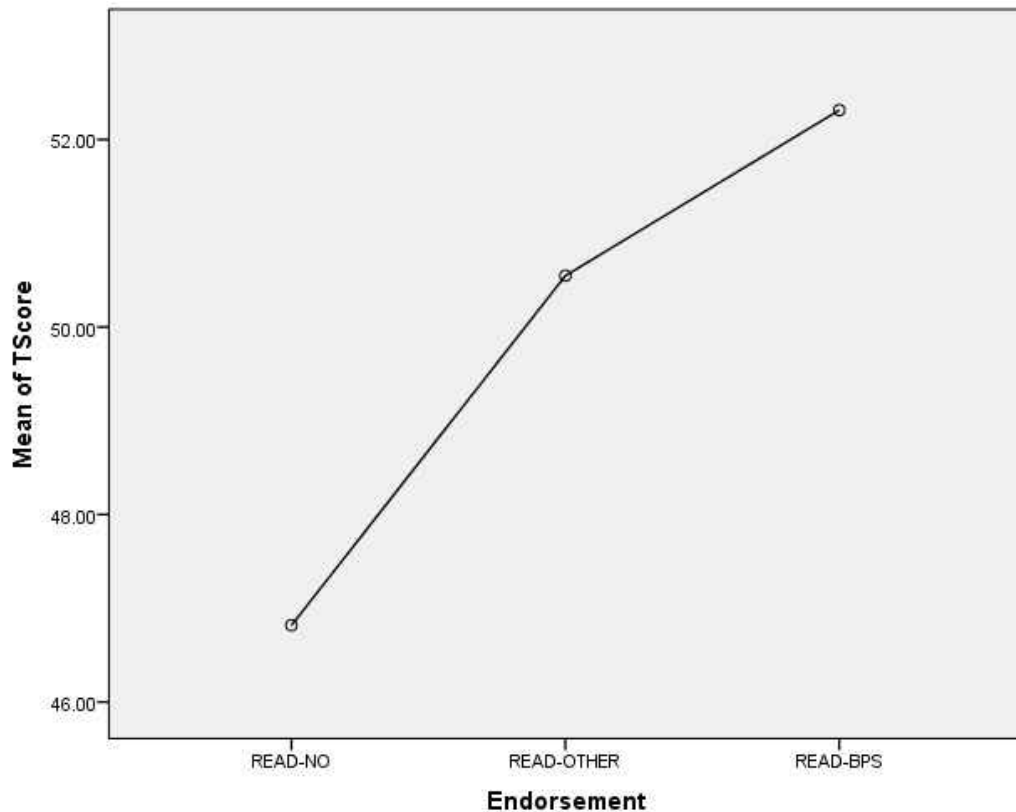


Figure 5: Mean t scores for Each Reading Endorsement Variable

Research Question 2

To what extent was there a relationship between years of teaching experience of the fourth through sixth grade teachers in Brevard Public Schools and their reading VAM score for the 2011-2012 school year?

The null hypothesis was that there was not a relationship between the years of teaching experience of the fourth through sixth grade teachers in Brevard Public Schools and their reading VAM score for the 2011-2012 school year. For Research Question 2 a bivariate correlation was used and the Pearson r was analyzed to determine if a relationship existed. During this analysis the entire population was used, as a sample is

not needed in order to conduct a correlation. The data demonstrate that the Pearson correlation between years of teaching experience ($M = 14.94$, $SD = 8.63$) and the t scores had a small correlation which was not statistically significant and a small effect size ($r = .009$, $n = 595$, $p = .824$). The scatterplot of the data provided is indicative of a lack of relationship between years of teaching experience and t scores. Thus, the null hypothesis is accepted, there was not a statistically significant relationship between years of teaching experience and student outcome measures. Increases in the years of experience of the teacher would not necessarily mean that their VAM scores would be higher. See Table 6 and Figure 6.

Table 6: Bivariate Correlation of Years of Teaching Experience and T scores

Pearson Correlation	.009
Sig. (2-tailed)	.824
N	595

Research Question 3

Was there a significant difference in the reading VAM score for the 2011-2012 school year of fourth through sixth grade students whose teachers had taught for 0-5 years or 6 years or greater?

The null hypothesis was that there was not a statistically significant difference in the reading VAM score for the 2011-2012 school year of fourth through sixth grade students whose teachers had taught for 0-5 years or 6 years or greater. An Independent Samples T-Test was performed to compare the means of each group of teachers.

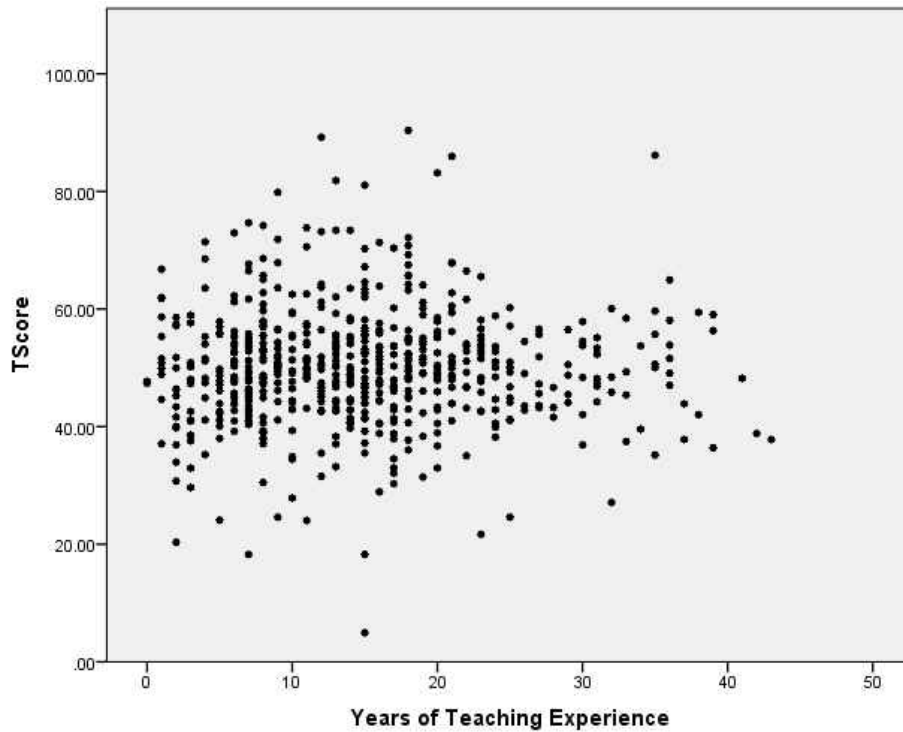


Figure 6: Scatterplot of Bivariate Correlation of Years of Teaching Experience and t scores

Randomly selected cases of teachers were created to satisfy the assumption in parametric tests that the sample sizes were equal: teachers with 0-5 years of teaching experience ($n = 70$) and teachers with 6 or greater years of teaching experience ($n = 70$). The Levene's test of homogeneity of variance was conducted and the results found that homoscedasticity was not violated ($p = .001$).

The results were analyzed to determine the results of Research Question 3. There was a statistically significant difference in t scores with a medium effect size, $t(146) = -3.439, p = .001, d = .57$, between teachers with 0-5 years of experience ($M = 47.82, SD = 9.78$) and teachers with 6 or greater years of experience ($M = 53.43, SD = 10.05$). Thus,

the null hypothesis was rejected for Research Question 3. In this case despite a direct correlation between years of teaching experience and student outcome measures, these results suggest that, as a whole, teachers of grades four through six with six or greater years of experience outperform teachers with less experience as measured by VAM scores in Brevard Public Schools. See Table 7 and Figure 7. Note that the lines dissecting the rectangles in Figure 7 are the two means which were compared to determine statistical significance.

Table 7: Independent Samples T-Test Results

		T-Test for Equality of Means				
		df	Sig. (2- tailed)	95% Confidence Interval of the Difference		
				Lower	Upper	
T scores	Equal Variances Assumed	-3.439	146	.001	-8.82961	-2.38526

Research Question 4

To what extent, if any, was there an interaction between the years of teaching experience and the completion of the Reading Endorsement through BPS upon the reading VAM score for the 2011-2012 school year of fourth through sixth grade teachers?

The null hypothesis was that there was not an interaction between the years of teaching experience and the completion of the Reading Endorsement Program through

BPS upon the reading VAM score for the 2011-2012 school year of fourth through sixth grade teachers. A factorial analysis of variance was analyzed to determine any interactions that may exist between years of teaching experience and completion of the Reading Endorsement Program through BPS on the aggregated Reading VAM scores which were translated into t scores. For this statistical analysis a random sample of READ-NO was created once again to have an equal sample size as that of READ-BPS. From that point the data were grouped according to years of experience of the teachers. Thus each teacher fell into one of four categories according to their years of experience and whether or not they were Reading Endorsed through Brevard Public Schools.

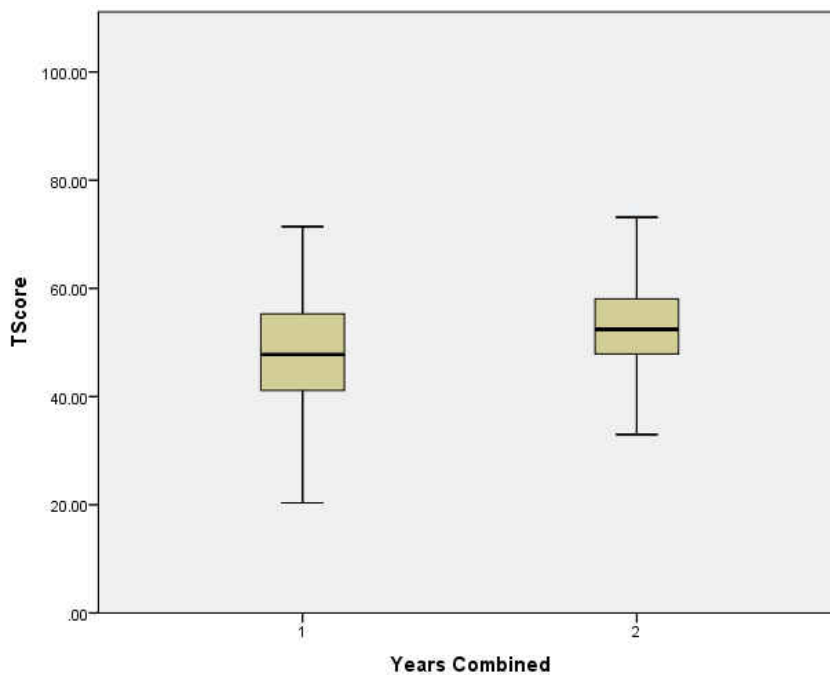


Figure 7: Independent Samples T-Test Results

When analyzing the descriptive statistics, it was clear that the factorial analysis of variance was not to be used, as there were uneven sample numbers in each cell. One of the assumptions of parametric statistical measures such as the factorial analysis of variance was that the cells contained an equal variance, equal sample populations. Although this could be fixed in similar situations by creating a smaller sample to adjust for the inequities, the number of teachers that were endorsed through READ-BPS or were not Reading Endorsed that had 0-5 years of teaching experience was simply 1 teacher. When Research Question 4 was originally posed, the option of having a three by two factorial ANOVA was removed due to the conjecture that since the Reading Endorsement programs offered through the universities locally convenient to Brevard Public Schools had been added as a part of the degree of Elementary Education within the past five years, thus, the cell containing READ-OTHER would have a significantly small sample of teachers that were teaching for longer than five years. As it turned out, the opposite was likewise true. The majority of teachers who had been teaching for less than six years were endorsed through other means, most likely they had been endorsed through university experiences. Thus, due to lack of data Question 4 was removed from the study. It is important that the question remains for the reader as it allows for the reasons for questions 2 and 3 to be asked: it addresses the possible confounding variable of years of teaching experience. See Table 8.

Table 8: Descriptive Statistics for Factorial Analysis of Variance

		Mean	Standard Deviation	N
READ-NO	0-5 years of teaching experience	37.6030		1
	6 or greater years of teaching experience	47.1866	10.99118	25
	Total	46.8180	10.93189	26
READ-BPS	0-5 years of teaching experience	47.1516		1
	6 or greater years of teaching experience	52.5200	10.61009	25
	Total	52.3135	10.44890	26
TOTAL	0-5 years of teaching experience	42.3773	6.75190	2
	6 or greater years of teaching experience	49.8533	11.02565	50
	Total	49.5658	10.94528	52

Summary

Chapter 4 included an overview of descriptive statistics, a restatement of the research questions and hypotheses, and the analysis of data in order to determine the results of the hypothesis in relationship to the purpose of the study. The null hypothesis was accepted in all cases with the exception of Research Question 3. The Independent T-Test determined that there was a statistically significant difference on the t scores between the teachers who were categorically grouped by years of experience. In the other cases, there may not have been statistical significance; however, as this was a client based research study, in Chapter 5 the educational relevance as it relates to the Office of Professional Development for Brevard Public Schools will be considered. Chapter 5 will include an introduction, a summary of the study, a discussion of the findings, implications for practice, recommendations for future research, and conclusions.

CHAPTER 5: SUMMARY, DISCUSSION, AND CONCLUSIONS

Introduction

In Chapter 4 the data were presented and analyzed. Chapter 5 consists of a summary of the study, discussions of the findings, implications for practice, recommendations for further research, and conclusions. The purpose of this chapter is to delve further into the data as they relate to the practice of professional development and educational leadership decision making for Brevard Public Schools. Finally, concluding statements are given to further assert the findings.

Summary of the Study

Prior to this study there was not a quantifiable approach to examine the effectiveness of the Reading Endorsement program in practice within the target school district. No analysis was made to evaluate comparisons of teacher effectiveness who obtained the Reading Endorsement through the in house program at the Brevard Public School District, those who earned a Reading Endorsement through other means, and those who did not earn a Reading Endorsement. The purpose of this study was to analyze the student outcome measures of teachers who earned the Reading Endorsement through the Office of Professional Development for the school district compared to those who earned a Reading Endorsement through other means, and those who did not earn a Reading Endorsement. Situated within the context of the individual teacher's professional practice included their years of teaching experience. In order to account for

this factor within the study and not have it become a confounding variable, additional analysis of years of teaching experience were examined.

The conceptual model that was examined is the INTENT model developed by Putman, et al. (2009). The researchers developed the Intentional Teaching Model (INTENT) to address the notion that, “inherent within the development of intentionality is the internal recognition by an individual that a change must occur with regards to a personally relevant goal” (Putman et al., p. 210). The authors attributed this growth to a “culture of sustainability” (Putman et al., p. 215) which was promoted by the self directed desire for change. The model consisted of four phases: individual theory articulation, preparation, active change, and sustainability (See Figure 1). One of the key foundations of the INTENT model was that there was a continuous open dialogue between the change agent and the participants of the professional development. Brevard Public Schools carried that open dialogue with the participants of their professional development offerings such as the Reading Endorsement courses throughout with constant feedback from the participants.

The research of Putman et al. (2009) connected intentionality of the participant in professional development and their student achievement outcomes and also emphasized that teachers conducted needs analysis and determined which areas of their professional practice required growth (Parr & Timperley, 2010). Elementary teachers in the state of Florida were not required to have earned a Reading Endorsement in order to instruct reading. When elementary teachers invested their time and focus in the competencies,

they were acknowledging an intentional commitment to their craft, as well as a shared vision and mission with the organization. According to the study by Putman et al. (2009), their students' achievement will be greater and their instruction will improve due to their intentionality.

Despite the similarities to the INTENT model supplied by Putnam et al., a null hypotheses related to the Reading Endorsement professional development were accepted. For Research Question 1, the null hypothesis that there was not a statistically significant difference in the reading VAM score for the 2011-2012 school year between the fourth through sixth teachers who completed the Reading Endorsement through BPS and through other means to those teachers who had not earned a Reading Endorsement was accepted using an analysis of variance to analyze the data. By using a factorial analysis of variance to answer Research Question 4, it was determined that there was not a large enough sample size to determine an interaction between the years of teaching experience and the completion of the Reading Endorsement Program through BPS upon the reading VAM score for the 2011-2012 school year of fourth through sixth grade teachers.

For Research Question 2 the null hypothesis was that there was not a relationship between the years of teaching experience of the fourth through sixth grade teachers in Brevard Public Schools and their reading VAM score for the 2011-2012 school year. For Research Question 2 a bivariate correlation was used and the Pearson r was analyzed which supported the null hypothesis. For Research Question 3 an Independent Samples T-Test determined that despite a direct correlation, when years of teaching experience

were categorically grouped, there was a statistically significant difference in the reading VAM score for the 2011-2012 school year of fourth through sixth grade students whose teachers had taught for 0-5 years or 6 years or greater. These findings may still prove to be important pieces of information for Brevard Public Schools.

Discussion of the Findings

Research Question 1

To what extent, if any, was there a difference in the reading VAM score for the 2011-2012 school year between the fourth through sixth teachers who completed the Reading Endorsement through BPS and through other means to those teachers who had not earned a Reading Endorsement?

Based on the data, there was not a statistically significant difference between the score for three groups of teachers. Despite the differences among the means of the groups, none of three means were over two standard deviations away from the mean of either other group. None of the teachers were distinctively lower performing than the other; the distribution of data is fairly close together around similar means. In terms of outcome measures related to the Office of Professional Development, their Reading Endorsement offerings supplied teachers with the opportunity to achieve a mean that was greater than the other two groups; albeit, not statistically significantly greater than the other two groups.

Research Question 2

To what extent was there a relationship between years of teaching experience of the fourth through sixth grade teachers in Brevard Public Schools and their reading VAM score for the 2011-2012 school year?

There is not a relationship worthy of note between teachers of varying years of teaching experience in Brevard Public Schools and the t scores derived from their VAM scores. Therefore, a first year teacher is capable of having a VAM score that is equal to or higher than a veteran teacher.

Research Question 3

Was there a significant difference in the reading VAM score for the 2011-2012 school year of fourth through sixth grade students whose teachers had taught for 0-5 years or 6 years or greater?

There was a statistical significance in t scores between teachers who were categorically grouped as either having zero to five years of teaching experience or six or greater years of teaching experience. The teachers with six or greater years of teaching experience had t scores that were significantly higher than their less experienced peers meaning that, as a whole, veteran teachers outperform their less experienced peers. This finding was expected as those teachers had distinctively more time to practice their craft and expand upon their knowledge base.

Research Question 4

To what extent, if any, was there an interaction between the years of teaching experience and the completion of the Reading Endorsement through BPS upon the reading VAM score for the 2011-2012 school year of fourth through sixth grade teachers?

Due to the necessary assumptions that must be in place in order to conduct factorial analysis of variance, Research Question 4 needed to be removed from the study.

Implications for Practice

This research will contribute to the literature and to the needs of Brevard Public Schools to maintain its standing as a top performing school district in the state of Florida. According to Guskey and Sparks as cited in Shymansky et al. (2010), "...student learning outcomes should provide the starting point for *all* educational improvement efforts and professional development activities" (p. 4). The results will now be examined as they relate to site based personnel decisions, professional development decisions, and organizational decisions.

The savvy school leader will use the above information in a variety of means related to the selection of personnel candidates and in potential reductions in force. When determining a possible instructor for students to maximize learning outcomes, a school leader will need to keep in mind that although there may not be a direct correlation between years of experience and student outcome measures, as a whole teachers with six or greater years of experience have higher scores; thus principals and assistant principals would be remiss if they opted for a less experienced teacher. The data from Research Question 1 could also serve to reduce bias against those teachers who were not reading endorsed since it was not proven to make a difference in student outcome measures.

In terms of professional development decisions, it would be prudent to continue to offer Reading Endorsement courses through Brevard Public Schools. Although there was no statistical significance to demonstrate one program as being better than the other it has been proven that those teachers participating in Reading Endorsement courses through

Brevard Public Schools have the foundation of the INTENT model. Thus, it was possible that while they were in the courses they were filling in missing pieces of information that aided and guided their instruction. It was impossible to say that they would perform statistically poorer had they not taken the courses. It would be wise to share that information with teachers who are interested in raising their VAM scores in the age of assessment, accountability, and performance pay.

From the standpoint of organizational decision making, human resource personnel would be advised to use the results of Research Questions 2 and 3 to guide decisions related to teacher compensation. It would appear that since there was not an actual line of regression which connected years of experience to student outcome measures, then paying teachers according to a salary schedule based on an annual increment in steps does not coincide with the statistical data. However, it may be prudent when making salary decisions to keep in mind the one statistically significant finding of this study that teachers with greater than five years of teaching experience generally outperform their less experienced peers. In order to retain qualified experienced teachers to some degree, compensation should be commensurate with teaching experience of six years or greater. Moreover, it would be wise to further examine the years of teaching experience at smaller intervals to determine if there are any other patterns related to student achievement and years of teaching experience over time.

Recommendations for Further Research

Sample size was of a major concern throughout this study. There were quite simply not enough people in any of the subcategories to make generalizations back to the population of teachers. In order for this study to prove to be more effective a few measures could be taken:

1. As this study relates to Brevard Public Schools, it might be possible to wait for a few more years and see if the sample populations have increased enough for the results to be generalizable. As Dr. Shelton pointed out and was enumerated in Chapter 2 subheading READ-BPS, the number of Reading Endorsed teachers in BPS rose from fifteen to 491 between the years of 2000 and 2013. If the Office of Professional Development continues to offer the Reading Endorsement courses and the population of Reading Endorsed teachers increases at that trajectory, it is possible that at some point the sample may be large enough from which to make inferences. It certainly would depend on how many of those Reading Endorsed teachers were elementary or secondary teachers. Moreover, it would be interesting to run this study with data of secondary teachers to potentially yield a larger sample population due to certification requirements.
2. Since it is the desire of the State of Florida Department of Education to have the Professional Development Programs measured through this type of an evaluation process, it might behoove them to make this a state-wide study and use similar methods. Instead of Read-BPS, Read-Other, and Read-No, their categories could

be defined as Reading Endorsed through a school district program (READ-SD), Reading Endorsed through university preservice means (READ-U), and not Reading Endorsed (READ-No). Thus, teachers from across the state of Florida would be the population from which the samples would be drawn. Although the Department of Education may still be faced with similar difficulties when attempting to account for years of teaching experience and professional development, they could still attempt to account for both and then address the issue within the discussion of their study should they be faced with those difficulties. If from there the FLDOE so chose, the data could be then further analyzed to compare means from district to district to ensure the effectiveness of the offered professional development.

3. Human Resource personnel at Brevard Public schools could choose to designate smaller intervals of years of teaching experience and reexamine how that relates to student achievement data.
4. Components of the Reading Endorsement programs should be examined to determine any differences between district and university instruction of the competencies.

Conclusions

The literature suggests a greater need for examination of professional development as it relates to student outcome measures on a larger scale that could be generalizable to the population (Hunsaker, Nielsen, & Bartlett, 2010; Lee, Maerten-Rivera, Penfield, LeRoy,

& Secada, 2007; Putman, et al., 2009). The findings of this study expand the work of previous researchers in the field of professional development related to student achievement. This investigation revealed:

1. Although this study could not conclude any statistical significance on student outcome measures among the groups of teachers who fit into different Reading Endorsement categories, to not offer these courses would have been a disservice to the teachers that have determined they need the professional development and the students under their care. According to Holland as cited in Putman et al. (2009), “change is not just about policies, or programs, or promises. It is an intensely personal decision to try something new. And to work, change depends on a broad belief that doing something differently will make it better” (p. 218). According to the INTENT model the elementary teachers that took Reading Endorsement courses through Brevard Public Schools had a personal reason to better their reading instruction.
2. As there was not a statistical significance among groups of teachers with varying Reading Endorsement qualifications, a school based leader would have been prudent not to be biased against teachers that are not Reading Endorsed when making hiring decisions and when faced with a reduction in force decisions.
3. Due to the fact that there was not a direct correlation between years of teaching experience and student achievement, instructional leaders should not have been

particularly biased against newer teachers whom they deemed to be effective when making human capital placement decisions.

4. Although there was not a direct correlation between years of teaching experience and student achievement, there was a statistical significance between teachers which were categorically grouped as either having 0-5 years of teaching experience or 6 or greater years of teaching experience. That information may have been used to guide hiring decisions as well as reductions in force at the school level.
5. The age of education reform offered many struggles for educational professionals including finding the balance between accountability and doing what is right for children (Ravitch, 2010). Bolman and Deal (2008) suggest that when situations contain “high levels of ambiguity and uncertainty” (p. 317), professionals should operate within both the symbolic and the political frame. The requirements for teacher compensation under the Student Success Act (2011) proved to provide such an ambiguity. As the research delineated a lack of direct correlation between years of teaching experience and student outcome measures, the step salary system seemed antiquated and obsolete. However, it is important to note that teachers with six or greater years of teaching experience had a statistically significant higher mean average student achievement. This information should have been taken into account when creating a new compensation system which addressed the requirements of the Student Success Act (2011) as well as the needs

of the teachers of Brevard Public Schools. As this process offered a shift in thinking among all participants, working within the symbolic and political frames as advised by Bolman and Deal (2008) would have been advisable.

APPENDIX A: BREVARD PUBLIC SCHOOL BOARD APPROVAL



Office of Accountability, Testing, and Evaluations
Research Application

Briefly respond to the following questions. Your completed application should be no longer than three pages with the Assurances Form as an additional attachment.

Name of Applicant:

Carrie Rose Chancellor

Title of research project:

An analysis of student achievement outcomes of teachers who have earned the reading endorsement offered through Brevard Public Schools compared to those who earned the reading endorsement through other means, and those who have not earned a reading endorsement.

Date of Submission:

7/16/12

Mailing Address:

1341 Wee Ct., NW, Palm Bay, FL 32907

E-mail address:

carriechancellor@knights.ucf.edu

Phone Number: 321-733-1049 or 321-987-0676

Business/University Address: (Required for student research)

c/o Barbara A. Murray
University of Central Florida
P.O. Box 161250, Orlando, FL 32816-1250

Faculty Sponsor/Phone: 407-823-1473

E-mail address: Barbara.murray@ucf.edu



Office of Accountability, Testing, and Evaluations
Research Application

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<p>1. Purpose of the project (thesis, dissertation, grant): Dissertation The purpose of this study is to analyze the student outcome measures of teachers who earned the Reading Endorsement through the Office of Professional Development for the targeted school district compared to those who earned a Reading Endorsement through other means, and those who have not earned a Reading Endorsement.</p>
<p>2. Hypotheses of study:</p> <ul style="list-style-type: none">- The null hypothesis is that there will not be a statistically significant difference in the mean Reading FCAT 2.0 growth scores of the fourth, fifth, and sixth grade students whose teachers completed the Reading Endorsement through BPS or through other means compared to those students who had teachers that did not earn a Reading Endorsement.- The null hypothesis is that there will not be a statistically significant relationship between the years of teaching experience of the fourth, fifth, and sixth grade teachers in Brevard Public Schools and the mean FCAT 2.0 growth scores of their students.- The null hypothesis is that there will not be a statistical significant difference in the mean FCAT 2.0 growth scores of fourth, fifth, and sixth grade students whose teachers are Reading Endorsed through BPS or not Reading Endorsed.- The null hypothesis is that there will not be a statistically significant difference in the mean FCAT 2.0 growth scores of fourth, fifth, and sixth grade students whose teachers who have taught for 0-5 years or 6 years or greater.- The null hypothesis is that there will not be an interaction between the years of teaching experience and the completion of the Reading Endorsement Program through BPS.
<p>3. University/agency with which applicant is affiliated: University of Central Florida</p>
<p>4. Anticipated start date: August 2012 Anticipated completion date: August 2013</p>
<p>5. Name of Brevard County school(s) which will be involved:</p> <p>This will not affect any schools directly. As per agreement with Human Resources, teacher demographical and professional development information will be gathered. All student outcome measures will use historical data from the 2012 FCAT 2.0 results.</p>



Office of Accountability, Testing, and Evaluations
Research Application

6. **Briefly** summarize your research design. Include instruments to be utilized and sources of data dependent on school/district records:

Sources of data: ERO and Personnel Files (I have obtained prior approval from Debra Pace) & Reading FCAT 2.0 mean growth scores of all fourth, fifth, and sixth grade teachers throughout the county (this I will need from your office)

Population

The initial population from which samples will be pulled is all fourth, fifth, and sixth grade teachers of reading in Brevard Public Schools who are not certified in Reading. (*Listed demographic information to follow*).

Samples

For Research Question 1 the total population for each of the fourth, fifth, and sixth grade teachers will be divided into three groups: those with a Reading Endorsement through the Office of Professional Development at BPS, those with a Reading Endorsement through other means, and those without a reading endorsement. Those teachers who have earned a Reading Certification and have not earned the Reading Endorsement rider will be removed from the study. Random samples will be drawn using statistical software. The samples that are to be compared are based on the need to determine effectiveness of professional development at Brevard Public Schools as is supported by the literature review. The three sample populations will be equal in size in order for an analysis of variance to be conducted to answer Research Question 1. This will be the same sample used to answer Research Question 2.

For Research Questions 3-5 the total population for each of the fourth, fifth, and sixth grade teachers will be sorted into four groups which are equal in size. Once again, statistical software will be used to draw random samples. The four samples will be:

1. READ-BPS with 0-5 years of teaching experience
2. READ-BPS with 6 or more years of teaching experience
3. READ-No with 0-5 years of teaching experience
4. READ-No with 6 or more years of teaching experience

The alpha level will be set at 5% for all data analysis procedures, as is standard in tests of educational statistical significance. For Research Question 1 an analysis of variance will be used through Statistical Package for the Social Sciences (SPSS) to analyze the data. The analysis of variance will determine which level of professional development participation to achieve the Reading Endorsement had the greatest statistical significance, whether READ-BPS, READ-O, or the control group. In addition to the analysis of variance a Tukey HSD test will be applied to the data to determine the most significant mean difference between the groups and if the group in the middle has a statistical significance. Thus, it will be clear if there is a statistical significance between the scores of the students that had teachers who participated in READ-BPS, READ-O, or READ-No.

For Research Question 2 a bivariate correlation will be analyzed using SPSS in order to examine the strength of the relationship between years of teaching experience and mean Reading FCAT 2.0 growth scores for each teacher. The Pearson r statistic will be listed, as well as examined for statistical significance.



Office of Accountability, Testing, and Evaluations
Research Application

For Research Questions 3-5 a factorial analysis of variance will be used through SPSS to analyze which variable had the greatest main effect, as well as if there is an interaction between the interval groups of years of teaching experience and the classification as either READ-BPS or READ-No which will be related to the mean Reading FCAT 2.0 growth scores for each teacher. As stated previously, the four samples will be:

1. READ-BPS with 0-5 years of teaching experience
2. READ-BPS with 6 or more years of teaching experience
3. READ-No with 0-5 years of teaching experience
4. READ-No with 6 or more years of teaching experience

7. Does this research project involve human subjects? Yes [] No (X)

Only historical data will be used.



Office of Accountability, Testing, and Evaluations
Research Application

Assurances Form

I understand that I am requesting permission to engage in a research Project, and I am not requesting information pursuant to Open Records Legislation. If my research project requires participation with students, I understand that I may be subject to the appropriate School Board policy regarding background investigations, as well as any applicable costs associated. Additionally, if my request is granted, I agree to abide by all policies, rules and regulations of the District, INCLUDING THE SECURING OF WRITTEN PARENT PERMISSION PRIOR TO IMPLEMENTATION OF MY PROJECT.

x Carrie Rose Chancellor

Researcher

7/16/12
Date

I have read the procedures for Research Projects in the Brevard County Public School System and understand that supervision of this project and responsibility for an outcome report rests with me. I also understand that the privileges of conducting future studies in the Brevard County Public School System is conditioned upon the fulfillment of such obligations.

Barbara A. Murray

Sponsor/Advisor of Research Project
(signature required for student research)

7-14-12
Date

Approval of Office of Accountability, Testing and Evaluation*:

Theresa B. Huber
Signature

7/23/12
Date

*Approval of the study at the district level does not obligate principals to participate in the proposed research.

Approval of Principal*:

Signature

Date

*The principal's signature suggests that the research project has been reviewed and that the school will participate, subject to the researcher's compliance with District policies.

APPENDIX B: INSTITUTIONAL REVIEW BOARD APPROVAL



University of Central Florida Institutional Review
Board Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901, 407-882-2012 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

From : **UCF Institutional Review Board #1
FWA00000351, IRB00001138**
To : **Carrie R. Chancellor**
Date : **October 31, 2012**

Dear Researcher:

On 10/31/2012 the IRB determined that the following proposed activity is not human research as defined by DHHS regulations at 45 CFR 46 or FDA regulations at 21 CFR 50/56:

Type of Review: Not Human Research Determination
Project Title: AN ANALYSIS OF STUDENT ACHIEVEMENT
OUTCOMES OF TEACHERS WHO HAVE EARNED
THE READING ENDORSEMENT OFFERED
THROUGH THE BREVARD PUBLIC SCHOOLS
COMPARED TO THOSE WHO EARNED THE
READING ENDORSEMENT THROUGH OTHER
MEANS, AND THOSE WHO HAVE NOT EARNED A
READING ENDORSEMENT
Investigator: Carrie R Chancellor
IRB ID: SBE-12-08792
Funding Agency:
Grant Title:
Research ID: N/A

University of Central Florida IRB review and approval is not required. This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are to be made and there are questions about whether these activities are research involving human subjects, please contact the IRB office to discuss the proposed changes.

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

Signature applied by Joanne Muratori on 10/31/2012 09:10:54 AM EST

IRB Coordinator

[PDF to Word](#)

**APPENDIX C: READING ENDORSEMENT COMPETENCIES
PERFORMANCE INDICATORS**

READING ENDORSEMENT COMPETENCIES 2011

Guiding Principle: Teachers will understand and teach reading as an ongoing strategic process resulting in students comprehending diverse text. Teachers will understand how writing, listening, and speaking support the teaching of reading, and how family involvement supports student achievement in reading. Teachers will understand that all students have instructional needs and apply the systematic problem solving process: use data to accurately identify a problem, analyze the problem to determine why it is occurring, design and implement instruction/interventions, and evaluate the effectiveness of instruction/interventions. Teachers will understand that the problem solving process is recursive and ongoing, utilized for effective instructional decision making.

Competency 1: Foundations of Reading Instruction – 60 In-service Hours

Teachers will develop substantive understanding of six components of reading as a process: comprehension, oral language, phonological awareness, phonics, fluency, and vocabulary.

The total inventory of Performance Indicators (A-G) satisfies Competency 1.

Performance Indicator A: Comprehension

1.A.1 Understand that building oral and written language facilitates comprehension.

1.A.2 Understand the importance of learning syntax, semantics, pragmatics, vocabulary, and text structures required for comprehension of formal written language of school, often called “academic language.”

- 1.A.3 Understand the impact of text upon reading comprehension (e.g., genre, readability, coherence, text structure, and text complexity).
- 1.A.4 Understand how the interaction of reader characteristics, motivation, purpose of reading, and text elements impacts comprehension and student engagement.
- 1.A.5 Identify cognitive targets (e.g., locate/recall; integrate/interpret; critique/evaluate) and the role of cognitive development in the construction of meaning of literary and informational texts.
- 1.A.6 Understand reading as a process of constructing meaning from a wide variety of print and digital texts and for a variety of purposes.
- 1.A.7 Understand the reading demands posed by domain specific texts.
- 1.A.8 Understand that effective comprehension processes rely on well developed language, strong inference making, background knowledge, comprehension monitoring and self-correcting.
- 1.A.9 Understand how English language learners' linguistic and cultural background will influence their comprehension.
- 1.A.10 Understand the role of formal and informal assessment of comprehension in making instructional decisions to meet individual student needs.

Performance Indicator B: Oral Language

- 1.B.1 Understand how the students' development of phonology, syntax, semantics, and pragmatics relates to comprehending written language
- 1.B.2 Understand the differences between social and academic language.
- 1.B.3 Understand that writing enhances the development of oral language.
- 1.B.4 Understand that the variation in students' oral language exposure and development requires differentiated instruction.
- 1.B.5 Recognize the importance of English language learners home languages, and their significance for learning to read English.
- 1.B.6 Understand the role of formal and informal oral language assessment to make instructional decisions to meet individual student needs.

Performance Indicator C: Phonological Awareness

- 1.C.1 Understand phonology as it relates to language development and reading achievement (e.g., phonological processing, phonemic awareness skills, phonemic analysis and synthesis).
- 1.C.2 Recognize the phonological continuum beginning with sensitivity to large and concrete units of sound (i.e., words & syllables) and progressing to small and abstract units of sound (onset-rimes and phonemes).

1.C.3 Understand that writing, in conjunction with phonological awareness, enhances reading development.

1.C.4 Distinguish both phonological and phonemic differences in language and their applications in written and oral discourse patterns (e.g., language & dialect differences).

1.C.5 Understand how similarities and differences in sound production between English and other languages affect English language learners' reading development in English.

1.C.6 Understand the role of formal and informal phonological awareness assessment to make instructional decisions to meet individual student needs.

Performance Indicator D: Phonics

1.D.1 Understand that phonological units (words, syllables, onset-rimes, and phonemes) map onto orthographic units (words, rimes, letters) in alphabetic languages.

1.D.2 Understand sound-spelling patterns and phonics (grapheme-phoneme correspondence rules).

1.D.3 Understand structural analysis of words.

1.D.4 Understand that both oral language and writing can be used to enhance phonics instruction.

1.D.5 Understand the role of formal and informal phonics assessment to make instructional decisions to meet individual student needs.

Performance Indicator E: Fluency

1.E.1 Understand that the components of reading fluency are accuracy, expression, and rate which impact reading endurance and comprehension.

1.E.2 Understand that effective readers demonstrate flexibility by adjusting their reading rate to accommodate the kinds of texts they are reading in order to facilitate comprehension.

1.E.3 Understand the relationships among fluency, word recognition, and comprehension.

1.E.4 Understand that both oral language and writing enhance fluency instruction.

1.E.5 Understand the role of formal and informal fluency assessment to make instructional decisions to meet individual student needs.

Performance Indicator F: Vocabulary

1.F.1 Understand the goal of receptive and expressive vocabulary instruction is the application of a student's understanding of word meanings to multiple oral and written contexts.

1.F.2 Understand morphology as it relates to vocabulary development (e.g., morphemes, inflectional and derivational morphemes, morphemic analysis).

1.F.3 Identify principles of semantics as they relate to vocabulary development (e.g., antonyms, synonyms, figurative language, etc.).

1.F.4 Understand the domain specific vocabulary demands of academic language.

1.F.5 Understand that writing can be used to enhance vocabulary instruction.

1.F.6 Understand the role of formal and informal vocabulary assessment to make instructional decisions to meet individual student needs.

Performance Indicator G: Integration of the reading components

1.G.1 Identify language characteristics related to social and academic language.

1.G.2 Identify phonemic, semantic, and syntactic variability between English and other languages.

1.G.3 Understand the interdependence between each of the reading components and their effect upon reading as a process for native speakers of English and English language learners.

1.G.4 Understand the impact of oral language, writing, and an information intensive environment upon reading development.

1. G.5 Understand the importance of comprehension monitoring and self correcting to increase reading proficiency.

1.G.6 Understand the role of formal and informal reading assessment to make instructional decisions to meet individual student needs.

Competency 2: Application of Research-Based Instructional Practices -- 60 In-service Hours

Teachers will scaffold student learning by applying the principles of research-based reading instruction and integrating the six components of reading. Teachers will engage in the systematic problem solving process.

The total inventory of Performance Indicators (A-G) satisfies Competency 2.

Performance Indicator A: Comprehension

2.A.1 Apply intentional, explicit, and systematic instructional practices for scaffolding development of higher order thinking, comprehension skills, comprehension monitoring and self-correcting (e.g., reciprocal teaching, “think aloud,” etc.).

2.A.2 Use both oral language and writing experiences to enhance comprehension.

2.A.3 Apply appropriate instructional practices determined by the student’s strengths and needs, text structure, and the reading demands of domain specific text.

2.A.4 Provide opportunities for student extended text discussion to enhance comprehension, promote motivation and student engagement.

2.A.5 Select narrative or informational print or digital texts that are appropriate to the comprehension instruction to be provided.

2.A.6 Provide comprehension instruction that supports students' ability to read multiple print and digital texts and to synthesize information within, across and beyond those texts.

2.A.7 Scaffold discussions to facilitate the comprehension of text and higher order thinking skills for students with varying English proficiency levels.

2.A.8 Model a variety of strategic activities students can use to foster comprehension monitoring and self correcting.

2.A.9 Recognize, describe, and incorporate appropriate comprehension assessments to guide instruction.

Performance Indicator B: Oral Language

2.B.1 Apply intentional, explicit, and systematic instructional practices for scaffolding development of oral/aural language skills (e.g., language experience approach, Socratic questioning).

2.B.2 Create an environment where students practice appropriate social and academic language to discuss diverse texts.

2.B.3 Recognize and apply an English language learner's home language proficiency as a foundation and strength to support the development of oral language in English.

2.B.4 Use writing experiences to enhance oral language (e.g., interactive writing, student to teacher sentence dictation).

2.B.5 Recognize, describe, and incorporate appropriate oral language assessments to guide instruction.

Performance Indicator C: Phonological Awareness

2.C.1 Apply intentional, explicit, systematic instructional practices to scaffold development of phonological awareness. (e.g., blending and segmenting syllables, onset-rimes, and phonemes).

2.C.2

Provide opportunities for students to use oral/aural language to enhance phonological awareness (e.g., rhyming and alliteration).

2.C.3 Understand and apply knowledge of how variations in phonology across languages affect English language learners' reading and writing development.

2.C.4 Use writing experiences, in conjunction with phonological instruction, to enhance reading achievement (e.g., Elkonin boxes or magnetic letters, individual response whiteboards).

2.C.5 Recognize, describe, and incorporate appropriate phonological awareness assessments to guide instruction.

Performance Indicator: D: Phonics

2.D.1 Apply intentional, explicit, systematic instructional practices for scaffolding phonics development on a continuum from the individual phoneme-grapheme level through the multi-syllabic word level.

2.D.2 Recognize and apply an English language learner's home language as a foundation and strength to support the development of phonics in English.

2.D.3 Use oral/aural language and writing experiences to enhance phonics instruction (e.g., sentence strip words, phrases, and pocket charts).

2.D.4 Recognize, describe, and incorporate appropriate phonics assessments to guide instruction.

Performance Indicator E: Fluency

2.E.1 Apply intentional, explicit, systematic instructional practices to scaffold accuracy, expression, rate, and reading endurance (e.g., paired reading, repeated reading, echo reading, reader's theater, etc.).

2.E.2 Use oral/aural language and writing experiences to enhance fluency (e.g., poetry charts, song lyrics).

2.E.3 Recognize, describe, and incorporate appropriate fluency assessments to guide instruction.

Performance Indicator F: Vocabulary

- 2.F.1 Apply intentional, explicit, systematic instructional practices to scaffold vocabulary and concept development (e.g., shared reading, semantic mapping, etc.).
- 2.F.2 Provide for continual integration, repetition, and meaningful use of domain specific vocabulary to address the demands of academic language.
- 2.F.3 Incorporate vocabulary instruction through analogies (e.g., cognates, Greek and Latin roots).
- 2.F.4 Provide an environment that supports wide reading of print and digital texts, both informational and literary, to enhance vocabulary.
- 2.F.5 Incorporate instructional practices that develop authentic uses of English to assist English language learners in learning academic vocabulary and content.
- 2.F.6 Use oral/aural language and writing experiences to enhance vocabulary (e.g., interactive word walls, word sorts, word charts for secondary).
- 2.F.7 Use multiple methods of vocabulary instruction (e.g. multiple contexts, examples and non-examples, elaborations, etc.).
- 2.F.8 Recognize, describe, and incorporate appropriate vocabulary assessments to guide instruction.

Performance Indicator G: Integration of the reading components

2.G.1 Apply comprehensive instructional practices, including writing experiences, that integrate the reading components.

2.G.2 Identify instructional practices to develop students' metacognitive skills in reading (e.g., text coding such as INSERT, two column notes).

2.G.3 Use resources and research-based practices that create information intensive environments (e.g., diverse classroom libraries, inquiry reading).

2.G.4 Use research-based guidelines for selecting literature and domain specific print and digital text appropriate to students' age, interests and reading proficiency (e.g., young adult literature, informational texts).

2.G.5 Demonstrate understanding of similarities and differences between home language and second language reading development.

2.G.6 Triangulate data from appropriate reading assessments to guide instruction.

Competency 3: Foundations of Assessment -- 60 In-service hours

Teachers will understand how to select and administer appropriate assessments and analyze data to inform reading instruction to meet the needs of all students. Teachers will engage in the systematic problem solving process.

Performance Indicators

- 3.1 Understand and apply measurement concepts and characteristics of reading assessments.
- 3.2 Understand the purposes of various informal assessments (e.g., informal reading inventories, analyzing writing samples) including an emphasis on matching reader to text.
- 3.3 Understand the purpose of various formal assessments including the differences between norm-referenced and criterion-referenced assessments and how to interpret data reports.
- 3.4 Understand the meaning of test reliability, validity, and standard error of measurement and describe major types of derived scores from standardized tests.
- 3.5 Demonstrate knowledge of the characteristics, administration, and interpretation of both quantitative and qualitative instructional assessments (to include each of the following: screening, progress monitoring, diagnosis and outcome measures).
- 3.6 Analyze data to identify trends that indicate adequate progress in student reading development.
- 3.7 Understand how to use data within a systematic problem solving process to differentiate instruction, intensify intervention and meet the needs of all students. (e.g., grouping practices, appropriate curriculum materials).
- 3.8 Identify appropriate criteria for selecting materials to include in portfolios for monitoring student progress over time.
- 3.9 Identify interpretive issues that may arise when assessments in English are used to measure reading proficiency in English language learners.

3.10 Identify appropriate assessments and accommodations for monitoring reading progress of all students.

3.11 Identify and implement appropriate and allowable accommodations as specified in the Individual Education Plan or 504 Plan when assessing students with disabilities in the area of reading.

Competency 4: Foundations and Applications of Differentiated Instruction -- 60 In-service hours

Teachers will have a broad knowledge of students from differing profiles in order to understand and apply research-based instructional practices by differentiating process, product, and context. Teachers will engage in the systematic problem solving process.

Performance Indicators

4.1 Understand and apply knowledge of socio-cultural, socio-political and psychological variables to differentiate reading instruction for all students.

4.2 Understand the stages of English language acquisition for English language learners and differentiate reading instruction for students at different levels of English language proficiency.

4.3 Understand and apply current theories of second language acquisition to differentiate instruction for English language learners of diverse backgrounds and various levels of prior education.

4.4 Identify factors impeding student reading development in each of the reading components or the integration of these components.

- 4.5 Recognize how characteristics of both language and cognitive development impact reading proficiency.
- 4.6 Recognize the characteristics of proficient readers to more effectively differentiate instruction.
- 4.7 Compare language, cognitive, and reading acquisition of different age groups (primary, intermediate, secondary levels) and abilities.
- 4.8 Select and use developmentally appropriate materials that address sociocultural and linguistic differences.
- 4.9 Plan for instruction that utilizes increasingly complex print and digital text, embeds assessment, includes scaffolding, and provides re-teaching when necessary for individuals and small groups.
- 4.10 Differentiate reading instruction for English language learners with various levels of first language literacy.
- 4.11 Scaffold instruction for students having difficulty in each of the components of reading.
- 4.12 Implement a classroom level plan for monitoring student reading progress and differentiating instruction.
- 4.13 Monitor student progress and use data to differentiate instruction for all students.
- 4.14 Implement research-based practices in comprehension, oral language, phonological awareness, phonics, fluency and vocabulary to differentiate instruction for all students.

4.15 Implement research-based instructional practices for developing students' higher order thinking.

4.16 Implement research-based instructional practices for developing students' ability to read critically.

4.17 Implement research-based instructional practices using writing to develop students' comprehension of text.

4.18 Implement appropriate and allowable instructional accommodations as specified in the Individual Education Plan or 504 Plan when differentiating instruction for students with disabilities.

4.19 Modify assessment and instruction for students with significant cognitive disabilities while maintaining high expectations for achievement that reflect appropriate levels of access to general education instruction.

Competency 5: Demonstration of Accomplishment -- 60 In-service Hours

Teachers will, through a culminating practicum, demonstrate knowledge of the components of reading, as well as assessments and data analysis, to implement a comprehensive research-based reading plan of instruction for all students. Teachers will engage in the systematic problem solving process.

Performance Indicators

- 5.1 Use assessment and data analysis to monitor student progress and guide instruction over time to ensure an increase in student learning.
- 5.2 Demonstrate research-based instructional practices for facilitating reading comprehension.
- 5.3 Demonstrate research-based instructional practices for developing oral/aural language development.
- 5.4 Demonstrate research-based instructional practices for developing students' phonological awareness.
- 5.5 Demonstrate research-based instructional practices for developing phonics skills and word recognition.
- 5.6 Demonstrate research-based instructional practices for developing reading fluency and reading endurance.
- 5.7 Demonstrate research-based instructional practices for developing both academic and domain specific vocabulary.
- 5.8 Demonstrate research-based instructional practices to facilitate students' monitoring and self correcting in reading.
- 5.9 Demonstrate research-based comprehension instructional practices for developing students' higher order thinking to enhance comprehension.
- 5.10 Demonstrate research-based instructional practices for developing students' ability to read critically.

5.11 Demonstrate differentiation of instruction for all students utilizing increasingly complex print and digital text.

5.12 Demonstrate skill in assessment and instruction with English language learners from diverse backgrounds and at varying English proficiency levels.

5.13 Create an information intensive environment that includes print and digital text.

5.14 Use a variety of instructional practices to motivate and engage students in reading.

5.15 Demonstrate intentional, explicit, systematic writing instruction as it relates to the ability to read written language.

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