

AN EXAMINATION OF THE RELATIONSHIP
BETWEEN MARZANO'S CAUSAL TEACHER EVALUATION MODEL
AND STUDENT ACHIEVEMENT AT NINE HIGH SCHOOLS
IN A LARGE SUBURBAN SCHOOL DISTRICT
IN CENTRAL FLORIDA

by

DANA KAYE JACOBSON
B.A. University of Florida, 2001
M.Ed. Stetson University, 2006

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Major Professor: Kenneth Murray

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ABSTRACT

This study focused on the relationship between student achievement and teacher evaluation during the first year of implementation of the Marzano Causal Teacher Evaluation model in a large suburban school district in Central Florida. The population included high school level teachers and students. Teacher evaluation and performance data were collected and analyzed for relationships using Spearman Rho and Chi-Square Analysis. Variables reviewed included: (a) Marzano's Causal Teacher Evaluation Model *i*Observation[®] protocol, (b) categorized teacher years of experience, (c) student growth scores based on a teacher's student success on statewide assessments as calculated using VAM or an administered pre- and posttest, (d) school reported teacher demographics on school improvement plans and (e) historical 9th- and 10th-grade student achievement data on FCAT 2.0 Reading and 9th- grade student achievement data on the Algebra 1 End-of-Course (EOC) Examinations.

I dedicate this dissertation to my Family and Friends.

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TABLE OF CONTENTS

LIST OF FIGURES	ix
LIST OF TABLES	x
LIST OF ABBREVIATIONS.....	xii
CHAPTER 1 THE PROBLEM AND ITS CLARIFYING COMPONENTS.....	1
Introduction.....	1
Statement of the Problem.....	1
Purpose of the Study	2
Significance of the Study	3
Definition of Terms.....	3
Research Questions and Hypotheses	7
Theoretical and Conceptual Framework.....	8
Research Design.....	10
Procedures.....	12
Limitations	13
Delimitations.....	13
Organization of the Study	14
CHAPTER 2 REVIEW OF THE LITERATURE	16
Introduction.....	16
Reform Efforts	16
A Nation at Risk.....	18
Common Core Standards and Student Assessment	21
Legislative Efforts.....	25
Elementary and Secondary Education Act (ESEA).....	25
No Child Left Behind (NCLB)	26
American Recovery and Reinvestment Act (ARRA)	27
Teacher Tenure and Reduction in Force.....	32
Educational Policies.....	36
Performance Evaluations and Systems	44
The Evaluation of Teacher Performance	44
Changes in Teacher Performance Evaluation Systems.....	48
Florida’s Model Evaluation Systems	50
The Impact of Teachers on Student Achievement.....	56
Summary.....	60
CHAPTER 3 METHODOLOGY	62
Introduction.....	62
Purpose of the Study	62
Research Questions and Hypotheses	62

Population	64
Instrumentation	72
Instructional Practice Score	72
Student Growth Score	73
Teachers' Years of Experience	75
The Final Teacher Evaluation Score	77
Reading FCAT 2.0	77
Algebra 1 End-of-Course (EOC) Examination	78
Data Collection	79
Data Analysis	81
Summary	82
CHAPTER 4 PRESENTATION AND ANALYSIS OF DATA	84
Introduction	84
Descriptive Statistics	84
Testing the Research Questions and Hypotheses	90
Research Question 1	90
Research Question 2	92
Research Question 3	95
Research Question 4	98
Additional Analysis	101
Summary	102
CHAPTER 5 SUMMARY, DISCUSSION, AND CONCLUSIONS	103
Introduction	103
Purpose of the Study	103
Summary of the Study	103
Research Question 1	105
Research Question 2	105
Research Question 3	106
Research Question 4	106
Implications for Practice	107
Recommendations for Further Research	109
Conclusion	110
APPENDIX A APPROVALS TO CONDUCT RESEARCH	112
APPENDIX B FLORIDA OUTLINE OF TEACHER EVALUATION MODELS	116
APPENDIX C MARZANO TEACHER EVALUATION LEARNING MAP	118
APPENDIX D REQUEST AND PERMISSION TO USE MARZANO MODEL	121
APPENDIX E SAMPLE STUDENT LEARNING GROWTH VALUE COMPUTATION	124

APPENDIX F INSTRUCTIONAL STAFF RATINGS BY SCHOOL.....126
LIST OF REFERENCES132

LIST OF FIGURES

Figure 1. Teachers' years of experience by category	89
Figure 2. Scatterplot of Grade 9 Florida Comprehensive Assessment Test (FCAT) 2.0 Reading and instructional practice mean scores	91
Figure 3. Scatterplot of Grade 10 Florida Comprehensive Assessment Test (FCAT) 2.0 Reading and instructional practice mean scores	94
Figure 4. Scatterplot of Grade 9 Algebra 1 End-of-Course (EOC) mean scores and instructional practice scores	97
Figure 5. All Schools: Teachers' effectiveness for instructional practice and student growth.	127
Figure 6. School A: Teachers' effectiveness for Instructional Practice and Student Growth	127
Figure 7 School B: Teachers' effectiveness for instructional practice and student growth	128
Figure 8. School C: Teachers' effectiveness for instructional practice and student growth	128
Figure 9. School D: Teachers' effectiveness for instructional practice and student growth	129
Figure 10. School E: Teachers' effectiveness for instructional practice and student growth	129
Figure 11. School F: Teachers' effectiveness for instructional practice and student growth	130
Figure 12. School G: Teachers' effectiveness for instructional practice and student growth	130
Figure 13. School H: Teachers' effectiveness for instructional practice and student growth	131
Figure 14. School I: Teachers' effectiveness for instructional practice and student growth.	131

LIST OF TABLES

Table 1 <i>Literature Review Sources: Reform Efforts Related to Teacher Evaluation and Student Achievement</i>	24
Table 2 <i>Literature Review Sources: Legislation Related to Teacher Evaluation and Student Achievement</i>	36
Table 3 <i>Literature Review Sources: Educational Policies Related to Teacher Evaluation and Student Achievement</i>	59
Table 4 <i>Student Demographics for Florida Comprehensive Assessment Test (FCAT) 2.0 Grade 9 Reading (N = 4,021)</i>	66
Table 5 <i>Student Demographics for Florida Comprehensive Assessment Test (FCAT) 2.0 Grade 10 Reading (N = 3,572)</i>	67
Table 6 <i>Student Demographics for Grade 9 Algebra 1 End-of-Course (EOC) Examinations (N = 2,305)</i>	68
Table 7 <i>Teacher Demographics: All High Schools (N = 896)</i>	70
Table 8 <i>Student Growth Score Calculations for Classroom Teachers in Content Areas Not Assessed on Statewide Assessments</i>	74
Table 9 <i>Categories: Teachers' Years of Experience</i>	75
Table 10 <i>Schedule of Administrator Observations for Teachers by Categories</i>	76
Table 11 <i>Florida Comprehensive Assessment Tests (FCAT) 2.0 Reading Developmental Scale Scores (178-302)</i>	78
Table 12 <i>Algebra 1 End-of-Course Assessment Scale Scores (325-475)</i>	79
Table 13 <i>Student Mean Developmental Scale Scores for Florida Comprehensive Assessment Test (FCAT) 2.0 Grade 9 Reading by Ethnicity, Gender, ESE, and ELL</i>	85
Table 14 <i>Student Mean Developmental Scale Score for Florida Comprehensive Assessment Test (FCAT) 2.0 Grade 10 Reading by Ethnicity, Gender, ESE, and ELL</i>	86
Table 15 <i>Student Mean Developmental Scale Score for Algebra 1 End-of-Course (EOC) Examination Grade 9 by Ethnicity, Gender, ESE, and ELL</i>	87
Table 16 <i>Teacher Demographics Across the Nine High Schools in the Study</i>	88
Table 17 <i>Individual Teacher Student Growth Score and Instructional Practice</i>	88

Table 18	<i>Spearman's Rho Analysis for Instructional Practice and Grade 9 Florida Comprehensive Assessment Test (FCAT) 2.0 Reading Mean Scores</i>	92
Table 19	<i>Spearman's Rho Analysis for Instructional Practice and Grade 10 Florida Comprehensive Assessment Test (FCAT) 2.0 Reading Mean Scores</i>	95
Table 20	<i>Spearman's Rho Analysis for Instructional Practice and Grade 9 Algebra I End-of-Course (EOC) Examination Mean Scores</i>	98
Table 21	<i>Chi-Square Analysis for Instructional Practice and Teachers by Category (N = 955)</i>	100
Table 22	<i>Chi-Square Analysis for Instructional Practice and Student Growth (N = 954)</i>	101

LIST OF ABBREVIATIONS

ARRA	American Recovery and Reinvestment Act
CBT	Computer Based Testing
CCRS	College and Career Readiness Standards
CWTs	Classroom Walk-Throughs
DOE	Department of Education
EOCs	End of Course Examinations
ESEA	Elementary and Secondary Education Act
FCAT 2.0	Florida Comprehensive Assessment Test 2.0
FPMS	Florida Performance Measurement System
IPDP	Individual Professional Development Plan
LEA	Local Education Agency
LIIS	Local Instructional Improvement System
LSI	Learning Sciences International
MOU	Memorandum of Understanding
NAEP	National Assessment of Educational Progress
NCLB	No Child Left Behind
NGSSS	Next Generation Sunshine State Standards
PARCC	Partnership for Assessment of Readiness for College and Career
PISA	Program for International Student Assessment
RTTT	Race to the Top
VAM	Value-Added Model

CHAPTER 1 THE PROBLEM AND ITS CLARIFYING COMPONENTS

Introduction

Educational researchers have been looking at defining the relationships between teacher effectiveness and student achievement for the past five decades. Unfortunately, even with extensive research, little has been found to solidify the relationship between student achievement and teacher effectiveness (Jackson & Lunenburg, 2010).

Further, legislative initiatives at the national and state levels have become the guiding foundation for changes to the systems of teacher evaluation and accountability for student achievement (U.S. Department of Education, 2009; Education Personnel, Florida, SB736, 2011a). Due to these changes during the 2011-2012 academic year, Florida school districts implemented new teacher evaluation models as required by legislation. The school district, under examination in this research chose to use the Marzano Causal Teacher Evaluation Model as the primary system to evaluate teachers. With limited information about the implementation of this model, the school district and the researcher agreed to investigate the relationships between the Marzano Causal Teacher Evaluation model and student achievement at the high school level during the first year of implementation within the school district.

Statement of the Problem

At the time of the study, there was limited research on the implementation phase of new teacher evaluation models required by recent legislation as they related to student

achievement within Florida school districts. This study was aimed at providing further understanding of the foundational changes to the system of teacher evaluation.

At the high school level, there has been a lack of consistency in teacher use of strategies and practices across varying content areas (Phillips, 2010). This has made it difficult to decipher which teacher characteristics are important when predicting how a student will perform on standardized tests (Phillips, 2010; Strong, Ward, & Grant, 2011). Teacher performance is multidimensional and includes how a teacher plans learning activities, communicates and provides productive feedback to students, and maintains a positive classroom environment (Florida Rule 6A-5.065 (2), 2012). Due to this, specialized knowledge does not automatically translate to effective classroom performance, and it is necessary to assess not only what teachers know but what they can do in their classrooms (Hinchey, 2010).

Purpose of the Study

The purpose of this study was to examine the initial year of implementation of the Marzano Causal Teacher Evaluation Model tool as it related to student achievement in a large suburban school district in Central Florida. The researcher collected data from the 2011-2012 academic year to help understand to what extent, if any, there was a relationship between teacher performance as measured by this model, teachers' years of experience and student achievement. Data used in this study included high school level teacher evaluation and performance data collected by administrators through (a) Marzano's Causal Teacher Evaluation Model *i*Observation[©] protocol, (b) categorized

teacher years of experience, (c) student growth score based on a teacher's student success on statewide assessments as calculated using VAM or an administered pre- and posttest, (d) school reported teacher demographics on school improvement plans and (e) historical 9th- and 10th-grade student achievement data on FCAT 2.0 Reading and 9th-grade student achievement data on Algebra 1 End-of-Course Examinations.

Significance of the Study

Understanding the preliminary implementation of a new model for teacher evaluation was important. Although this study was specific to the nine high schools and students within the district reviewed and may not be generalized to a different population, it did identify trends in teacher effectiveness ratings as they relate to student achievement. Information gleaned from this study may contribute to the identification of trends and norms related to teacher performance and administrative observations of teachers. It may further shed light on the process of implementing a new system of teacher evaluation in a large suburban school district.

Definition of Terms

The following definitions are applicable to understanding the context of this study.

Brick and Mortar Schools. School buildings that are tangible, "having physical building and facilities," (para. 1) to provide learning to students through direct contact (Dictionary.com, 2012).

Common Core State Standards (CCSS). The rigorous skills and knowledge in English language arts and mathematics that need to be effectively taught and learned, “so that they [students] will graduate high school able to succeed in entry-level, credit-bearing academic college courses and in workforce training programs” (Common Core State Standards Initiative, 2012, para. 4).

Common Language of Instruction. “The core collection of terms and expressions used in collegial professional development to deepen understanding of the complexity of teaching, promote clarity in professional communications, and enhance the quality of feedback on improvement of instructional proficiency in delivery of a standards-based curriculum” (Florida Department of Education, 2012d, para. 27).

Deliberate Practice. Practice based on a focused and deliberate use of techniques and skills in order to develop skills and strategies for use in the classroom. Notably, this construct is based on feedback a teacher receives from administrators or peer reviews (Marzano et al., 2011).

Domains. Categories representing knowledge and skills of teaching (Shakman et al., 2012).

Florida End-of-Course (EOC) Assessments. Tests “designed to measure student achievement of the NGSSS for specific courses, as outlined in their course descriptions. These assessments [Algebra 1, Biology 1, Geometry, U.S. History, and Civics] are part of Florida's Next Generation Strategic Plan for increasing student achievement and improving college and career readiness” (Florida Department of Education, 2012g, p. 29).

The Florida Comprehensive Assessment Test® 2.0 (FCAT 2.0). A test which measures student achievement in the reading standards in the NGSSS. (Florida Department of Education, 2012h).

Halo Effect. “An effect whereby the perception of positive qualities in one thing or part gives rise to the perception of similar qualities in related things or in the whole” (*The American Heritage Dictionary*, 2009, para.1).

Individual Professional Development Plan. A plan that is required by Florida Statute for all instructional employees. “During the 2011-2012 school year, this plan was used for calculating the student growth component of the summative evaluation for eligible instructional employees” (School District of Osceola County [SDOC], 2012b).

iObservation® Score. A score reported for an individual teacher in the iObservation® system. Scores are derived from formal, informal, and walkthrough observations and prior to entering student growth data (Learning Sciences International [LSI], 2011). For the purpose of this study, school score was defined as the mean of the teacher performance score on Marzano’s Teacher Evaluation Model.

iObservation® Protocol. A protocol used by administrators during teacher observations using the Marzano Causal Teacher Evaluation Model (School District of Osceola County, 2011).

Marzano Causal Teacher Evaluation Model. A model based on meta-analytic studies (Marzano, 2007). It is considered a growth model for teacher improvement and one of the models suggested for use in Florida school districts by the State of Florida (Florida Department of Education, 2012e). Using this model, when a teacher is observed,

administrators note a level of teacher performance as innovative, applying, developing, beginning, or not using (LSI, 2011).

Next Generation Sunshine State Standards (NGSSS). The “content knowledge and skills that K-12 Florida public school students are expected to learn in language arts, mathematics, science, social studies, visual and performing arts, physical education, health, and foreign languages,” (Florida Department of Education, 2012e, p. 25).

Race to the Top (RTTT). A competitive federal grant program established by President Barack Obama to support educational reforms in the United States that include accountability for students and teachers (U.S. Department of Education, 2009).

Teacher Effectiveness. The “extent to which teacher practice is aligned with research on effective teaching” based on assessments of teachers’ use of strategies and principles of teaching that affect student achievement (Craig et al., 2005, p. 8). This term was used synonymously with teacher performance.

Teacher Performance. Behaviors of teachers that have been determined, by research and theory, to be linked to student achievement (Henemann & Milanowski, 2004). This term was used synonymously with teacher effectiveness.

Value-added Measure (Assessment). An assessment that is based on statistical measures used in conjunction with administrative observations of teachers to determine the level of teacher influence as indicated by student achievement results (Corcoran, 2010). In this study, this term was used synonymously with “value-added assessment.”

Research Questions and Hypotheses

The following four research questions and corresponding null hypotheses were used to guide this study.

1. To what extent, if any, is there a relationship between 9th-grade high school mean student developmental scale scores on FCAT 2.0 Reading and the school-wide mean instructional practice score of teacher performance as measured by Marzano's Causal Teacher Evaluation at nine high schools in a large suburban school district?

H₀₁. There is no statistically significant relationship between 9th-grade high school mean student developmental scale scores on FCAT 2.0 Reading and the school-wide mean instructional practice score of teacher performance as measured by Marzano's Causal Teacher Evaluation at nine high schools in a large suburban school district?

2. To what extent, if any, is there a relationship between 10th-grade high school mean student developmental scale scores on FCAT 2.0 Reading and the school-wide mean instructional practice score of teacher performance as measured by Marzano's Causal Teacher Evaluation at nine high schools in a large suburban school district?

H₀₂. There is no statistically significant relationship between 10th-grade high school mean student developmental scale scores on FCAT 2.0 Reading and the school-wide mean instructional practice score of teacher performance as

measured by Marzano's Causal Teacher Evaluation at nine high schools in a large suburban school district?

3. To what extent, if any, is there a relationship between 9th-grade high school mean student developmental scale scores on End-of-Course Algebra 1 assessments and the school-wide mean instructional practice score of teacher performance as measured by Marzano's Causal Teacher Evaluation at nine high schools in a large suburban school district?

H₀₃. There is no statistically significant relationship between 9th-grade high school mean student developmental scale scores on End-of-Course Algebra 1 assessments and the school-wide mean instructional practice score of teacher performance as measured by Marzano's Causal Teacher Evaluation at nine high schools in a large suburban school district?

4. Which of the variables, Student Growth Score or Teacher Years of Experience, has the strongest relationship with a teacher's instructional practice score?

H₀₄. Neither student growth score nor teacher years of experience has a relationship with a teacher's instructional practice score.

Theoretical and Conceptual Framework

The framework for this study was based on systems theory and the use of assessment and indicators to determine performance (Owens, 2004). With the many changes to the teacher evaluation system that have occurred at the national, state, and local levels over the years, identifying system changes and patterns has been relevant and

vital to determining the effectiveness of the process (Senge, 1990). By analyzing the system, an in-depth process for identifying themes and relationships based on separate events may be established (Moberg, 2001). Further, it is also important to note that making changes to organizational structures are “powerful, but high risk” and generally “represents its [the organization’s] resolution of an enduring set of basic tensions and dilemmas” (Bolman & Deal, 2003, p. 69).

The idea of making changes to educational systems is “risky and leaders need the support that the political environment, both internally and externally, can provide” (Taylor, 2010, p. 91). Thus, leaders must understand the reasons for recent change in teacher evaluation at the national, state, and local levels. In this respect, Marzano, Waters, and McNulty (2005) indicated that there were two types of changes in educational systems: first and second order change. First order changes are logical and take place slowly, and second order changes are deep and dramatic changes that fundamentally alter the system. Furthermore, these changes are generally extensive and require political support (Taylor, 2010).

Notably, change and reform are only accomplished when the goals of the organization are, as Owens (2004) indicated, “emphasized using the conscious thinking of individual persons about what they are doing as a means of involving their commitment, their abilities, and their energies in achieving the goals of the organization” (p. 112).

According to Bolman and Deal (2003), organizational structure is “a blueprint for formal expectations and exchanges among internal players” (p. 46). Owens wrote that

according to classical organizational theorists such as Weber, Fayol, and Taylor, internal hierarchies and issues of task management must be acknowledged and adjusted based on “the needs of large and complex enterprises that perform services for large numbers of clients” (Owens, 2004, p. 86). Open model systems, as outlined in conceptual terms by Owens (2004), explained that school social systems were formed through organizational and individual behaviors which have a direct or indirect relationship with one another toward a specific goal or goals.

In this vein, Senge (1990) discussed systems thinking:

Systems thinking required the disciplines of building shared vision, mental models, team learning, and personal mastery to realize its potential. Building shared vision fosters a commitment to the long term. Mental models focus on the openness needed to unearth shortcomings in our present ways of seeing the world. Team learning develops the skills of groups of people to look for the larger picture beyond individual perspectives. And personal mastery fosters the personal motivation to continually learn how our actions affect our world (p. 12).

Research Design

A quantitative methodology and non-experimental design were chosen for this study because the researcher was investigating the relationship between two or more variables. These variables included, but were not limited to: (a) student growth scores received from VAM calculated student growth on state assessment (e.g., FCAT 2.0 Reading and Algebra 1 EOC) or student growth calculated scores based on a pre- and

posttest by a teacher through the Individual Profession Development Plan (IPDP), (b) categorized teacher years of experience, (c) school level mean instructional practice scores of teachers as assessed on the Marzano Causal Teacher Evaluation Model by administrators, (d) student achievement data from 9th-and 10th-grade students who took the FCAT 2.0 Reading assessment, and (e) 9th-grade students who took the Algebra 1 EOCs during the academic year 2011-2012. School level instructional practice scores and student achievement data were tested for relationships using a Spearman Rho. A Chi-Square analysis was conducted using teacher level Student Growth Scores and Teacher Years of Experience as independent variables, and the mean instructional practice scores of teachers served as the dependent variable.

This study relied solely on (a) teachers' years of experience, (b) teachers' student growth score, (c) the mean instructional practice score gathered from the school district's Department of Professional Development; (d) student FCAT 2.0 Reading (Florida Department of Education, 2012f) and EOC Algebra 1 data from the Florida Department of Education (Florida Department of Education, 2012b). The student data for Research Questions 1-3 were delimited to that which was obtained for 9th- and 10th-grade students who took the FCAT 2.0 Reading assessment and 9th-grade students who took the Algebra 1 EOC examinations during the academic year 2011-2012. For Research Question 4, student data included all students in Grades 9-12 associated with a teacher based on student growth calculation as obtained from the district.

Procedures

On June 1, 2012, the researcher requested the initial approval of the Director of the Department of Research Accountability and Evaluation in the School District of Osceola County to conduct the research. This request also sought to establish a time to present the proposal and request access to school level teacher instructional practice score data and non-identifiable student achievement data. On June 8, 2011, the researcher requested further approval of the two Assistant Superintendents of Elementary and Secondary Curriculum and Instruction in Osceola County, Florida to conduct the research.

Having received initial approval of the target school district, the researcher presented the research proposal to the University of Central Florida's Educational Leadership faculty on July 18, 2012. The approved proposal was then submitted to the University of Central Florida Institutional Review Board for consideration and was approved on September 6, 2012. Approval documents are contained in Appendix A.

Subsequently, on October 8, 2012, the researcher requested school level teacher data including: (a) years of experience, (b) student growth score, (c) instructional practice score, and (d) final evaluation scores from the Osceola County School District's Department of Professional Development. Data requested were related to school level teacher instructional practice mean scores, as measured on the Marzano Causal Teacher Evaluation Model iObservation[®] Protocol by school based administrators at each of the nine Osceola high schools that were the focus of this research. At the same time, the researcher requested 9th- and 10th-grade student achievement data on FCAT 2.0 Reading

and 9th-grade student achievement data on end-of-course examinations in Algebra 1 from the school district's Department of Research and Accountability. The department provided the student data and provided a website address for accessing Reading FCAT 2.0 data and Algebra 1 EOC demographic data and any additional data needed (Florida Department of Education, 2012 b & g). Mathematical manipulation of data was needed to calculate demographic data used in this study.

Limitations

This study was limited to the accuracy of the level of teacher years of experience, student growth score, and instructional practice score data provided by the school district's Department of Professional Development and the delineated 9th- and 10th-grade student data retrieved from the Florida Department of Education for Research Questions 1-3 (Florida Department of Education, 2012 b & g).

Delimitations

1. This study was delimited to a large suburban school district in Central Florida which had 10 high schools. The school district's Secondary Virtual School, which provided learning to students through a virtual environment, was excluded from the study.
2. This study was based on quantitative data. Though identified in the literature review, extraneous or qualitative variables, e.g., perception, that might influence either the teacher and/or student results, were not considered.

3. Data examined were delimited to 2011-2012 level of teacher experience, student growth score, and instructional practice scores received from the school district's Department of Professional Development. Due to contractual issues related to accessing individual teacher VAM score data, teachers' final evaluation scores were not reviewed and were only redacted by individual teacher. Only school wide data were subjected to analysis.
4. This study examined school district and school level FCAT 2.0 Reading (Florida Department of Education, 2012f) and EOC Algebra 1 data from the Florida Department of Education (Florida Department of Education, 2012b). For Research Questions 1-2, the student data were delimited to 9th- and 10th-grade students who took the FCAT 2.0 Reading assessment. For Research Question 3, the student data was delimited to 9th- grade students who took EOC examinations in Algebra 1 during the academic year 2011-2012.

Organization of the Study

This dissertation has been organized in five chapters. Chapter 1 is an introduction to the study and included the background of the study, a statement of the problem, the purpose of the study, the significance of the study, definition of terms, the theoretical framework, the research questions and their related hypotheses, the limitations and delimitations of the study, and the overall organization of the study. Chapter 2 provides a review of literature and research relevant to the problem. Chapter 3 contains information related to the methodology that was used to conduct the study. Included are: an

introduction to the methodology, information related to the selection of participants, the instrumentation, data collection, data analysis, and a summary. Chapter 4 provides the results of the analysis of the data and Chapter 5 presents a summary and discussion of the findings as well as implications for practice, and recommendation for further research.

CHAPTER 2 REVIEW OF THE LITERATURE

Introduction

This chapter has been organized to present a review of relevant research and literature related to teacher evaluation and the improvement of student achievement. Reviewed are (a) reform efforts, (b) legislation, (c) educational policies, and (d) performance evaluations and systems aimed at outlining the systems and methods by which teachers are evaluated. This chapter contains a synthesis of the literature reviewed of studies, influences, and practices in the United States to reform the manner in which teacher effectiveness has been measured and evaluated. Research related to student academic achievement and the effects of national and state initiatives to enhance student achievement and measure teacher effectiveness are also presented in this chapter as part of the four main topics in the chapter. The discussion in this chapter focuses on political as well as scholarly perspectives of utilizing teacher evaluation to drive student achievement.

Reform Efforts

In 2010, President Obama stated,
Every child in America deserves a world-class education. . . Today, more than ever, a world-class education is a prerequisite for success. . . . A world-class education is also a moral imperative--the key to securing a more equal, fair, and just society. We will not remain true to our highest ideals unless we do a far

better job of educating each one of our sons and daughters. We will not be able to keep the American promise of equal opportunity if we fail to provide a world-class education to every child. (U.S. Department of Education, 2010, p. 1).

To provide a world-class education to every child in America, one of the dominant national topics raised in the early 21st century was related to whether or not teachers and the American public school system were able to produce educated citizens who will stabilize and grow the U. S. economy to compete in a global market (Dillon, 2010). In order to meet the expectation to compete globally, Americans must overhaul the processes and expectations used in providing education, assessing student learning and teacher performance (U.S. Department of Education, 2009).

Just as President Obama's message was one of global proportion, researchers have also emphasized the need for educational reform and the consequences of a lagging American public education system on a world-wide scale (Wallace & Steptoe, 2006; Zakaria, 2011). With extensive and well publicized discussions of the relationship between teacher evaluation and student achievement on Internet and social media sources, Americans have gained access to the varying views and perspectives on how to improve the American educational system (Berry & Herrington, 2011). These perspectives and views have come from diverse individuals ranging from politicians, economists, philanthropists, and corporate moguls to researchers and scholars. Some individuals have called for swift action from federal, state, and local governments to establish value-added measures of teacher performance in public schools that reward or remove teachers based on student achievement (Miller & Warren, 2011). At the same

time, other individuals have argued that although reform is needed, many changes proposed to the system of teacher evaluation based on student achievement are contentious and unpredictable (Dietel, 2011). In this regard, Corcoran (2010) noted that “at worst, narrow interest in individual results may undermine this process” of reform (p. 15).

A Nation at Risk

Reform efforts focused on individual results were prevalent in the early 1980s when the National Commission on Excellence in Education issued a report to then-Secretary of Education, Terrel Bell, entitled *A Nation at Risk*. This report called for extensive reform efforts to improve the nation’s educational systems (National Commission on Excellence in Education, 1983). The report was the first of its kind, outlining how “the educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people,” (National Commission on Excellence in Education, 1983, p. 5). The report focused largely on teenagers in high school due to the impact this group of citizens has on the future of America and its economic success on a global scale. The report further cited a decline in American students’ national and international test scores, increases in illiteracy and the effects of average academic performance (Lunenberg & Ornstein, 2000).

During this same time period, and because of the economic needs of the country, the President’s Educational Summit with Governors promoted an increase in the federal government’s involvement with America’s education system and the establishment of

standards for students (Fitzpatrick, Sanders, & Worthen, 2011). Since that time, American educational success has been measured internationally (Miller & Warren, 2011), and American students have demonstrated limited success on international and national assessments such as Program for International Student Assessment (PISA) and the National Assessment of Educational Progress (NAEP) (National Council on Teacher Quality [NCTQ], 2010; Robelen, 2011). This, in turn, has led to the assertion that education is faltering in the United States and that citizens will have limited access to jobs, extended learning opportunities or even military duty due to a lack of technological, scientific, or mathematical literacy skills needed to be successful in the 21st century (Aud et al., 2012; Ogawa & Collom, 2000).

Hanushek (2009) has focused on teacher effectiveness as a major source of the problem and has observed that the rewards of changing teacher evaluation practices outweigh the risks. Hanushek has indicated that the primary issue that needed to be addressed was the removal of teachers who are ineffective because “allowing ineffective teachers to remain in the classroom is dragging down the nation” (p. 177). In order to facilitate the removal of “ineffective” teachers, Hanushek further suggested that a “deselection” or elimination process of the lowest performing teachers would raise the United States’ ability to compete in global markets (2009).

President Obama has chosen to address reform, in part, by the creation of Race to the Top (RTTT), a \$4.3 billion dollar educational grant program funded under the American Recovery and Reinvestment Act (ARRA) (Ravitch, 2010). This grant, seen as a method to meet budgetary shortfall, prompted several states to apply for the grant

funding with the understanding that specific conditions would be met with respect to education reform (Resnick, 2009). The priority, outlined as the “absolute priority” in the Executive Summary of the RTTT Program, was that in order for states to receive funds under the grant program, they must be “taking a systematic approach to education reform” (U.S. Department of Education, 2009, p. 4). Reform areas outlined included student standards and assessments; data systems; teacher recruiting, induction, retention, and rewards; and methods for improving low achieving schools (U.S. Department of Education, 2010).

While it is impossible to know whether the system drives the culture or the culture the system, the result has been fairly clear--evaluation systems fail to differentiate performance among teachers (Weisberg, Sexton, Mulhern, & Keeling, 2009). As a result, teacher effectiveness has been largely ignored. “Excellent teachers cannot be recognized or rewarded, chronically low-performing teachers languish, and the wide majority of teachers performing at moderate levels do not get the differentiated support and development they need to improve as professionals” (Weisberg et al., 2009, p. 6).

States seeking RTTT grants were required to develop “rigorous, transparent, and fair evaluation systems for teachers and principals,” (U.S. Department of Education, 2009, p. 9). To meet initial RTTT eligibility requirements, states were rated on their ability to create, implement, and sustain the stated objectives outlined in their applications (Duncan, 2010a). States had the opportunity to apply for funding in two phases. However, in Phase 1, only Delaware and Tennessee received funding for reform initiatives (Duncan, 2010b). In Phase 2, the school districts of the District of Columbia,

Florida, Georgia, Hawaii, Maryland, Massachusetts, New York, North Carolina, Ohio, and Rhode Island were successful with their grant applications and received funding (Duncan, 2010a).

State applications were awarded points and funding based on a state's involvement in developing and adopting common core standards (U.S. Department of Education, 2010b). Also, states that maintained association with a consortium of states in order to build common standards for K-12 students were rewarded. If such states focused on college and career readiness by the time students graduated from high school, they received additional points toward their application (U.S. Department of Education, 2010b). In the case of RTTT Phase 1 and 2 award recipients, all were associated with a consortium of states aimed at establishing common core state standards and student assessment aligned with the expectations of RTTT (Partnership for Assessment of Readiness for College and Careers [PAARC], 2012; Smarter Balanced, 2012). Through a systematic approach to reform in these areas, it was expected that states would improve the country's international standing as an educationally high performing country with respect to teacher effectiveness and student achievement based on standards (Peterson, Hanushek, Woessmann, & Riddell, 2010).

Common Core Standards and Student Assessment

More than 40 states have opted to become part of a multi-state consortium and have adopted common core standards in response to RTTT initiatives to create common core standards and assessments to determine student success in meeting those standards

on a national level (Common Core State Standards Initiative, 2012; Dietel, 2011). At the time of the present study, there were two consortiums of states, the Smarter Balanced Assessment Consortium (SBAC) and Partnership for the Assessment of Readiness for College and Careers (PARCC) (Dietel, 2011).

Resnick (2009) asserted that although states are working with other states to adopt common standards and assessments and the process will bring about positive changes in what is expected for students to learn, questions should be raised regarding the use of student test scores to evaluate teachers. In contrast, however, it was expected under RTTT that by aligning student assessments to common core College and Career Readiness Standards (CCRS), data would be produced that would be sufficiently valid and reliable to identify student achievement and thus determine the value-added or effectiveness of schools, principals, and teachers for evaluation purposes (Dietel, 2011).

Researchers have contended that there are inconsistencies with instructional reform initiatives due to differing perspectives on how and to what end the information gained from multiple monitoring tools to determine effectiveness should be used (Stumbo & McWalters, 2010). It has also been unclear as to how value-added measures will be used to improve an individual teacher, school, or school district (Suppovitz & Weathers, 2004). Despite inconsistencies and different perspectives on how to utilize value-added measures, the federal government has called for states and school districts to develop and implement teacher evaluation systems based on student achievement and other factors (U.S. Department of Education, 2010).

The Organisation for Economic Co-operation and Development (OECD) (2009) warned that studies of teacher evaluation cannot be separated from the social issues a country faces and that, “Societal, school system, and school-level factors all influence the design of teacher evaluation policies,” (OECD, p. 4). In this respect, McNeil and Coppola (1996) asserted that in order to understand the effects of policy on practice, one must ask what “complex and unanticipated interactions were set in motion beyond the policy intent” (p. 40).

Rebore (2011) observed, in regard to improving the American education system, that teachers are critical stakeholders to successful reform. They can either contribute to the effectiveness of the business and instructional functions in schools or they can hinder improvements. Sanders & Horn (1994), in discussing student achievement, determined that a system must be put in place to evaluate the effect of individual teachers on student achievement since the most important factor in student academic growth is the teacher and his or her effectiveness. With this in mind, and given that nearly 80% of a school district’s resources are devoted to personnel (Rebore, 2011), instructional staff evaluation is an essential area of concern for school officials.

Table 1 presents the literature review sources for reform efforts related to teacher evaluation and student achievement. Authors/researchers and their topics of interest are displayed chronologically beginning in 1983 and continuing up to the time of the present study.

Table 1

Literature Review Sources: Reform Efforts Related to Teacher Evaluation and Student Achievement

Year	Author(s)	Topic
1983	National Commission on Excellence in Education	National reform needs
2000	Lunenberg, F. C., & Ornstein, A. C.	National reform
2001	Moberg, D.	Changes to systems
2002	Ballou, D.	Accountability for student learning
2005	Marzano R., Waters, T., & McNulty, B.	Changes to systems
2006	Merrett, F.	Hawthorne effect and changes to systems
2006	Wallace, C., & Steptoe, S.	U.S. educational proficiency
2007	Rivkin, S.	Value-added models
2009	Hanushek, E. A.	Removal of teachers
2009	U.S. Department of Education	Race to the top grant
2010	Corcoran, S. P.	Value-added measures and teacher effect
2010	Dillon, S.	Teacher evaluation
2010	Jackson, S. A., & Lunenburg, F. C.	Performance indicators and student achievement
2010	Ladner, M. & Burke, L. M.	Student achievement gaps
2010	Ravitch, D.	U.S. reform initiatives
2010	Taylor, R. T.	Changes to systems
2010	U.S. Department of Education	Reform plans
2011	Dietel, R.	Student performance assessment and teacher evaluation
2011	Galley, L. A.	Value-added models
2011	Robelen, E. W.	U.S. educational proficiency
2011	Zakaria, F.	American education and international standing
2012	National School Board Association	Teacher effectiveness

Legislative Efforts

Although education was not established as a right or a responsibility of the federal government under the U.S. Constitution (Alexander & Alexander, 2012), there have been numerous federal and legislative initiatives focused on education, e.g., teacher evaluation. Though the National School Boards Association (NSBA) (2012) has advocated for a limited role by the federal government, it has supported federal assistance for states and school districts in the areas of teacher recruitment, retention, and professional development efforts by providing targeted incentives and fewer federal restrictions. To this end, major legislation has been passed over the years which included the Elementary and Secondary Education Act (ESEA) of 1965 and its reauthorizations, i.e., the No Child Left Behind Act (NCLB) of 2001 and the American Recovery and Reinvestment Act (ARRA) of 2009 (Fitzpatrick et al., 2011).

Elementary and Secondary Education Act (ESEA)

In 1965, the Eighty-first United States Congress, under the presidency of Lyndon B. Johnson, enacted the Elementary and Secondary Education Act (ESEA). The primary purpose of this legislation was to “strengthen and improve educational quality and educational opportunities in the Nation’s elementary and secondary schools” (ESEA, 1965, § 1). This improvement was to include accessibility of resources and financial support from the federal government to states in order to ensure that educational program needs for children from low-income families would be met (ESEA, § 1).

Title Six, § 604 of the Elementary and Secondary Education Act also indicated that the United States federal government was prohibited from exercising “. . . any direction, supervision, or control over the curriculum, program of instruction, administration, or personnel of any educational institution or school system. . . .” (ESEA, § 1). Given the supposed limited scope of the federal government, Berry and Herrington (2011) expressed concerns with the implementation of competitive federal grant programs for states which outlined specific expectations with respect to reform and the direction of states to implement legislative changes to each of the areas noted as having been outside the scope of federal interest.

Since 1965, the ESEA has undergone several reauthorizations (Fitzpatrick et al., 2011). In each instance, in order for states to receive federal funds to meet the requirements of the reauthorization, reform to explicit state accountability measures related to student achievement and teacher quality were required (NCLB, 2001). These requirements were rooted in the nation’s economics and its need to compete globally as outlined in *A Nation at Risk* (National Commission on Excellence in Education, 1983).

No Child Left Behind (NCLB)

As one of several Congressional reauthorizations of the ESEA, No Child Left Behind (NCLB) is best known for its expectations related to student academic performance. With this legislation, states were expected to have increased accountability and were required to create assessments of student learning in order to identify student progress each year (NCLB, 2001). States were given until 2014 to improve student

academic success and have all students “on grade level” based on student assessments (Berry & Herrington, 2011). It was expected that the data received from these assessments would indicate where there were gaps in academic achievement for disadvantaged students based on race, gender, and socioeconomic status (NCLB, 2001). At the same time, states would improve or face monetary sanctions (NCLB, 2001).

Federal stipulations for any funds received from the federal government under the NCLB reauthorization were specifically meant to accomplish two stated purposes:

(1): increase student academic achievement through strategies such as improving teacher and principal quality and increasing the number of highly qualified teachers in the classroom and highly qualified principals and assistant principals in schools; and (2) hold local educational agencies and schools accountable [through adequate yearly progress] for improvements in student academic achievement (NCLB, 2001, § 2101).

Current trends have shown, however, that states have had difficulty in meeting the requirements of NCLB. Recent legislation allows for waivers if states are aligned with RTTT which was a result of the American Recovery and Reinvestment Act (ARRA) (U.S. Department of Education, 2010).

American Recovery and Reinvestment Act (ARRA)

Accountability was the premise for the inclusion of education fiscal responsibility through reform in the American Recovery and Reinvestment Act (ARRA) of 2009. With this Act, the government under President Obama has worked at “making supplemental

appropriations for job preservation and creation, infrastructure investment, energy efficiency and science, assistance to the unemployed, and State and local fiscal stabilization. . . ” (ARRA, 2009, § 1). Although there were federal grant monies that could be applied for by states for education, there was also an expectation that legislation would restore state support for education (ARRA, 2009, § 1).

The reauthorization of the Elementary and Secondary Education Act of 1965, known as a Blueprint for Reform, outlined the educational reforms made in response to the ARRA. The blueprint reported on four areas in education that were significantly impacted since the authorization of ARRA. These changes included:

- (1) Improving teacher and principal effectiveness to ensure that every classroom has a great teacher and every school has a great leader;
- (2) Providing information to families to help them evaluate and improve their children’s schools, and to educators to help them improve their students’ learning;
- (3) Implementing college- and career-ready standards and developing improved assessments aligned with those standards; and
- (4) Improving student learning and achievement in America’s lowest-performing schools by providing intensive support and effective interventions (U.S. Department of Education, 2010, p. 3).

Prior to Florida’s receiving RTTT grant funding, the state was looking for a new framework for teacher evaluation (Ashburn, 2001). However, the receipt of funding and the need to adhere to the RTTT expectations, initiated the reforms which resulted in legislation.

In a press release for the State, Copa (2011) of the Florida Department of Education noted the elements of the new system of teacher evaluation. These elements meant to serve as the comprehensive reform called for under the RTTT grant included sections that took into account: (a) performance of students, (b) instructional practice or instructional leadership, and (c) professional and job responsibilities (Copa, 2011).

Florida, as a recipient of an unprecedented \$700 million through the RTTT grant program was one of the states at the forefront of educational debates related to performance appraisals of education professionals (Duncan, 2010a). With the funding received from the federal grant, the state agreed to implement the expected reforms to include a high stakes value-added measure to the observational evaluations of education professionals (Education Personnel, 2011a). In 2011, the Florida Legislature passed Senate Bill 736, also known as the Student Success Act, and Governor Rick Scott signed it into law (Education Personnel, Florida, 2011b).

Since receiving the RTTT grant, economics and the utilization of grant funding have dominated educational legislative changes being made in Florida. Once the state received RTTT funding, it established an application process for the 67 school districts in the state to create a Local Instructional Improvement System (LIIS). This system established processes for school districts to apply for funding based on the elements previously noted and targeted by the federal RTTT program (Haithcock, 2011). School districts and other Local Education Agencies (LEAs) were encouraged to submit local level plans for reform online and were required to sign a Memorandum of Understanding (MOU) for approval by the State (Florida Office of the Commissioner of Education,

2009). Applications from school districts needed to be comprehensive and address the changes already made to Florida Statute 1012.34-Assessment Procedures and Criteria through Senate Bill 736 (Florida Office of the Commissioner of Education, 2009).

In the Agency Legislative Bill Analysis of S736, the bill that changed the statute on teacher evaluation, the bill's sponsor, Senator Wise, outlined how amendments to the Statute would align with Florida's Educator Accomplished Practices (FEAPs); link teacher performance to three years of student data as appropriate through Florida's approved VAM model; differentiate ratings of teachers to: highly effective, effective, needs improvement, and unsatisfactory; allow school districts to use peer reviews; include multiple data sources and parent input; and eliminate tenure (Education Personnel, 2011a). Furthermore, these changes would allow school districts to identify and compensate "effective and highly effective teachers and administrators. . . ." or release teachers if proper measures were taken to improve the teacher's ability to teach (SB 736, 2011, § B).

The General Counsel's Office Review indicated that the evaluation of personnel based on student growth could be a potential source of an equal protection challenge on the grounds that the relationship between student growth and teacher effectiveness was tenuous because many factors can affect student learning (Education Personnel, 2011a). The Counsel's Office Review also observed that individuals who were not in the classroom, but were being evaluated on student achievement could raise challenges (Education Personnel, 2011a). However, it was noted that these challenges would be

unsuccessful due to the inherent relationship between student achievement and teaching (SB, § 2).

In opposition to these changes, the state's largest union, Florida Education Association (FEA), indicated Senate Bill 736 had similarities to Senate Bill 6, which was vetoed a year earlier by then Governor Crist due to the mandates to change tenure and link teacher performance to student data (FEA, 2011). However, this time the bill had the backing and funding from the federal government and the Governor to pass (FEA, 2011). Shortly after the bill's passage, FEA filed a lawsuit against the state (FEA, 2011). The organization argued that the passage of the bill was unconstitutional because the process of collective bargaining was circumvented, and that the state, rather than school districts or schools, had identified the criteria for evaluation (FEA, 2011). Important to the debates raised with regard to Florida's response to RTTT and the passage of Senate Bill 736, an Administrative Law Judge found in 2012 that the State did not implement the law appropriately and needed to amend it to correct flaws and improper rule-making procedures (Isensee, 2012).

In defense of the bill, Senator Wise indicated that over the past two years, "less than 1% of classroom teachers received an evaluation rating of 'unsatisfactory' based on data received from school districts in the state" (Educational Personnel, 2011a, p. 4). Further, he argued that making substantial changes to the effective use of evaluation and supervision would allow Florida to improve the current method in place for dismissing teachers who were determined to be consistently ineffective in the classroom (Educational Personnel, 2011a). This would essentially allow school districts to dismiss

teachers even though they had obtained tenure. It would also eliminate the need to utilize the U. S. Office of Personnel Management and the regulations of Reduction in Force (RIF) when and if the need were to arise (OPM, 2011). Tenure and teacher dismissal issues need to be considered due to the federal allocation of RTTT and the expectations of the grant that tenure would be eliminated and evaluation systems would be tied to student learning (NCTQ, 2010).

Teacher Tenure and Reduction in Force

States receiving grant funding must be willing to remove “ineffective tenured and untenured teachers and principals after they have had ample opportunities to improve, and that such decisions [as noted earlier] are made using rigorous standards and streamlined, transparent, and fair procedures” (U.S. Department of Education, 2009, p. 9).

In understanding the purpose in imposing new requirements on state and school district teacher evaluation systems, it is important to note that principals have historically had to exert control through “subtle and indirect” means (Owens, 2004, p. 162). This is due to collective bargaining and union contractual agreements that provide them with limited control over teacher behaviors in a loosely coupled system (Owens, 2004). According to Hanushek (2009), although principals know which teachers are low performing, due to tenure and collective bargaining, they invariably do not or are unable to remove teachers who are harming student learning.

Coleman, Schroth, Molinaro, & Green (2005) strongly encouraged state legislatures and school districts to make professional expectations for teachers more rigorous and improve the procedures in place for terminating tenured teachers who do not perform without completely eliminating the tenure process. Kwalwasser (2011) furthered this sentiment by indicating that, “in school districts that have organized themselves to promote high-octane learning, teachers were motivated even with tenure in place, and the system had its own way of encouraging poor performers to leave” (p. 39).

In contrast, some political reformers and corporate constituents have proposed the use of business-like evaluation methods along with monetary bonuses for teachers based on student achievement (Ogawa & Collom, 2000). Coleman, et al. (2005) , noted that issues of tenure are secondary to the improvements schools must make to the processes of teacher evaluation and supervision in order to limit the number of ineffective teachers in the nation’s schools. Hinchey (2010) observed that because it is a statutory requirement to have a system in place, it is necessary to identify positive and negative teaching practices and document findings. This will affect change in who remains in the profession.

With respect to tenure in the education profession, prior to SB 736, when an agency needed to make the decision to terminate employees or reduce its work force, the determination of who stayed and who went was initially based on the concept of last in-first out (Rebore, 2011). Desander (2000) discussed the changes that would be needed if last in-first out principles were abandoned. At the time of the present study, due to changes to Florida Statutes regarding tenure, school districts have been faced with the

need to work through procedural and substantive due process issues. Desander had advised that the difficulties could be limited by embedding procedural and substantive due process into evaluation systems. Philosophically, “If procedural due process is the heart of evaluation systems, then substantive due process considerations must be its soul” (Desander, 2000, p. 310).

Desander (2000) put forth procedural due processes for teacher evaluations based on the earlier work of Frase (1993) and Tucker and Kindred (1997). She posited that procedural due process, as a general rule, should include:

- (1) compliance with statutes and collective bargaining agreements;
- (2) notice;
- (3) documentation;
- (4) assistance for improvement;
- (5) reasonable time for improvement;
- (6) evaluation summaries;
- (7) fair hearing; and,
- (8) trained evaluators (Desander, 2000, p. 309).

Further, substantive due processes in teacher evaluations should include:

- (1) compliance with statutes and collective bargaining agreements;
- (2) advanced notice of criteria;
- (3) job-related criteria;
- (4) broad job descriptions;
- (5) clear and concise rating scales/standards; and,

(6) advanced warning performance deficiencies (Desander, 2000, p. 310).

The inclusion of procedural and substantive due processes should serve as “preventative measures of fairness. . . to avoid potential teacher objections and gain teacher support” (Matula, 2011, p. 99) To accomplish this, expectations and succinct standards make the system equitable and fair without unknown criteria (Desander, 2000).

At the same time, there are arguments that the educational system would be better served by eliminating tenure and high paid, ineffective teachers in order to find new teachers (Hanushek, 2009). However, as previously noted, issues related to tenure and collective bargaining make this difficult to accomplish. Weisberg et al. (2009) found that although changes have been made to teacher evaluation systems, there is an indifference or “widget effect” (p. 6) at the institution level regarding differences in teacher performance. These researchers concluded that an evaluation system only strengthens the indifference that may be found among employees if there is poor implementation of the observation processes by administrators who may not have the proper training (Weisberg et al., 2009).

Table 2 presents the literature review sources for legislative initiatives related to teacher evaluation and student achievement. Authors/researchers and their topics of interest are displayed chronologically beginning in 1965 and continuing up to the time of the present study.

Table 2

Literature Review Sources: Legislation Related to Teacher Evaluation and Student Achievement

Year	Author(s)	Topic
1965	Elementary and Secondary Education Act	Education reform and financing
1993	Frase, L. E.	Teacher evaluation and the law
1997	Tucker, P. D. & Kindred, K.	Teacher evaluation and the law
2000	Desander, M. K.	Teacher evaluation and due process
2009	American Recovery and Reinvestment Act	U.S. funding and support
2010	National Council on Teacher Quality	Florida reform in policy
2010	U.S. Department of Education	Reform plans through legislation
2011	Berry, K., & Herrington, C. D.	No Child Left Behind
2011	Education Personnel, Florida	Senate Bill 736 (Student Success Act)
2011	Matula, J. J.	Due process
2012	Florida Rule 6A-5.065 (2)	Principles of effective educators

Educational Policies

Improvement of the educational process is dependent on the academic achievement of students. With this in mind, there are five basic assumptions related to an effective school environment: (a) teachers are teaching, (b) the school is an environment for learning, (c) improvements are aimed at meeting the needs of all students, (d) teachers' attitudes and behaviors set the tone, and (e) there is an acceptance of responsibility for the success or failure of students (Owens, 2004).

These assumptions are the standards by which states must implement a value-added measure based on student achievement under RTTT for a portion of a teacher's evaluation (Corcoran, 2010). A value-added measure, as it was being used at the time of the present study, was a multi-dimensional statistical method developed in Tennessee by

Sanders in an effort to gauge the growth of individual students over a year's time and in turn improve the instructional methods of teachers (Ravitch, 2010). Since its inception, the concept of value-added has been the subject of debate. Ballou (2002) warned that value-added measures are difficult to understand and are not an answer to accountability in education. Ballou believed this was due to the variability and uncertainty of the measures. Merrett (2006) noted that despite efforts to account for variables in a given situation, there were confounding issues that arise which may not have an explanation. This was mentioned by the American Institutes for Research (2011b), Florida's approved VAM research group, who indicated that "because data [FCAT] have not yet been used for high-stakes decisions [teacher evaluation], they [VAM models] are not perfect" (p. 4). Ravitch (2010) also recognized problems with VAM. She wrote that many educational experiences cannot be measured by testing and that test scores should not be the only way to assess quality because the greatest variable in the process of teacher performance appraisals is whether or not a student will improve academically.

In a three-year experimental study conducted by the National Center on Performance Incentives at Vanderbilt University in conjunction with the RAND Corporation, researchers evaluated the use of performance bonuses to improve teaching and ultimately student test scores on Tennessee's standardized tests in math (Springer et al., 2010). The researchers indicated that, "Outcomes themselves are subject to manipulation, with the consequence that measured gains on standardized tests may not be valid indicators of how much students learned" (p. 7).

Any attempt to understand the process of value-added assessment, as noted by Corcoran (2010), must include clarification of specific concepts and challenges. These concepts relate to what exactly is being measured, the measurement tool's validity and reliability, the specific traits that relate to educator effectiveness, the specific students that teachers are being evaluated on, and whether there is variability in the value-added process (Corcoran, 2010).

The changes made to legislation at federal and state levels have only fueled the debate surrounding policy changes that propose the use of value-added measures of student achievement to determine teacher effectiveness (Galley, 2011). The drive to include value-added measures in teacher evaluation has been based on the need to improve the current system of educator performance appraisals (Galley, 2011, p. 4). Although most researchers agree that changes are needed in the current system, questions regarding the variability, reliability, and validity of the student assessment scores being used to determine, in part, teacher effectiveness must still be asked (Resnick, 2009).

There are some researchers who have contended that value-added measures used for educator appraisals have built in mechanisms to avoid misrepresentation of performance (Sanders & Horn, 1994). Still other researchers have indicated that no matter how much variability a system of analysis or research attempts to account for, there is still potential for error (Merrett, 2006). This is due in part to the uncertainty of controlling factors and the loss of reliability when calculating a margin of error and the specific contribution of individual teachers (Ravitch, 2010). Further, with such high stakes, concern has been raised as to the reliability and validity of tests given to students

and the potential for unethical practices toward which educators and schools may lean in order to keep their positions and funding (Battaglieri & Chatterji, 2010).

Therefore, ratings are subject to bias through leniency, resulting in consistently positive ratings (Alliger & Williams, 1989). The reliability and validity of teacher evaluations as evaluative judgments are subjective and may lead to the “halo effect” (Remmers, 1934). In the halo effect, evaluation ratings can be biased due to “a systematic under- or overestimation of the quality of a performance” (Bechger, Maris, & Hsiao, 2010, p. 609) based on an evaluatee’s former ratings or the general impressions made during an observation. These impressions or perceptions allow for varying understandings of a situation and may distort how well a teacher is performing in the eyes of the observer (Gordon, 1999). Further, Strong, Gargani, and Hacifazlioglu (2012) noted that there are cognitive processes related to perception that inhibit an individual from making correct observations due to the amount of information that is being dealt with at a given time. This can lead to a misrepresentation of abilities and effectiveness especially if there are limited opportunities to demonstrate proficiency (Bechger et al., 2010).

Conversely, Sanders & Horn (1994) expressed their belief that despite these types of issues, reliability, validity, confounding variables and those related to student demographics and classroom makeup do not predict or change student achievement in a manner that is equal with teacher effect. At the same time, Corcoran (2010) believed that individual teachers were not the single most important factor for student achievement but that they were merely contributing members along with administrators, other teachers,

curriculum specialists, coaches, and counselors to a team of professionals who work to promote student achievement. This idea was highlighted by Bandura (2000) who indicated that although individuals inherently evaluate success on a personal level, “there is no emergent entity that operates independently of the beliefs and actions of the individuals who make up a social system” (p. 76). Furthermore, in a *New York Times*, article, Dillon (2010) questioned the use of value-added assessments to determine effectiveness, stressing the difficulty in assessing an individual teacher’s effect on student test scores because students might possibly have several teachers who influence their learning in a year’s time.

Owens (2004), in addressing open organizations, wrote that educational systems are open organizations that function with diversity. He believed that the attempt to pinpoint teacher influence was in direct contrast to the theories indicating that the primary focus in education was on the “dynamic interaction of people with varying psychological make-ups” (Owens, 2004, p. 125). Ravitch (2010) saw human relations and the collaboration of stakeholders as the foundation in the development of human capital. Given this, according to Owens, there is an expectation that human resources will have a higher value over time. Additionally, because of the supposed decline in academic success on an international level, job security for teachers has become limited, and commitments to employees have been hindered by economics (Bolman & Deal, 2003).

In the early 20th century, job security was based on adherence to the principles of the scientific method espoused by Frederick Taylor (Marzano et al., 2011). These

principles indicated that efficiency comes from the use of “rigid discipline on the job, concentration on the tasks to be performed with minimal interpersonal contacts between workers, and strict application of incentive pay systems” (Owens, p. 83).

Despite a declining economy, many corporate and organizational entities operate in a manner that requires that “pay should reflect value-added” (Bolman & Deal, 2003, p. 138). In keeping with this philosophy, the Obama administration has indicated that new systems of teacher and principal evaluation are meant to “support ambitious efforts to recruit, place, reward, retain, and promote effective teachers and principals and enhance the profession of teaching” (U.S. Department of Education, 2010, p. 4). Still, a study conducted through the National Center on Performance Incentives indicated that the implementation of a value-added system of assessment that utilized “merit pay” to reward teachers for student test score growth did not work to improve educator effectiveness (Springer et al., 2010). It is also unclear how to determine the appropriateness of offering bonuses to teachers with the highest student gains when there are some teachers who teach highly motivated and accomplished students that show limited gains in comparison to other students (Dillon, 2010).

In consideration of this idea, Goldhaber and Hansen (2010) concluded that the stability of teacher influence is not consistent enough to determine effectiveness. Theoretically, this concept is comparable to the Heisenberg “Uncertainty Principle” as found in research related to quantum physics which indicated that an object or individual’s position and movement or growth cannot be determined exactly through any measure as there are uncertainties that result from events (Hilgevoord & Uffink, 2001).

The principle also indicated that there is a limited understanding of what is perceived in the world due to unpredictability which is inherent in every process or relationship (Hilgevoord & Uffink, 2001). Soar and Soar's 1975 findings hold true in the 21st century. One of the primary issues surrounding teacher evaluations based on assessment has been and continues to be that students have unpredictable and varying motivations, achievement levels, and interests that impact their learning. In this regard, Corcoran (2010) aptly stated, "value-added assessments. . . are at best a crude indicator of the contribution that teachers make to their students' academic outcomes" (p. 28). Ravich (2011) elaborated: "Overemphasis on test scores to the exclusion of other important goals of education may actually undermine the love of learning and the desire to acquire knowledge, both necessary ingredients of [student] intrinsic motivation" (p. 229).

In 2010, the National Council on Teacher Quality reported that Florida had a "C" average in the areas related to teacher policy. The report also indicated that although the state had become more successful in enlarging the teacher selection pool, it was only average in its ability to: (a) prepare new teachers; (b) identify and retain effective teachers; and (c) exit ineffective teachers. The Council indicated that the two issues topping the list for critical attention were: teacher tenure tied to teacher effectiveness and the dismissal of teachers who were identified as ineffective outside of the need to release teachers under RIF's regulations (NCTQ, 2010).

Highlighted in Florida Senate Bill 736 § 12 was the clause that allowed administrators to bypass union collective bargaining if a teacher receives an "unsatisfactory" rating for two consecutive years. With these changes, it is possible that

teachers may decide to “deselect” themselves from the profession of teaching (Hanushek, 2011). Also, there may be tenured teachers who will decline possible salary increases through value-added assessments and performance pay in favor of the expected safety of tenure even if their students show academic growth or mastery of basic skills and standards (Matula, 2011).

Although tenure and the termination of teachers are contentious issues, sometimes school districts must downsize due to economic constraints. In doing so, school districts must comply with Reduction-In-Force (RIF) federal regulations, provided by the U.S. Office of Personnel Management (OPM) and outlined in section 12 of the Veterans' Preference Act of 1944 and other statutes (OPM, 2011). There are four basic retention components that an agency (in this case a school district) must provide for in the case of a reduction in force. These components include: tenure of employment, i.e., type of appointment; Veterans' preference; total creditable federal civilian and uniformed service; and performance ratings (OPM, 2011). Also, according to federal law, employees receive or lose retention service credit under the RIF regulations for performance based assessment upon the average of their last three annual performance ratings of record received during the four-year period prior to the date of the RIF. The proper use and administration of evaluations is the one variable that could identify professional needs of employees and eliminate the need for the use of the regulations when and if a reduction in force is necessary (OPM, 2011).

Hinchey (2010) proclaimed that the driving force for eliminating the issues related to tenure and reduction in force is a teacher evaluation system that is rigorous,

streamlined, transparent, and fair. Further, reform and improvements are only made when there is a school-wide focus on student data to drive instruction. An additional component to improve instruction and the growth of teachers is to have collaborative professional development by and for teachers and administrators to determine professional areas needing to be changed (Kwalwasser, 2011).

Performance Evaluations and Systems

The Evaluation of Teacher Performance

There are two types of evaluations, formative and summative, which provide information to stakeholders in an evaluation process (Fitzpatrick et al., 2011). In the case of teacher evaluations, formative assessment is comprised of a series of frequent diagnostic evaluations used to support a teacher's growth in the profession (Fitzpatrick et al., 2011). These evaluations included classroom walkthroughs, lesson plan reviews, conferences, and artifacts of teaching aimed at improving the skills of the teacher (Hollifield, 2012). In contrast, summative assessments, the standard of evaluation pre Senate Bill 736, are judgmental, infrequent evaluations used to make high stake decisions about the effectiveness of a teacher's overall practice (Fitzpatrick et al., 2011).

In order to bring success to Florida's educational systems, Florida Administrative Code Rule 6A-5.030 Instructional Personnel and School Administrator Evaluation Systems indicated that "Evaluation systems are to be designed and implemented to support continuous improvement of student learning growth by improving the quality of

instructional, administrative, and supervisory services in the public schools in the state” (Stewart, 2012, p. 1). This system must also include additions or changes to the research framework of the evaluation, to the inclusion of formative and summative assessments, scoring, rubrics, processes for observation or feedback, and notification to employees (Stewart, 2012).

In discussing performance evaluation, Rebore (2011) stated that the rationale for performance evaluation was to measure a selected employee’s performance against criteria established in the job description (Rebore, 2011). Moreover, performance evaluations are used to determine if an employee is meeting the needs and objectives of the school district as outlined in their job description (Rebore, 2011). At the same time, an evaluation allows for reflection on performance and if need be an opportunity for administrators to assist the employee in making adjustments to their performance or to begin the termination process (Young & Castetter, 2004).

Although an outcome of an evaluation may be termination or a change in an employee’s duties, a performance evaluation is meant to be seen as a positive process that also promotes growth, identifies professional needs, and determines if an employee should be promoted to positions that require specific skills that the employee may have demonstrated (Rebore, 2011). With proper evaluation processes, conversations between the employee and an administrator can determine the success of the employee in meeting the goals of the school and the school district (Young & Castetter, 2004).

For the most part, “95% of all employees perform well [at least within the parameters of the system] and only 5% of the workers cause significant problems in the

workplace” (Rasch, 2004, p. 408). Thus, it can be assumed that most teachers are doing what is expected of them; they are teaching. This is significant because it is in direct contrast to the rhetoric related to the mediocre performance of teachers offered by Hanushek in 2010.

Improvement to the educational process is predicated upon the academic achievement of students. Thus, as researchers have shown that teachers have the greatest effect on students’ academic growth, a system must be put in place to evaluate the effect of individual teachers on student achievement (Sanders & Horn, 1994). Henneman and Milanowski (2004) have considered aspects of such a system and have recognized that appraisals of a teacher’s performance should include: evaluation, feedback and/or coaching, goal setting, and remediation or termination depending on the attainment of goals. In this process, administrators can improve the quality of their relationships with employees by maintaining professionalism, listening, being considerate, and communicating objectives on a continual basis (Office of Human Resources, 2004). Additionally, there should be standards in place by which to assess an employee and goals and expectations about what should be accomplished or changed.

Because specialized knowledge does not automatically translate to effective classroom performance, it is necessary to assess not only what a student knows and is able to do, but what a teacher knows and can do (Marzano et al., 2011). Milanowski, Prince, & Koppich (2007) noted that in order to determine teacher performance appropriately, three measurements were needed to determine if competencies were being

met by a teacher: (a) formal observations; (b) teaching artifacts; and (c) classroom-walkthroughs.

Danielson (2010) emphasized that contemporary teacher evaluation systems should be engaging and focused on what is important--teaching and learning. As a matter of practice, instructional elements such as how well a teacher plans learning activities, maintains a positive classroom environment, communicates with students, and provides productive feedback are necessary conversations between teachers and administrators to promote teacher growth and student achievement (Danielson, 2010; Marzano, 2007). Feedback should also be provided in evaluations by including activities outside the classroom such as advising student groups, taking part in committees and other school-wide work, and communicating with parents (Hinchey, 2010).

Scriven (1981) listed six factors that must be considered when observing classrooms. These include: (a) change in teaching practice due to visit, (b) unreliable samples, (c) personal bias, (d) observers who do not think like students, (e) style preferences of the evaluator, and (f) time in making visits (p. 61). Numerous researchers have added to the discussion of classroom observations and how to make them meaningful (Beers, 2004; Keesor, 2005; Peterson, 2004).

In order to alleviate any changes to the dynamics of the class during an observation, Peterson (2004) suggested that the observer become part of the class. In Carolyn Keesor's (2005) experimental work on how the visibility of the administrator affects student behavior, there were several positive outcomes that occurred due to an administrator being in the classroom. Among these were, improved teacher performance,

communication, and collaboration beyond typical performance appraisals. Beers (2004) identified a classroom walk-through (CWT) process with a checklist that specifically targeted student behaviors in the classroom, not the teachers. In having a checklist of how students were behaving by “wandering, watching, working, learning” (Beers, 2004, p. 30) in class, a principal was able to give teachers feedback by which to recognize how “to identify the pattern [in the classroom] and see whether that was the best way for the lesson to be organized” (Beers, 2004, p. 33). On the same topic, Peterson (2004) advised that, “[a] thorough checklist of behaviors, competencies, or duties is of little use in inexperienced hands” (p. 61). Similarly, there is little value to performance evaluation by those who base an evaluation of performance unconsciously on impressions (Bechger et al., 2010). Ginsberg & Murphy (2002) indicated that CWTs were meant to provide support and that “frequent, brief, unscheduled walk-throughs can foster a school culture of collaborative learning and dialogue” (p. 34).

Changes in Teacher Performance Evaluation Systems

The systems that have emerged in the first decade of the 21st century are different from the systems adopted prior to the passage of Senate Bill 736 where the primary appraisal processes were basic rating systems (Ashburn, 2001). The Florida Performance Measurement System (FPMS) aligned to student performance standards was the system used prior to Marzano’s model (Ashburn, 2001). These systems were antiquated and used without real definition, interpretation, or impact (Mahar & Strobert, 2010). In a

Memorandum to Florida District School Superintendents, the Director of the Florida Department of Education's Division of Professional Educators indicated that:

Though some Florida school districts use the FPMS program as part of their state-approved performance appraisal system, the FPMS program alone does not satisfy statutory requirements for school district performance appraisal systems.

Therefore, the Department is transferring the administration of this program to the school district level, enabling local systems to use the program if appropriate (Ashburn, 2001, para. 1).

What this memorandum revealed was that the checklist, ranking, and rating system associated with FPMS was neither completely aligned to the Florida Statutes nor effective in appraising teacher performance.

Current evaluation models encompass a common language of instruction as well as checklists (rank and rating systems) and walk-through elements. Furthermore, they include elements not observable in a classroom related to professional and collaborative activities, planning, and reflection (Danielson, 2010; Marzano, 2007).

Rebore (2011) discussed the complexities associated with performance evaluation. Though school districts must consider performance evaluations of employees as positive and aimed at improving teachers, personnel must also be cognizant of the expectations that the evaluation process provides a fundamental tool in assessing if a teacher should be retained and the pay that the employee should receive (Rebore, 2011).

Goe, Holdheide, & Miller (2011) cited primary elements that school districts needed to address as they began the process of policy reform with respect to the

performance evaluations of teachers. They were: (a) procedures, (b) evaluation instruments, (c) method for conducting evaluations, and (d) the legal issues that may arise in the process.

Florida's Model Evaluation Systems

In Florida, the state model of teacher evaluation is Marzano's Causal Teacher Evaluation Model. However, although this model was considered as the approved model by the State of Florida, school districts in the state had the option of adopting, modifying, or developing their own models as long as the developed plan was based on current research and the Florida Educator Accomplished Practices (FEAPs) (Florida Department of Education, 2012e).

The FEAPs are core standards for educators as indicated through Florida State Rule 6A-5.065. These standards are based upon three foundational principles:

1. The educator sets high expectations for students.
2. The educator has a comprehensive understanding of the subject being taught.
3. The educator exemplifies the standards of the profession. (Florida Rule 6A-5.065 (1), 2012, p. 1).

Additionally, these principles should be applied through use of specific standard practices that "promote a common language and statewide understanding of the expectations for the quality of instruction and professional responsibility" (Florida Rule 6A-5.065 (2), 2012, p. 1). These quality instructional practices have been organized using the following five categories: (a) instructional design and lesson planning, (b) the

learning environment, (c) instructional delivery and facilitation; (d) assessment, and although not instructionally oriented (e) professional responsibility and ethical conduct.

According to the Florida Department of Education (2012e), 31 school districts in Florida have selected to use the state adopted Marzano Model, 14 school districts have selected the Danielson Framework for Teacher Evaluation, 14 school districts have elected to use Educational Management Consulting Services (EMCS), and 12 school districts chose to create hybrid or self-created systems (See Appendix B).

Of particular interest in this study is the Marzano Causal Teacher Evaluation Model as it was this system that was implemented during the 2011-2012 school year in the target school district and was the focus of this research. However, in order to understand the elements found in the Marzano Model, it is important to first review the other models for similarities and differences (a) Danielson's Framework for Teacher Evaluation, (b) Educational Management Consulting Services, and (c) Hybrid or self-created systems.

Danielson Framework for Teacher Evaluation

The Danielson Framework for Teacher Evaluation is the model most similar to the Marzano Model through the inclusion of "observation and evaluation instruments, crosswalks that identify alignment with the core standards and expectations, rubrics that illustrate criteria for proficiency levels, performance ratings, and illustrative scoring and weighting methods that conform to the requirements of state statutes and rules" (Florida Department of Education, 2012e). Also, there were similarities between the Marzano

Model and Danielson Framework with respect to domain structures and expectations (Marzano et al., 2011).

The difference between Danielson's model and Marzano's model lies in the use of "causal" in the Marzano Causal Teacher Evaluation Model (Marzano et al., 2011). The inclusion of the term, causal, implies that there are specific strategies and teacher behaviors that have a direct relationship with student achievement (Marzano et al., 2011). With respect to this, Danielson's framework provided examples of proficiency without indicating specific classroom strategies (Danielson, 2011).

Educational Management Consultant Services (EMCS)

The Educational Management Consultant Services (EMCS) evaluation system was made up of dimensions which include: "Planning/Preparation, Classroom Management, Assessment Evaluation, Direct Instruction, Technology, Collaboration, Professional Learning, and Professional Responsibilities" (Educational Management Consultant Services (EMCS, 2011, p. 133). The system also provided correlation information to Marzano's Model and Danielson's Framework. The primary focus and difference in this system was the creation of job descriptions with measurable criteria which were meant to lead to an outline of specific growth and development for the employee (Educational Management Consultant Services (EMCS), 2011).

Hybrid or Self-created Evaluation Systems

In a hybrid or self-created evaluation system, such as found in Brevard County, components were based on the FEAPs and included dimensions which are similar to the domains found in Marzano's and Danielson's Models. These included: "Instructional Design and Lesson Planning, learning environment, instructional delivery and facilitation, assessment, professional responsibility and ethical conduct, relationship with students, relationships with parents and community" (Brevard County Public Schools, 2011, p.16). However, a self-created model did not include specific classroom strategies, as found in Marzano, but identified specific behaviors that indicated success in the dimension through the use of rubrics (Brevard County Public Schools, 2011).

Marzano Causal Teacher Evaluation System

One of the primary elements of the Marzano Model is the use of a common language of instruction among teachers and administrators. A common language is meant to serve as a springboard for discussions which shape a teacher's "understanding of the complexity of teaching, promote clarity in professional communications, and enhance the quality of feedback on improvement of instructional proficiency in delivery of a standards-based curriculum" (Florida Department of Education, 2012d, p. 5). It is also expected that based on conversations about teaching, teachers will engage in deliberate practice or focused implementation of teaching strategies and techniques (Marzano et al., 2011).

The Marzano model, displayed in Appendix C, consists of four domain categories: (a) classroom strategies, (b) preparing and planning, (c) reflecting on teaching, and (d) collegiality and professionalism (Marzano, 2011). The domains are described in the following paragraphs with specific attention to Domain 1 (Marzano et al., 2011).

As the primary domain of the model, Domain 1 contains two-thirds of the 60 elements used to evaluate teachers (Marzano et al., 2011). The 41 classroom strategy elements in Domain one were researched through experimental studies and determined to affect student achievement (Haystead & Marzano (2009). There are superordinate and subcategories within Domain 1. Superordinate categories are the learning goals and subcategories are the design questions. Superordinate categories are the lesson segments: routine, content, and enacted on the spot (Marzano et al., 2011). There are also 10 design questions which are included from Marzano's *Art and Science of Teaching* (2007), nine of which have been embedded in the lesson segments of Domain 1 (Marzano, 2009). These design questions are meant to serve as reminders for teachers to outline specific classroom strategies and behaviors so as to focus on and build deliberate practice (Marzano et al., 2011).

The implementation of this model in the State of Florida is being accomplished in phases. In Phase 1, which occurred in 2011-2012, school districts implementing the Marzano Causal Teacher Evaluation were expected to familiarize teachers and administrators with the system. Teachers were required to select and focus on only one

or two elements of Domain 1 for the purpose of evaluation by administrators (Learning Sciences International, 2011).

Although teachers only focused on one or two elements for purposes of observation in 2011-2012, having a model with 60 elements was daunting for some teachers. Postal's (2012) comments in *The Orlando Sentinel* raised questions regarding the quick implementation, the limited understanding of the model by teachers and how administrators could effectively assess teacher performance using a system they were still learning themselves. Baeder (2012), in his blog on edweek.org, indicated concern over the marketing of the Marzano system, the limited research on its implementation, and the determination that effective teaching is based primarily on strategies and behaviors. Despite these issues and teacher frustration with learning the new system, the majority of comments indicated that the model is comprehensive and has merit in identifying best practices to promote student learning in the profession of teaching (Postal, 2012).

There have been questions surrounding the reliability and validity in determining quality of teaching and use of a growth-based teacher evaluation model such as Marzano's. Still, the model is expected, along with value-added assessments of education professionals, to serve as a starting point for using observable data of teaching practice to assess teachers in the classroom as well as identify trends over extended periods of time (Rivkin, 2007).

The Impact of Teachers on Student Achievement

It is because teachers have been expected to have the greatest effect on student achievement (Marzano et al., 2011) that interest in evaluating performance and ensuring high quality teachers in classrooms has gained such widespread attention. This concept has been highlighted in several studies and by President Barack Obama who indicated that,

We know that from the moment students enter a school, the most important factor in their success is not the color of their skin or the income of their parents--it is the teacher standing at the front of the classroom (U.S. Department of Education, 2010, p. 1).

Teachers influence student academic success by serving as the primary taskmasters who focus lessons, adhere to schedules, offer student feedback that is task specific, and model appropriate behaviors (Squires, 1980).

At the same time, it has been argued that there have been numerous variables that may not be accounted for in teacher evaluations. Given the numerous performance assessment methods used to evaluate teachers across school districts, states, and the country, it has been difficult to determine teacher effect on student achievement (Ravitch, 2010). As early as 1977, Caldwell called for attention to teacher behaviors. He posited that, "teacher behaviors can be defined and measured in terms of observable teacher behaviors" (Caldwell, 1977, p. 3), and that these observable behaviors impacted student perceptions of the learning environment and ultimately affected their achievement.

Similarly, in a review of performance indicators, accountability ratings, and student achievement, Jackson and Lunenberg (2010) indicated that “teacher behaviors, as well as specific teaching principles and methods, make a difference with regard to student achievement” (p. 39). Jackson and Lunenberg’s research identified student perceptions of academic achievement by racial subgroups. Students attested to teacher influence on their performance and willingness to meet or exceed standards. Positive teacher behaviors were identified by students who enjoyed teachers using varying assessment tools, offering feedback and opportunities to revise work, being knowledgeable about content, and holding high expectations. However, limited consistency at high schools across content areas has made it difficult to determine precisely which teacher characteristics are important when predicting increases in student performance on standardized tests (Phillips, 2010).

Research findings reported by Jimmieson, Hannam, & Yeo (2010) showed that teachers were an important factor in how students perceived their educational environment and how well they performed. Students who participated in the research indicated that teachers contributed to their success through modeling positive attitudes towards content and study, establishing positive values for education and showing their commitment to continued learning and academic achievement. Also, according to research referenced by Rakoczy, Klieme, Bürgermeister, and Harks (2008), effective teachers have good relationships with students and respond to students’ needs. Though numerous researchers have indicated that teachers have the greatest effect on student achievement (Kane, Taylor, Tyler, & Wooten, 2011), academic success is a student

construct which has many levels and is made up of the varied skills, attitudes and behaviors students possess.

Researchers such as Strong et al. (2011) have also discussed the differences in effective and less effective teachers. The differences were found in how teachers handle classroom management and their personal qualities, not instruction (Strong et al., 2011). In contrast, however, Haystead and Marzano (2009) identified teacher behaviors that support teacher effectiveness and student achievement. These behaviors were primarily focused on classroom practices. The strategies that produced the greatest effect based on meta-analytic studies were setting goals and objectives and tracking student progress in the content (Haystead & Marzano, 2009). Jackson and Lunenberg (2010) supported Haystead and Marzano's findings, adding giving students praise, reinforcing student effort, questioning, summarizing, and note taking to the list of effective strategies. However, they added that "regardless of whether or not teachers teach to standards, these classroom practices work well" (Jackson & Lunenberg, 2010, p. 40). Ravich (2010) reminded researchers continuing to seek out specific behaviors and indicators of teacher performance, that there is "no silver bullet, no magic feather, no panacea that will miraculously improve student achievement" (p. 229).

Table 3 presents the sources used in reviewing the literature on educational policies related to teacher evaluation and student achievement. Authors/researchers and their topics of interest are displayed chronologically beginning in 1934 and continuing up to the time of the present study.

Table 3

Literature Review Sources: Educational Policies Related to Teacher Evaluation and Student Achievement

Year	Author(s)	Topic
1934	Remmers, H. H.	Halo effect and teacher evaluations
1989	Alliger, G. M., & Williams, K. J.	Halo effect
1999	Gordon, J.	Perceptions in evaluations
2000	Bandura, A.	Collective efficacy
2000	Ogawa, R. T., & Collom, E.	Performance indicators
2002	Brown, J.	Teacher training
2002	Feeley, T. H.	Halo effect
2004	Heneman, H. G., & Milanowski, A. T.	Teacher competencies
2004	Rasch, L.	Performance appraisals
2004	Young, I. P., & Castetter, W. B.	Human resources in education
2005	Craig, J., Butler, A., Cairo, L., Wood, C., Gilchrist, C., Holloway, J.	Case study high performing schools
2007	Marzano, R.	Teacher effectiveness
2007	Milanowski, A., Prince, C., & Koppich, J.	Education compensation
2009	Haystead, M. W., Marzano, R. J.	Meta-analytic studies on instructional strategies
2009	National Comprehensive Center for Teacher Quality	Teacher effectiveness policy
2010	Bechger, T., Maris, G., & Hsiao, Y. P.	Halo effect
2010	Danielson, C.	Teacher evaluation processes
2010	Hinchey, P. H.	Teacher assessment and policy changes
2010	Stumbo, C., & McWalters, P.	Challenges to teacher evaluation processes
2011b	American Institutes for Research	Teacher evaluation models review
2011	Brevard County Public Schools	Teacher evaluation model
2011	Danielson, C.	Teacher evaluation framework
2011	Educational Management Consultant Services (EMCS)	Teacher evaluation model
2011	Kane, T. J., Taylor, E. S., Tyler, J. H., & Wooten, A. L.	Teacher practice and student achievement
2012	Florida Department of Education	Evaluation alignment
2012	Hollifield Clark, S.	The Marzano evaluation model
2012	Shakman, K., Riordan, J., Sanchez, M.T., DeMeo, C. K., Fournier, R., & Brett, J.	Teacher evaluation systems
2012	Strong, M., Gargani, J., Hacifazlıoğlu, Ö.	Evaluator cognitive processes and perceptions

Summary

This chapter was organized to provide a review of the literature and research related to reform efforts aimed at changing the systems and methods by which teachers are evaluated in secondary schools. Literature and research related to: (a) reform efforts, (b) legislation, (c) educational policies, and (d) performance evaluations and systems were reviewed in order to outline the historical and conceptual issues that surround current teacher evaluation reforms and impact student achievement in the United States. Specific attention was devoted to the changes that have taken place in Florida in the first decade of the 21st century.

Since the 1960s, researchers, politicians, scholars, and economists have highlighted the need for reform to the educational system in the United States in order to improve teacher quality and student achievement and compete in a global economy in the 21st century (National Commission on Excellence in Education, 1983; NSEA, 1965; NCLB, 2002; U.S. Department of Education, 2010). Because students in the United States have fallen short in their performance on international and national tests, the federal government has created mandates and provided incentives through competitive grants such as RTTT to foster higher achievement by the nation's students (Miller & Warren, 2011). In turn, states such as Florida have enacted legislation requiring school districts to change their systems of evaluating teachers to include the use of student assessment test data and value added measures to determine teacher effectiveness (Florida Senate Bill 736, 2011).

The use of value-added measures associated with student achievement data to determine teacher effectiveness has been the focal point for rhetoric and debate surrounding educational reform (Springer et al., 2010). The inclusion of student achievement data in the teacher evaluation process has led researchers and scholars to raise questions regarding the purpose and motives of policy changes to the system of teacher evaluation. These questions have led to debates and controversy regarding issues such as the halo effect, value-added assessments, tenure, teacher effect, and student achievement (Feeley, 2002). Although researchers have indicated that teachers influence student performance, there continues to be disagreement over the extent of the effect and the specific methods used to produce improved academic success of students (Jackson & Lunenberg, 2010).

CHAPTER 3 METHODOLOGY

Introduction

This chapter describes the methodology and procedures employed in analyzing the data collected to answer the research questions which guided this study. Included is a restatement of the purpose of the study and the research questions and hypotheses. The population, sources of data, and methods and procedures used to collect and analyze the data are described in detail.

Purpose of the Study

The purpose of this study was to examine the initial year of implementation of the Marzano Causal Teacher Evaluation Model tool as it is related to student achievement in a large suburban school district in Central Florida. The aim of the study was to examine the relationship, if any, between teacher evaluation and student achievement.

Research Questions and Hypotheses

The following four research questions and corresponding null hypotheses were used to guide this study.

1. To what extent, if any, is there a relationship between 9th-grade high school mean student developmental scale scores on FCAT 2.0 Reading and the school-wide mean instructional practice score of teacher performance as measured by Marzano's Causal Teacher Evaluation at nine high schools in a large suburban school district?

H₀₁. There is no statistically significant relationship between 9th-grade high school mean student developmental scale scores on FCAT 2.0 Reading and the school-wide mean instructional practice score of teacher performance as measured by Marzano's Causal Teacher Evaluation at nine high schools in a large suburban school district?

2. To what extent, if any, is there a relationship between 10th-grade high school mean student developmental scale scores on FCAT 2.0 Reading and the school-wide mean instructional practice score of teacher performance as measured by Marzano's Causal Teacher Evaluation at nine high schools in a large suburban school district?

H₀₂. There is no statistically significant relationship between 10th-grade high school mean student developmental scale scores on FCAT 2.0 Reading and the school-wide mean instructional practice score of teacher performance as measured by Marzano's Causal Teacher Evaluation at nine high schools in a large suburban school district?

3. To what extent, if any, is there a relationship between 9th-grade high school mean student developmental scale scores on End-of-Course Algebra 1 assessments and the school-wide mean instructional practice score of teacher performance as measured by Marzano's Causal Teacher Evaluation at nine high schools in a large suburban school district?

H₀₃. There is no statistically significant relationship between 9th-grade high school mean student developmental scale scores on End-of-Course Algebra 1

assessments and the school-wide mean instructional practice score of teacher performance as measured by Marzano's Causal Teacher Evaluation at nine high schools in a large suburban school district?

4. Which of the variables, student growth score or teacher years of experience are most influential in predicting a teacher's instructional practice score?

H₀₄. Neither student growth score nor teacher years of experience has a relationship with a teacher's instructional practice score.

Population

The population for the research was 9th and 10th grade students and all teachers assigned to teach at one of nine high schools in a large suburban school district in Central Florida. The school district examined in this study had ten high schools at the time of the study. However, one high school was a virtual school and did not meet the requirements of a brick and mortar school. Therefore, the virtual school was excluded from the population, and data for it were not analyzed in this study.

According to the Florida Department of Education statistics (2012f), the school district's 9th grade student demographics for the Reading FCAT 2.0 during the 2011-2012 academic year were as follows: total population of students 4,021; White Non-Hispanic 1,076 (26.8%); Black or African American Non-Hispanic 479 (11.9%); Hispanic/Latino 2,230 (55.5%); Asian 107 (2.7%); American Indian/Alaskan Native 28 (0.7%); Native Hawaiian or Other Pacific Islander 3 (0.1%); Multiracial 72 (1.8%); and Unknown Race/Ethnicity 4 (0.1%). There were 1,991 (49.5%) females, 2,028 males (50.4%), and

two students whose gender was unknown. There were 424 (10.7%) students who received Exceptional Student Education (ESE) services due to a disability; and 426 (10.6%) who were English Language Learners (ELL). Table 4 presents the ninth grade student demographic data for the Reading FCAT 2.0 during the 2011-2012 academic year in the district being reviewed in this study.

Table 4

Student Demographics for Florida Comprehensive Assessment Test (FCAT) 2.0 Grade 9 Reading (N = 4,021)

Descriptors	Students	
	<i>f</i>	Percentage
Race/Ethnicity		
White, Non-Hispanic	1,098	27.3
Black or African American, Non-Hispanic	479	11.9
Hispanic/Latino	2,230	55.5
Asian	107	2.7
American Indian or Alaska Native	28	0.7
Native Hawaiian or Other Pacific Islander	3	0.1
Multiracial	72	1.8
Unknown Race/Ethnicity	4	0.1
Gender		
Female	1,991	49.5
Male	2,028	50.4
Unknown	2	-
Subgroups		
Exceptional Student Education (ESE)	429	10.7
English Language Learner (ELL)	426	10.6

The school district's 10th-grade student demographics for the Reading FCAT 2.0 during the 2011-2012 academic year were as follows: total population of students 3,572; White Non-Hispanic 995 (27.9%); Black Non-Hispanic 424 (11.9%); Hispanic/Latino 1,938 (54.3%); Asian 103 (3%); American Indian/Alaskan Native 14 (0.4%); Native Hawaiian or Other Pacific Islander (7) (0.2%); and Multiracial 91 (2.5%). There were 1,776 (49.7%) females and 1,796 males (50.3%). There were 343 (9.6%) students who received exceptional student education (ESE) services due to a disability; and 362 (10.1%) who were English Language Learners (ELL). Table 5 presents the 10th-grade

student demographic data for the Reading FCAT 2.0 during the 2011-2012 academic year in the school district that was reviewed in this study.

Table 5

Student Demographics for Florida Comprehensive Assessment Test (FCAT) 2.0 Grade 10 Reading (N = 3,572)

Descriptors	Students	
	<i>f</i>	Percentage
Race/Ethnicity		
White, Non-Hispanic	995	27.9
Black or African American, Non-Hispanic	424	11.9
Hispanic/Latino	1,938	54.3
Asian	103	2.9
American Indian or Alaska Native	14	0.4
Native Hawaiian or Other Pacific Islander	7	0.2
Multiracial	91	2.5
Gender		
Female	1,776	49.7
Male	1,796	50.3
Special Services		
Exceptional Student Education (ESE)	343	9.6
English Language Learner (ELL)	362	10.1

According to the Florida Department of Education statistics (2012b), the school district's ninth-grade demographics for the Algebra 1 End-of-Course (EOC) Examinations during the 2011-2012 academic year were as follows: total population of students 2,305; White Non-Hispanic 488 (21.2%); Black or African American Non-Hispanic 311 (13.5%); Hispanic/Latino 1,405 (61.0%); Asian 42 (1.8%); American

Indian/Alaskan Native 14 (0.6%); Native Hawaiian or Other Pacific Islander (42) (1.8%); Multiracial 42 (1.8%). There were 1,080 (46.9%) females and 1,225 (53.1%) males. There were 338 (14.7%) students who received exceptional student education (ESE) services due to a disability; 397 (17.2%) who were English Language Learners (ELL). Table 6 presents the ninth-grade student demographic data for the Algebra 1 EOC during the 2011-2012 academic year in the school district being reviewed in this study.

Table 6

Student Demographics for Grade 9 Algebra 1 End-of-Course (EOC) Examinations (N = 2,305)

Descriptors	Students	
	<i>f</i>	Percentage
Race/Ethnicity		
White, Non-Hispanic	488	21.2
Black or African American, Non-Hispanic	311	13.5
Hispanic/Latino	1,405	61.0
Asian	42	1.8
American Indian or Alaska Native	14	0.6
Native Hawaiian or Other Pacific Islander	42	1.8
Multiracial	3	0.6
Gender		
Female	1,080	46.5
Male	1,225	53.7
Subgroups		
Exceptional Student Education (ESE) disability	360	14.7
English Language Learner (ELL)	412	16.8

The student participants in this study were drawn from nine high schools in Grades 9 and 10 within the school district who took the FCAT 2.0 Reading and Algebra 1 EOC examinations during the 2011-2012 academic year. Students were selected by virtue of participation in testing on FCAT 2.0 and Algebra 1 End-of-Course examinations.

The teacher participants in this study were drawn from all teachers assigned to teach Grades 9-12 at one of the nine high schools within the school district for the 2011-2012 academic year that were included in the study. The school district's high school teacher demographics were derived using school improvement plans for the 2011-2012 academic year obtained from the Florida Department of Education Bureau of School Improvement website. Table 7 contains information as to the total number of instructional staff (896) and years of experience as follows: (a) less than one year, 46 (5.13%); (b) 1-5 years of experience, 260 (29.02%); (c) 6-14 years of experience, 351 (39.17%); and (d) 15+ years of experience, 229 (25.56%). Teachers' education and professional development included: advanced degrees, 376 (41.96%); highly qualified teachers, 858 (95.76%); reading endorsed teachers, 89 (9.93%); National Board Certified Teachers, 34 (3.79%); ESOL endorsed teachers, 319 (35.60%).

Table 7

Teacher Demographics: All High Schools (N = 896)

Descriptor	Teachers	
	<i>f</i>	Percentage
Years of Experience		
Less than 1 year	46	5.13
1-5 years	260	29.02
6-14 years	351	39.17
15+ years	229	25.56
Education/Professional Development		
Advanced degrees	376	41.96
Highly qualified	858	95.76
Reading endorsed	89	9.93
National Board Certified	34	3.79
English Speakers of Other Languages (ESOL) endorsed	319	35.60

Note. Data were obtained from school improvement plans for the nine high schools

Data collected from the school district's Office of Professional Development were redacted due to contractual issues. The data were collected from (a) the teacher Individual Professional Development Protocol and (b) the Marzano Causal Teacher Evaluation Model *i*Observation[®] protocol tool. Permission for use of the Marzano Model is contained in Appendix D. Data indicated the following information: teacher level student growth score, as calculated through VAM or the Individual Professional Development Plan (IPDP); teacher instructional practice score; and teacher final evaluation score, based on the calculation of both student growth score and instructional practice score.

During the 2011-2012 academic year, teachers were evaluated using the Marzano Teacher Evaluation Model and student growth scores. A teacher's summative evaluation was based on 50% of students' FCAT scores or a mutually agreed upon evaluation measure (SDOC, 2011). Within the school district in this study, the use of a separate measure (IPDP pre- posttests) was required to be selected by a teacher who did not teach a state-assessed subject and accounted for 30% of the student growth score. This allowed a classroom teacher to only count 20% of FCAT based calculated VAM scores into the final evaluation score for student achievement. The other 50% of the evaluation was based on all formative observation scores received throughout the school year by observing administrators (SDOC, 2011).

According to the School District of Osceola County [SDOC] & Osceola County Education Association [OCEA] Teacher Contract (2011),

The Teacher Evaluation System (TES) will be made up of two components in school year 2011-2012 for teachers in FCAT grades and subject areas, the score on the Marzano Evaluation Model and the score on the State of Florida's value added tables of student learning growth or a mutually agreed upon evaluation measure. Each teacher will receive an overall rating of Highly Effective, Effective, Needs Improvement (referred to as Developing in the case of teachers in their first three years of employment), or Unsatisfactory based upon the total number of points accrued on the two measures (p. 70).

Instrumentation

The instrument that was used to collect the school-wide mean teacher instructional practice score was the Marzano Causal Teacher Evaluation Model Protocol through *iObservation*®. Under this model, when a teacher is observed, administrators note a level of teacher performance as innovative, applying, developing, beginning, or not using (Learning Sciences International, 2011). At the time of the present study, there was limited information regarding the validity and reliability of the instrument outside of the research based studies (experimental, control, and correlation) conducted through the Marzano Research Laboratory (Marzano, 2011). The Marzano Laboratory provided a document to the school district outlining the research and validation studies on the model (Marzano, 2011), and research continues to be conducted.

Instructional Practice Score

The instructional practice score is a mean total evaluation score comprised of the scores received from an administrator's observations. The data points a teacher received were calculated on a 5 point scale (4 = Innovating, 3 = Applying, 2 = Developing, 1 = Beginning, and 0 = Not Using). The mean score was then categorized using a 4-point scale as required by the Florida Department of Education and Senate Bill 736 (LSI, 2011). The Florida Department of Education scale for instructional practice scores is: 4 = Highly Effective, 3 = Effective, 2 = Needs Improvement or Developing (for beginning teachers), 1 = Unsatisfactory (LSI, 2011). All data points were assigned based on a

teacher's selection of one of the 41 Domain 1: Classroom Strategies and Behaviors elements for year 1 of implementation of the model in the district.

Student Growth Score

The instrument that was used to collect mean student growth score data for teachers in content areas assessed by statewide assessments (e.g., FCAT 2.0 and Algebra 1 EOC) was the student growth on the respective assessments as determined by the use of the VAM model. The VAM calculation is a complex statistical measure that is used to compare student achievement to teacher effect by accounting for student demographic elements and is shown as:

$$y_{ti} = \mathbf{X}_i \boldsymbol{\beta} + \sum_{r=1}^L y_{t-r,i} \gamma_{t-r} + \sum_{q=1}^Q \mathbf{z}_{qi} \boldsymbol{\theta}_q + e_i$$

(American Institutes for Research, 2011a). Although this model's elements were not included in this study due to limitations on the availability of data and contractual agreements within the district, its inclusion in the calculation of the student growth score is addressed due to its use as one of the instruments used to evaluate teachers.

The student achievement results for teachers of subjects and grade levels not measured by the statewide assessment were collected through the Individual Professional Development Plan calculated average of individual teacher pre- and posttests as approved by individual schools (SDOC, 2012b). For this study, the only data available to the researcher was the calculated point total. Specific information related to the tests given to students or specific VAM calculations was not provided. Appendix E contains an

example of the IPDP student growth score calculation form used by teachers not assigned to grade levels and content areas to calculate student growth scores. Once scores were entered into the IPDP system by teachers, they were subject to administrator review. A point total was calculated based on the percentages shown in Table 8.

Table 8

Student Growth Score Calculations for Classroom Teachers in Content Areas Not Assessed on Statewide Assessments

Points	Rationale
4 points	51% to 100% increase in student scores (e.g., greater than one-half of the classroom teacher's students)
3 points	26%-50% increase in student scores (e.g., greater than one-quarter of the classroom teacher's students)
2 points	11% to 25% increase in student scores (e.g., greater than one-tenth of the classroom teacher's students)
1 point	1% to 10% increase in student scores (e.g., greater than none of the classroom teacher's students)
0 points	0% increase in student scores (e.g., none of the classroom teacher's students)

Note. Source of Data was School District of Osceola County (SDOC, 2012b, p. 11).

Threats to the calculation of the Student Growth Score were (a) the validity, (b) reliability, and (c) the rigor of the instrumentation used to calculate and measure student growth (SDOC, 2012b; Shadish & Cook, 2002).

Teachers' Years of Experience

A teacher's years of experience were categorized in order to determine the number of evaluations that a teacher would receive during the year under the new teacher evaluation system. The categories are displayed in Table 9 listed below.

Table 9

Categories: Teachers' Years of Experience

Category	Criteria
1	0-3 years
1b	New to the district after hold harmless
2	4-10 years
3	+10 years
B	Variable not identified

Note. Source: SDOC & OCEA, 2011, p. 71.

It was agreed by the school district and the teacher's union that the first 45 days of the school year would be a hold-harmless period so that teachers and administrators would "gain experience with the observation system and with the exception of those required by statute" (SDOC & OCEA, 2011, p. 71). Teacher coding for years of experience by the school district included teachers who were new teachers to the district (1b) and did not have a 45 day hold harmless agreement outlined in the Memorandum of Understanding between the district and the teacher's union. Reasons for this included teachers hired near the end of the year (V. Costa, personal communication, February 26,

2013). The “B” coding was not an identified variable in the Teacher Contract or Memorandum of Understanding. Based on the categories, or years of experience, as outlined in the Teacher Contract and Memorandum of Understanding, administrators were provided with a schedule for administering teacher observations. Table 10 outlines the schedule for providing observations to teachers based on years of experience.

Table 10

Schedule of Administrator Observations for Teachers by Categories

Observations	Teacher Categories (Years of Experience)			
	I (0-3)	Struggling	II (4 or more)	III (10 or more)
Formal	2	2	1	1
	Additional Option, See Below	Additional Option, See Below	Additional Option, See Below	
Informal (Announced or Unannounced)	2	2	1	1
	Additional Option, See Below	Additional Option, See Below	Additional Option, See Below	

Note. Category I and struggling teachers may benefit from additional classroom visits. The recommended observation schedule suggests—

- 4 announced Formal observations for Category I, 5-9 for Struggling Teachers, 2 for Category II, and 1-2 for Category III;
- 5 announced or unannounced Informal Observations for Category I, 5-9 for Struggling Teachers, 2 for Category II, and 1-2 for Category III;
- Twice monthly Classroom Walkthroughs for Category I and Struggling Teachers, Monthly for Categories II and III. Source: SDOC & OCEA, p. 71

Note. Source: SDOC & OCEA, p. 71.

The Final Teacher Evaluation Score

The final teacher evaluation score in the data set provided by the district represented an average between the student growth score, the Marzano Evaluation System summative instructional practice score, and either Reading, Mathematics, or Combined Reading and Mathematics VAM scores. Given the variability of VAM scores for individual teachers and the limitations of the availability of data to the researcher due to contractual agreements, the final evaluation score could not be used in this study.

Reading FCAT 2.0

The Reading FCAT 2.0 was the instrument used to determine student achievement in reading. During the 2011-2012 academic year, the test was administered to ninth-grade students through a paper and pencil format. The test was administered to 10th-grade students through an online format. According to the Florida Department of Education (2012c), the test items were reviewed during test development by content specialists for quality and appropriateness. Furthermore, educators and Florida citizens met to review the validity of specific test items to measure Reading NGSSS benchmarks. Additionally, reviews were made for bias and sensitivity of test items. The State of Florida field tested the Reading FCAT 2.0 to determine the reliability of the test prior to student testing.

Student achievement on the FCAT 2.0 Reading is based on scale scores. In order for a student to pass the examination, a scale score must be met. Students who entered

ninth grade in 2010-2011 needed to score at least 245 or higher on the 10th grade FCAT 2.0 Reading in order to be considered proficient and meet the graduation requirement (Florida Department of Education, 2012h). Table 11 outlines the specific scale scores needed to be considered proficient on the FCAT 2.0 Reading examination.

Table 11

Florida Comprehensive Assessment Tests (FCAT) 2.0 Reading Developmental Scale Scores (178-302)

Grade	Levels of FCAT 2.0 Reading Scale Scores				
	Level 1	Level 2	Level 3	Level 4	Level 5
9	178-221	222-239	240-252	253-267	268-302
10	188-227	228-244	245-255	256-270	271-302

Note. Source: Florida Department of Education, 2012h, p. 6.

Algebra 1 End-of-Course (EOC) Examination

The Algebra 1 EOC was the instrument used to determine student achievement in Algebra 1. During the 2011-2012 academic year, the test was administered to 9th-grade students through an online format. According to the Florida Department of Education (2012a), the test items were reviewed during test development by content specialists for quality and appropriateness. Further, educators and Florida citizens met to review the validity of specific test items to measure Algebra 1 NGSSS benchmarks. Additionally, reviews were made for bias and sensitivity of test items. The State of Florida field tested the Algebra 1 EOC to determine the reliability of the test prior to student testing. Student achievement on the Algebra 1 EOC is based on scale scores. In order for a student to

pass the examination, a scale score must be met. Students who took the Algebra 1 EOC assessment and entered 9th grade in 2011-2012 needed to score at least 399 or higher on the assessment in order to be considered proficient and earn course credit in Algebra 1 (Florida Department of Education, 2012g). Table 12 outlines the specific scale scores needed to be considered proficient on the Algebra 1 examination.

Table 12

Algebra 1 End-of-Course Assessment Scale Scores (325-475)

Levels of Algebra 1 End-of-Course Assessment Scale Scores					
Grade	Level 1	Level 2	Level 3	Level 4	Level 5
9	325-374	375-398	399-424	425-436	437-475

Note. Source: Florida Department of Education, 2012g, p. 9.

Data Collection

Data for the nine schools were obtained from the Florida Department of Education and the School Improvement websites. School level student demographic and performance data on FCAT 2.0 Reading and the Algebra 1 End-of-Course Assessment were found on the Florida Department of Education website on the World Wide Web: <https://app1.fldoe.org/FCATDemographics> and <http://app1.fldoe.org/FEocDemographics>, respectively.

Teacher demographic data were obtained through the Florida Department of Education Bureau of School Improvement website on the World Wide Web: <http://flbsi.org/index.htm>. Teacher performance data were collected from the school district's Office of Professional Development and contained redacted individual and

school level mean data. The researcher collected redacted individual and school level mean teacher performance data due to contractual issues related to using employee identifiable information without extensive oversight that would extend beyond the scope of this study.

The data characterized information for each of the schools in the study as to student and teacher populations for the 2011-2012 academic year. The following data were collected and used in the study:

- Student growth scores as calculated according to the school district's Individual Professional Development Plan (IPDP) protocol tool during the academic year 2011-2012 for each teacher at the nine high schools in the school district.
- Categorized teacher years of experience as determined under the school district's Memorandum of Understanding and Teacher Contract for 2011-2012 for each teacher at the nine high schools in the school district.
- Redacted individual teacher and mean school level instructional practice scores as measured on the Marzano Causal Teacher Evaluation tool during the academic year 2011-2012 for each teacher at the nine high schools in the school district.
- School level teacher demographic data (including but not limited to: number of years teaching, degree level, endorsements and certifications).
- 9th-grade student mean developmental scale scores as identified on FCAT 2.0 Reading assessment and EOCs in Algebra 1 during the academic year 2011-2012 at each of the nine high schools.

- 10th-grade student mean developmental scale scores as identified on FCAT 2.0 Reading assessment during the academic year 2011-2012.
- School level student demographic data (including but not limited to: race, gender, ESE due to disability, and English language proficiency).

For this study, descriptive and inferential statistics were run to determine correlation and test for effect.

Data Analysis

The researcher analyzed demographic data to identify trends for the population of students and teachers at the nine high schools in this study. The descriptive statistical tests were conducted using the following variables: Student demographics for 9th- and 10th-grade students across the nine schools were: (a) race, (b) gender, (c) ESE-disability, and (d) English language proficiency. Teacher demographics across the nine schools (school-wide) included numbers of: (a) total instructional staff, (b) first-year teachers, (c) teachers with 1-5 years of experience, (d) teachers with 6-14 years of experience, (e) teachers with 15+ years of experience, (f) teachers with advanced degrees, (g) highly qualified teachers, (h) reading endorsed teachers, (i) National Board Certified Teachers, and (j) ESOL endorsed teachers.

A Spearman Rho was conducted to examine the relationship between the variables of student achievement school level mean scores in 9th and 10th grades on FCAT 2.0 Reading and 9th-grade student achievement data on Algebra 1 EOCs and the school level mean of teacher performance to determine if a statistically significant

relationship existed. The following specific tests were conducted: (a) scatter plots to graphically determine direction and strength of the relationship being tested, and (b) a Spearman Rho correlation between student achievement level and teacher instructional practice score. The researcher chose to run a Spearman Rho for Research Questions 1 through 3 due to the ordinal nature of the data, the limitations of the sample size, and the exploration of relationships in the study.

The researcher also conducted a Chi-Square analysis on the teacher data received from the school district's Department of Professional Development to answer Research Question 4 in order to identify whether student growth or teacher years of experience were related to instructional practice scores. The variables reviewed through this analysis were the following: (1) student growth score, (2) teacher years of experience, and (3) instructional practice scores.

Summary

The methodology and procedures used to conduct the study have been described in Chapter 3. Specifically described were the statistical procedures used to correlate student mean developmental scale scores on the FCAT 2.0 Reading and Algebra 1 End-of-Course Assessments and school-wide teacher instructional practices scores among nine high schools in a large suburban school district in Central Florida. Additionally, a Chi-Square analysis was conducted to identify if a teacher's student growth scores or years of experience were related to the instructional practice score received during the

2011-2012 academic year. Chapter 4 includes a summary of the data analysis and the presentation of results for the study.

CHAPTER 4 PRESENTATION AND ANALYSIS OF DATA

Introduction

The purpose of this study was to examine the initial year of implementation of the Marzano Causal Teacher Evaluation Model tool as it related to student achievement in a large suburban school district in Central Florida. This chapter is a presentation and analysis of the data used to answer the research questions and hypotheses in this study. Included is a summary of the data analysis and presentation of results.

Descriptive Statistics

Descriptive statistics for 9th- and 10th-grade students who took the FCAT 2.0 Reading assessment are summarized in Tables 13 and 14 respectively. These tables report the mean developmental scale scores and standard deviations for FCAT 2.0 Reading student achievement by demographic characteristic for students in all of the schools identified in this study. However, “no data are reported when fewer than 10 students were tested or when all students are in the same score category” (Florida Department of Education, 2012f, endnote).

Table 13

Student Mean Developmental Scale Scores for Florida Comprehensive Assessment Test (FCAT) 2.0 Grade 9 Reading by Ethnicity, Gender, ESE, and ELL

Descriptor	N	Mean Developmental Scale Score	Standard Deviation
Total Students	4,021	238	
Race/Ethnicity			
White, Non-Hispanic	1,098	244	4.56
Black or African American, Non Hispanic	479	235	1.81
Hispanic/Latino	2,230	245	1.96
Asian	107	245	4.67
American Indian or Alaska Native	28	*	*
Native Hawaiian or Other Pacific Islander	3	*	*
Multiracial	72	237	0.71
Unknown	4	*	*
Gender			
Female	1,991	239	0.63
Male	2,028	238	0.00
Unknown	2	*	*
Subgroups			
Exceptional Student Education (ESE)	429	217	15.15
English Language Learner (ELL)	426	213	17.98

Note. * = suppressed data.

Table 14

Student Mean Developmental Scale Score for Florida Comprehensive Assessment Test (FCAT) 2.0 Grade 10 Reading by Ethnicity, Gender, ESE, and ELL

Descriptor	N	Mean Developmental Scale Score	Standard Deviation
Total Students	3,572	244	
Race/Ethnicity			
White, Non-Hispanic	995	250	4.32
Black or African American, Non Hispanic	424	240	3.07
Hispanic/Latino	1,938	241	2.20
Asian	103	245	0.55
American Indian or Alaska Native	14	*	*
Native Hawaiian or Other Pacific Islander	7	*	*
Multiracial	91	249	3.52
Gender			
Female	1,776	244	0.00
Male	1,796	244	0.00
Subgroups			
Exceptional Student Education (ESE)	343	223	15.11
English Language Learner (ELL)	362	220	17.36

Note. * = suppressed data.

Descriptive statistics for 9th-grade students who took the Algebra 1 EOC assessment are summarized in Table 15. This table reports the mean developmental scale scores and standard deviations for Algebra 1 EOC student achievement by demographic characteristic for students in all of the schools identified in this study. However, “to provide meaningful results and to protect the privacy of individual students, data are reported only when the total number of students in a group is at least 10 and when the performance of individuals is not disclosed. An asterisk (*) appears when data are suppressed” (Florida Department of Education, 2012b, endnote).

Table 15

Student Mean Developmental Scale Score for Algebra 1 End-of-Course (EOC) Examination Grade 9 by Ethnicity, Gender, ESE, and ELL

Descriptor	N	Mean Developmental Scale Score	Standard Deviation
Total Students	2,305	394	
Race/Ethnicity			
White, Non-Hispanic	488	390	2.51
Black or African American, Non Hispanic	311	382	8.04
Hispanic/Latino	1,405	393	0.72
Asian	42	*	*
American Indian or Alaska Native	14	*	*
Native Hawaiian or Other Pacific Islander	3	*	*
Multiracial	42	392	1.27
Gender			
Female	1,080	394	0.17
Male	1,225	394	0.02
Subgroups			
Exceptional Student Education (ESE)	338	371	16.12
English Language Learner (ELL)	397	375	12.99

Note. * = suppression of data.

The teacher population addressed in Research Questions 1 through 3 is described in Table 16. These data were extracted from school improvement plans which were self-reported by schools. The table reports the rounded mean number of teachers in the demographic categories listed across the nine schools in the study.

The data for the teacher population ($n = 954$) used in Research Question 4 was received from the school district's Department of Professional Development. Descriptive statistics for these data are summarized in Table 17. The Student Growth Score ($\mu = 3.50$) was slightly higher than the instructional practice score ($\mu = 3.21$). As shown in Figure 1, the number of teachers in Category II (4-9 years) was the highest ($n = 337$).

Teachers listed as Category 1b (0-3 years without hold harmless agreement) (n = 249) followed. The least number of teachers were found in Category B (unknown variable).

Table 16

Teacher Demographics Across the Nine High Schools in the Study

Descriptor	n	Mean	Standard Deviation
Total Instructional Staff	9	100	37.93
Years of Experience			
Less than 1 year	9	5	5.01
1-5 years	9	29	15.29
6-14 years	9	39	16.31
15+ years	9	25	11.24
Education/Professional Development			
Advanced degrees	9	42	20.89
Highly qualified	9	95	38.33
Reading endorsed	9	10	5.44
National Board Certified	9	4	1.99
ESOL Endorsed	9	35	20.45

Note: μ was rounded; Valid n (listwise) = 9.

Table 17

Individual Teacher Student Growth Score and Instructional Practice

Variables	n	Mean	Standard Deviation
Student Growth Score	960	3.50	.485
Instructional Practice Score	955	3.21	.521
Valid n (listwise)	954		

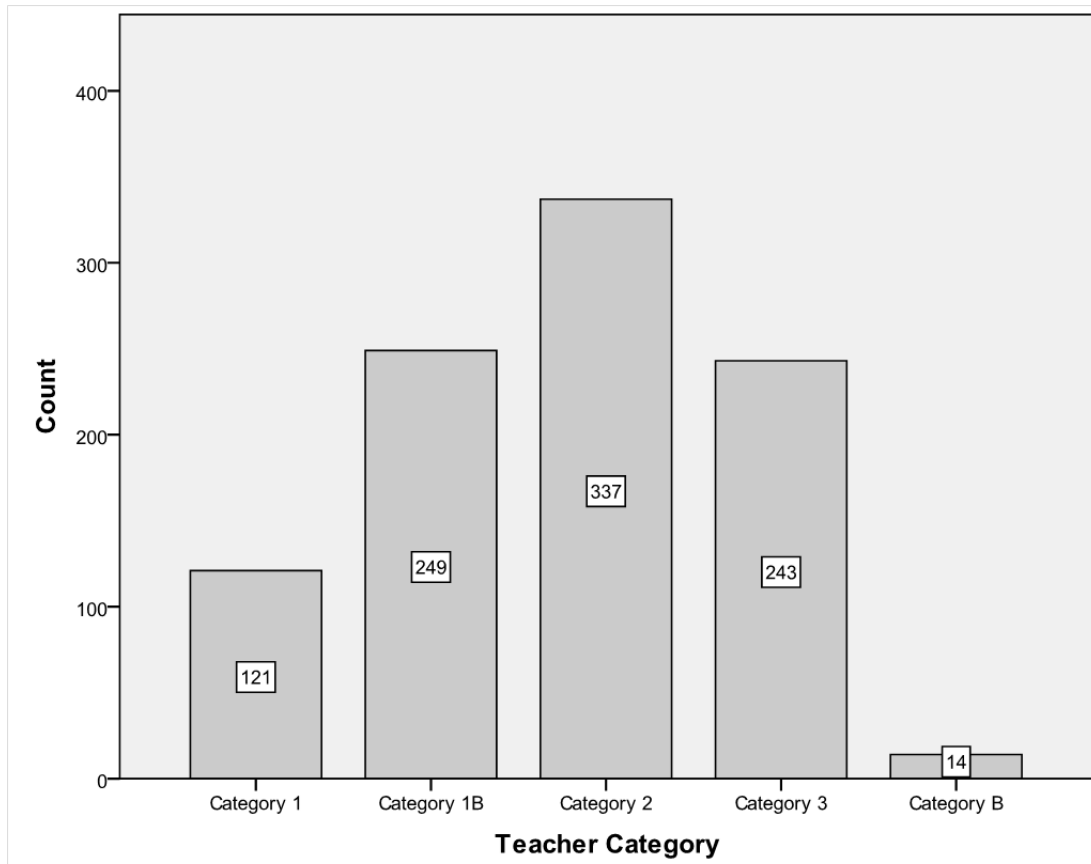


Figure 1. Teachers' years of experience by category

Testing the Research Questions and Hypotheses

Research Question 1

To what extent, if any, is there a relationship between 9th-grade high school mean student developmental scale score on FCAT 2.0 Reading and the school-wide mean instructional practice score of teacher performance as measured by Marzano's Causal Teacher Evaluation at nine high schools in a large suburban school district?

H₀₁. There is no statistically significant relationship between 9th-grade high school mean student developmental scale scores on FCAT 2.0 Reading and the school-wide mean instructional practice score of teacher performance as measured by Marzano's Causal Teacher Evaluation at nine high schools in a large suburban school district?

A scatter plot was run to graphically determine direction and strength of the relationship between variables. Then, a Spearman's rho, non-parametric, correlation procedure was run to assess the relationship between 9th-grade high school mean student developmental scale scores on FCAT 2.0 Reading and the school-wide mean instructional practice score of teacher performance as measured by Marzano's Causal Teacher Evaluation. The Spearman's rho revealed that there was no statistically significant relationship between the mean 9th-grade student developmental scale score on FCAT 2.0 Reading and the school-wide mean instructional practice score of teacher performance as measured by Marzano's Causal Teacher Evaluation ($r_s[9] = .433, p < .005$). Therefore, the researcher failed to reject the null hypothesis. The effect size of

this relationship was moderate (Cohen, 1988). Squaring the correlation coefficient indicated that 9% of the common variance in the mean 9th-grade student developmental scale scores on FCAT 2.0 Reading was shared by the school-wide mean instructional practice score (Slate & Rojas-LeBouef, 2011a). Likewise, 9% of the common variance in the school-wide mean instructional practice score was explained by the mean 9th-grade student developmental scale scores on FCAT 2.0 Reading. Figure 2 and Table 18 display these data.

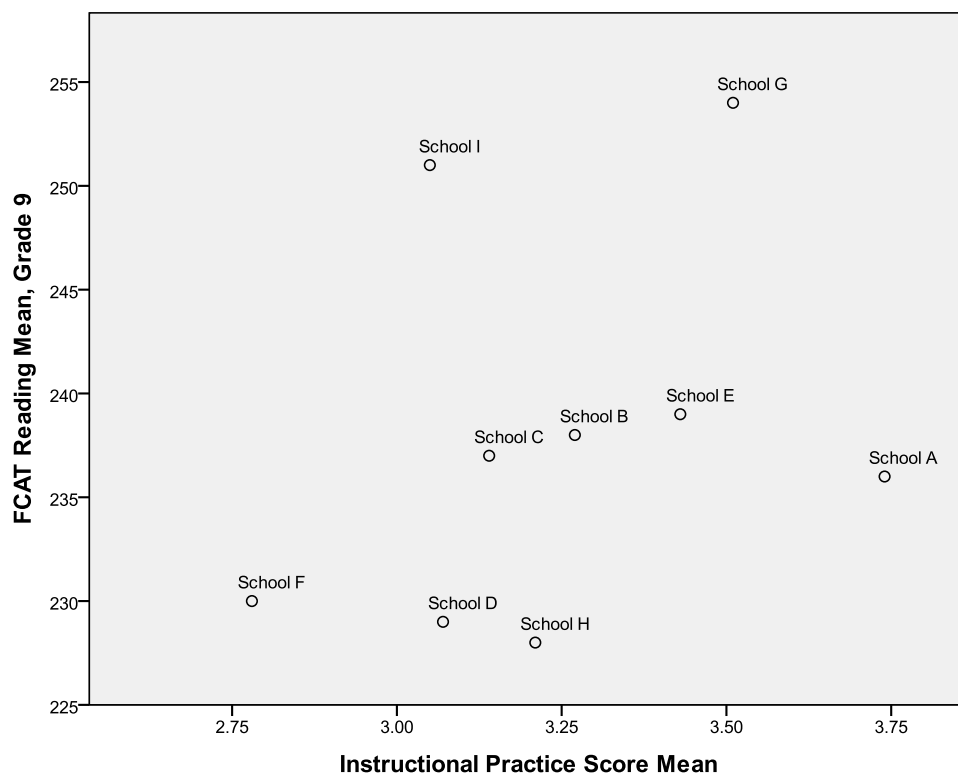


Figure 2. Scatterplot of Grade 9 Florida Comprehensive Assessment Test (FCAT) 2.0 Reading and instructional practice mean scores

Table 18

Spearman's Rho Analysis for Instructional Practice and Grade 9 Florida Comprehensive Assessment Test (FCAT) 2.0 Reading Mean Scores

Variables		Instructional Practice Score Mean	FCAT Reading Mean, Grade 9
Spearman's Rho	Instructional Practice Score Mean	1.000	.300
	Correlation Coefficient		.433
	Sig. (2-tailed)		
	N	9	9
	FCAT Reading Mean, Grade 9	.300	1.000
	Correlation Coefficient	.433	.
	Sig. (2-tailed)		
	N	9	9

Research Question 2

To what extent, if any, is there a relationship between 10th-grade high school mean student developmental scale score on FCAT 2.0 Reading and the school-wide mean instructional practice score of teacher performance as measured by Marzano's Causal Teacher Evaluation at nine high schools in a large suburban school district?

*H*₀₂. There is no statistically significant relationship between 10th-grade high school mean student developmental scale scores on FCAT 2.0 Reading and the school-wide mean instructional practice score of teacher performance as measured by Marzano's Causal Teacher Evaluation at nine high schools in a large suburban school district?

A scatter plot was run to graphically determine direction and strength of the relationship between variables. Then, a Spearman's rho, non-parametric, correlation procedure was run to assess the relationship between 10th-grade high school mean student

developmental scale score on FCAT 2.0 Reading and the school-wide mean instructional practice score of teacher performance as measured by Marzano's Causal Teacher Evaluation. The Spearman's rho revealed that there was not a statistically significant relationship between the mean 10th grade student developmental scale score on FCAT 2.0 Reading and the school-wide mean instructional practice score of teacher performance as measured by Marzano's Causal Teacher Evaluation ($r_s[9] = .224, p < .005$). Therefore, the researcher failed to reject the null hypothesis. The effect size of this relationship was large (Cohen, 1988). Squaring the correlation coefficient indicated that 20.3% of the common variance in the mean 10th-grade student developmental scale scores on FCAT 2.0 Reading was shared by the school-wide mean instructional practice score (Slate & Rojas-LeBouef, 2011a). Likewise, 20.3% of the common variance in the school-wide mean instructional practice score was explained by the mean 10th-grade student developmental scale scores on FCAT 2.0 Reading. Figure 3 and Table 19 display the results for this analysis.

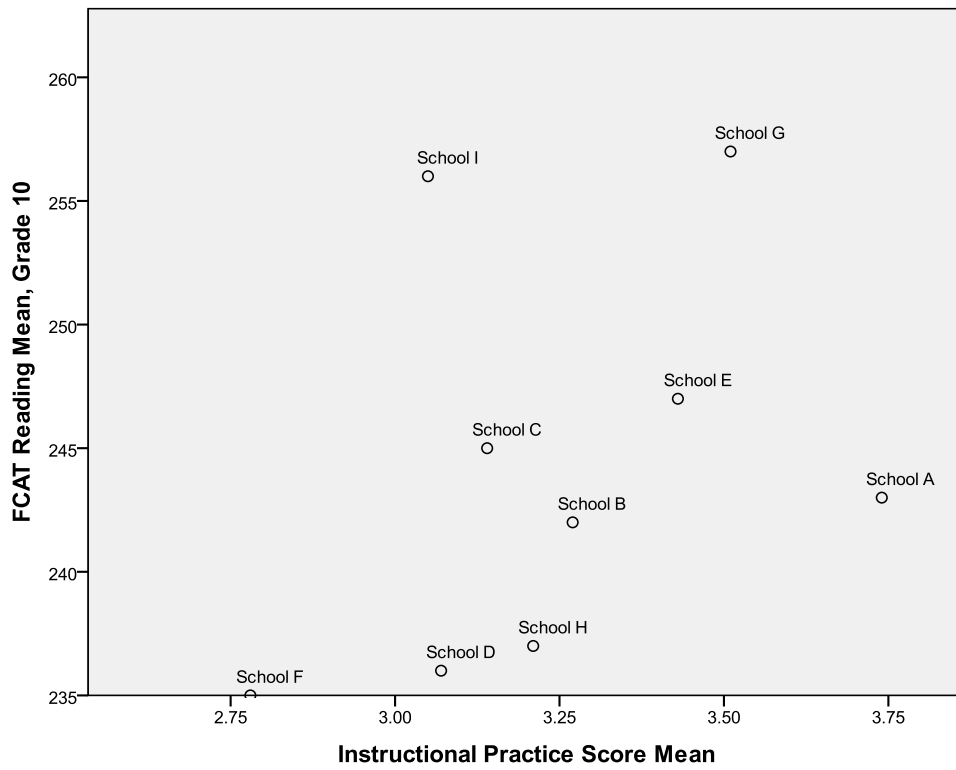


Figure 3. Scatterplot of Grade 10 Florida Comprehensive Assessment Test (FCAT) 2.0 Reading and instructional practice mean scores

Table 19

Spearman's Rho Analysis for Instructional Practice and Grade 10 Florida Comprehensive Assessment Test (FCAT) 2.0 Reading Mean Scores

Variables		Instructional Practice Score Mean	FCAT Reading Mean, Grade 10
Spearman's Rho	Instructional Practice Score Mean	Correlation Coefficient	.450
		Sig. (2-tailed)	.224
		N	9
	FCAT Reading Mean, Grade 10	Correlation Coefficient	1.000
		Sig. (2-tailed)	.224
		N	9

Research Question 3

To what extent, if any, is there a relationship between 9th-grade high school mean student developmental scale scores on End-of-Course Algebra 1 assessments and the school-wide mean instructional practice score of teacher performance as measured by Marzano's Causal Teacher Evaluation at nine high schools in a large suburban school district?

H₀₃. There is no statistically significant relationship between 9th-grade high school mean student developmental scale scores on End-of-Course Algebra 1 assessments and the school-wide mean instructional practice score of teacher performance as measured by Marzano's Causal Teacher Evaluation at nine high schools in a large suburban school district.

A scatter plot was run to graphically determine direction and strength of the relationship between variables. Then, a Spearman's rho, non-parametric, correlation procedure was run to assess the relationship between 9th-grade high school mean student developmental scale score on End-of-Course Algebra 1 assessments and the school-wide mean instructional practice score of teacher performance as measured by Marzano's Causal Teacher Evaluation. The Spearman's rho revealed that there is not a statistically significant relationship between the mean 9th-grade student developmental scale score on the End-of-Course Algebra 1 assessment and the school-wide mean instructional practice score of teacher performance as measured by Marzano's Causal Teacher Evaluation ($r_s[9] = .732, p < .005$). Therefore, the researcher failed to reject the null hypothesis. The effect size of this relationship was small (Cohen, 1988). Squaring the correlation coefficient indicated that 1.7% of the common variance in the mean 9th-grade student developmental scale scores on End-of-Course Algebra 1 assessment was shared by the school-wide mean instructional practice score (Slate & Rojas-LeBouef, 2011a). Likewise, 1.7% of the common variance in the school-wide mean instructional practice score was explained by the mean 9th-grade student developmental scale scores on the End-of-Course Algebra 1 assessment. Figure 4 and Table 20 display the results for this analysis.

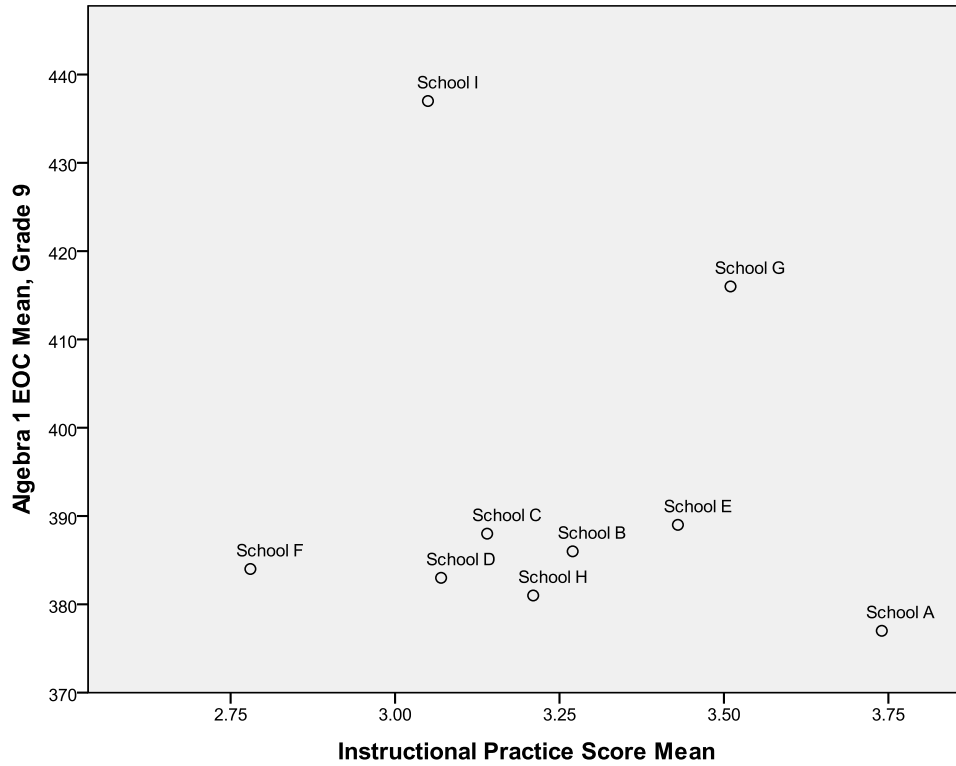


Figure 4. Scatterplot of Grade 9 Algebra 1 End-of-Course (EOC) mean scores and instructional practice scores

Table 20

Spearman's Rho Analysis for Instructional Practice and Grade 9 Algebra 1 End-of-Course (EOC) Examination Mean Scores

Variables			Instructional Practice Score Mean	Algebra 1 EOC Mean, Grade 9
Spearman's Rho	Instructional Practice Score Mean	Correlation Coefficient	1.000	-.133
		Sig. (2-tailed)	.	.732
		N	9	9
	Algebra 1 EOC Mean, Grade 9	Correlation Coefficient	-.133	1.000
		Sig. (2-tailed)	.732	.
		N	9	9

Research Question 4

Which of the variables, student growth score or teacher years of experience, has the strongest relationship with a teacher's instructional practice score?

H₀₄. Neither student growth score nor teacher years of experience has a relationship with a teacher's instructional practice score.

Due to the ordinal nature of the variables for Research Question 4, two separate Chi square tests of independence were conducted to examine the association between instructional practices score and student growth, as well as the separate association between instructional practice score and teacher category. The assumption for the Chi square test of independence required expected cell counts to be at least five. Though three cells did not meet the expected count, the impact was sufficiently minor to allow the test. Both Chi square tests were conducted at the $\alpha = .05$ level of significance.

Although the state and district calculate effectiveness on a scale of: (a) highly effective, (b) effective, (c) needs improvement or developing, and (d) unsatisfactory, the instructional practices score for the test were collapsed into levels of highly effective, effective, and below effective. Further, the researcher also collapsed the student growth score in the same manner. However, teacher categories or years of experience were not collapsed for this study.

For the first Chi-Square test, there was a significant relationship, $\chi^2(8) = 311.84, p < .001$, between instructional practice and teacher category. Category 1 and category B indicated greater numbers of below effective instructors than expected and fewer than expected were in category 2 ($SR = 5.6, SR = 5.1, SR = -2.6$, respectively). Likewise, more highly effective instructors were in category 2I and category 3 than expected, and fewer than expected were in category 1 and 1B ($SR = 2.3, SR = 2.4, SR = -3.8, SR = -2.3$ respectively). There was a small to moderate effect size as indicated by the Cramer's v statistic ($v = .23$). Results of the analysis are displayed in Table 21.

Table 21

Chi-Square Analysis for Instructional Practice and Teachers by Category (N = 955)

Instructional Practice Level	Teacher Category				
	1	1B	2	3	B
Highly Effective					
Count	10	45	108	81	2
% of Row	4.1	18.3	43.9	32.9	0.8
Standard Residual	-3.8	-2.3	2.3	2.4	-0.6
Effective					
Count	94	193	223	155	6
% of Row	14.0	28.8	33.2	23.1	0.9
Standard Residual	1.0	1.5	-0.8	-1.0	-0.8
Below Effective					
Count	17	9	4	4	4
% of Row	44.7	23.7	10.5	10.5	10.5
Standard Residual	5.6	-0.3	-2.6	-1.8	5.1

Note. $\chi^2 = 103.86$, $df = 8$, $p < .01$, $v = .23$.

For the second Chi-Square test, there was a significant relationship, $\chi^2(4) = 12.96$, $p = .01$, between instructional practice and student growth. A greater than expected number of teachers with an instructional practice level of below effective yielded unsatisfactory student growth ($SR = 2.1$). In terms of practical significance, there was a small effect size as indicated by the Cramer's v statistic ($v = .08$). The results of this analysis are located in Table 22.

Table 22

Chi-Square Analysis for Instructional Practice and Student Growth (N = 954)

Instructional Practice Level	Student Growth		
	Highly Effective	Effective	Unsatisfactory
Highly Effective			
Count	162	83	0
% of Row	66.1	33.9	0.0
Standard Residual	1.0	-1.1	-1.0
Effective			
Count	406	262	3
% of Row	60.5	39.0	0.4
Standard Residual	-0.2	0.3	0.1
Below Effective			
Count	16	21	1
% of Row	42.1	55.3	2.6
Standard Residual	-1.5	1.7	2.1

Note. $\chi^2 = 12.96$, $df = 4$, $p = .01$, $v = .08$.

Additional Analysis

Further review of data was conducted to graphically represent school information as to the percentages of teachers receiving ratings and the percentage of overall student growth at each school identified in this study. Figures 5 through 15, located in Appendix F, present the percentages of teachers' calculated effectiveness on a scale of: (a) highly effective, (b) effective, (c) needs improvement or developing, and (d) unsatisfactory for instructional practice and student growth respectively.

Summary

The results of the tests conducted in the study have been outlined in Chapter 4. Specifically described were the statistical results for the analysis of data to answer Research Questions 1 through 3. These questions were analyzed using a Spearman Rho correlation between student developmental mean scale scores on FCAT 2.0 and Algebra 1 EOC examinations and school-wide teacher instructional practices scores between and among nine high schools in a large suburban school district in Central Florida. Further, the Chi Square analysis results for Research Question 4 were described in order to identify if there was a relationship between a teacher's student growth scores or years of experience and the instructional practice score received during the 2011-2012 academic year. An additional review of data was conducted to graphically present the percentages of teachers receiving ratings of highly effective, effective, needs improvement, developing, unsatisfactory in instructional practice and the percentage of overall student growth at each school identified in this study. Chapter 5 includes a summary of the study, discussion of findings, implications for practice, and recommendations further research as found in the results for the study.

CHAPTER 5 SUMMARY, DISCUSSION, AND CONCLUSIONS

Introduction

In Chapter 4, a presentation and analysis of the data was provided. This chapter contains a review of the purpose of the study and a summary and discussion of the findings for the four research questions that guided the study. Implications for practice based on the data obtained from this study are offered to contribute to the body of research and knowledge surrounding teacher evaluation and student achievement. Recommendations for further research based on the findings will be offered and conclusions from this study will be presented.

Purpose of the Study

The purpose of this study was to examine the initial year of implementation of the Marzano Causal Teacher Evaluation Model tool as it related to student achievement in a large suburban school district in Central Florida. The researcher collected data from the 2011-2012 academic year to help understand to what extent, if any, there was a relationship between teacher performance as measured by this model, teachers' years of experience and student achievement.

Summary of the Study

At the time of the study, there was limited research on the implementation phase of new teacher evaluation models required by recent legislation as they related to student achievement within Florida school districts. Due to the limited sample, the data collected

in this research was specifically valid for the nine high schools and students within the school district reviewed and may not be generalized to a different population. Though sample sizes of nine were used in the analyses of data for Research Questions 1 through 3, the data contained in the nine samples related to the populations described for the nine high schools. Research Question 4 contained more viable results due to a large sample size (n = 954). However, specific information related to the collection and calculation of the variable student growth score were contentious and require further review.

By identifying trends and changes to the system of teacher evaluation, the researcher sought to establish patterns, themes and relationships between and among (a) a teacher's instructional practice score, (b) a teacher's years of experience, and (c) student achievement. By analyzing the system, an in-depth process for identifying themes and relationships based on separate events, as advocated by Moberg (2001), was established. To this aim, the researcher reviewed related literature and found that elements that make it difficult to determine teacher effect are: issues such as the halo effect, the instability of the value-added assessments, tenure, teacher effect, and student achievement (Feeley, 2002).

Data used in this study included high school level teacher evaluation and performance data collected by administrators through (a) Marzano's Causal Teacher Evaluation Model *i*Observation[®] protocol, (b) categorized teacher years of experience, (c) student growth score based on a teacher's student success on statewide assessments as calculated using VAM or an administered pre- and posttest, (d) school reported teacher demographics on school improvement plans and (e) historical 9th- and 10th-grade student

achievement data on FCAT 2.0 Reading and 9th-grade student achievement data on Algebra 1 EOC Examinations. Notably, had 10th-grade student achievement data been available for the Algebra 1 EOC, analysis would have been conducted and discussed.

Discussion of the Findings

Research Question 1

To what extent, if any, is there a relationship between 9th-grade high school mean student developmental scale score on FCAT 2.0 Reading and the school-wide mean Instructional Practice Score of teacher performance as measured by Marzano's Causal Teacher Evaluation at nine high schools in a large suburban school district?

The findings for Research Question 1 indicated that there was no statistically significant relationship between 9th grade high school mean student developmental scale scores on FCAT 2.0 Reading and the school-wide mean instructional practice score of teacher performance as measured by Marzano's Causal Teacher Evaluation at nine high schools in a large suburban school district. Therefore, the researcher failed to reject the null hypothesis.

Research Question 2

To what extent, if any, is there a relationship between 10th-grade high school mean student developmental scale score on FCAT 2.0 Reading and the school-wide mean Instructional Practice Score of teacher performance as measured by Marzano's Causal Teacher Evaluation at nine high schools in a large suburban school district?

As in Research Question 1, the findings for Research Question 2 indicated that there was no statistically significant relationship between 10th-grade high school mean student developmental scale scores on FCAT 2.0 Reading and the school-wide mean

instructional practice score of teacher performance as measured by Marzano's Causal Teacher Evaluation at nine high schools in a large suburban school district. Therefore, the researcher failed to reject the null hypothesis.

Research Question 3

To what extent, if any, is there a relationship between 9th-grade high school mean student developmental scale scores on End-of-Course Algebra 1 assessments and the school-wide mean Instructional Practice Score of teacher performance as measured by Marzano's Causal Teacher Evaluation at nine high schools in a large suburban school district?

As in Research Questions 1 and 2, the findings for Research Question 3 indicated that there was no statistically significant relationship between 9th-grade high school mean student developmental scale scores on End-of-Course Algebra 1 assessments and the school-wide mean instructional practice score of teacher performance as measured by Marzano's Causal Teacher Evaluation at nine high schools in a large suburban school district. Therefore, the researcher failed to reject the null hypothesis.

Research Question 4

Which of the variables, student growth score or teacher years of experience has the strongest relationship with a teacher's instructional practice score?

Unlike the findings in Research Questions 1 through 4, the findings for Research Question 4 indicated that there was (a) a significant relationship between instructional practice and teacher category, and (b) a significant relationship between instructional practice and student growth. Between the variables, the strongest relationship was found between a teacher's instructional practice score and teacher category. The strength of the

relationship between instructional practice score and teacher category was greater ($v = .23$) than the strength of the relationship between instructional practice and student growth ($v = .08$). Therefore, the researcher rejected the null hypothesis that neither student growth score nor teacher years of experience has a relationship with a teacher's instructional practice score.

The findings suggest that the greater the teacher category or years of experience, the greater the likelihood that a teacher would receive an effective or highly effective rating. Likewise, the lower the teacher category or years of experience, the less likely it would be that a teacher would receive an effective or highly effective.

Additionally, the findings suggest that if the number of teachers who have demonstrated student growth is greater than the number of highly effective or effective teachers, teachers may be under evaluated and/or adversely affected. Likewise, if the number of teachers who have a higher instructional practice score is greater than the number with higher student growth, teachers may be over evaluated and/or more positively affected than appropriate.

Implications for Practice

Overall, the data in this study was consistent with the assertion that “approximately 1% of teachers are considered below effective or unsatisfactory” (Educational Personnel, 2011a, p. 4). Reasons for the findings could be attributed to issues discussed in the literature review regarding halo-effect; subjectivity, perceptions and cognitive capacity of the evaluator; limited understanding of the expectations of the

evaluation model by teachers; or comfort level with using a new system to evaluate teachers by administrators (Ballou, 2002; Bechger et al., 2010; Corcoran 2010; Gordon, 1999, Kwalwasser, 2011; Rebore, 2011; Springer, 2010; Stewart, 2012, Strong, 2012). However, in-depth research is needed to determine the individual effects of these concepts on student achievement.

At the time of the present study, changes to the system of teacher evaluation have been deemed an absolute priority in order to reform the educational systems in America (U.S. Department of Education, 2009). However, researchers have argued that “narrow interest in individual results may undermine the process of reform” (Corcoran, 2010, p. 15).

Most notably, the use of the VAM model or pre- and posttests are not consistent measures by which to make high stakes decisions that can affect a student’s future or a person’s ability to work (Ballou, 2002). To this end, establishing consistent measures of student growth will help policy makers more appropriately determine teacher effect on student achievement. The use of VAM in the calculation of teacher evaluation should be reviewed to determine the extent of its validity and reliability in identifying appropriate teacher effect.

Additionally, the use of varying measures at the school level to determine student growth for teachers who teach non-tested courses should be eliminated, and uniform assessments should be created at the district or state level so that subjectivity and any potential for misuse are minimized (Resnick, 2009). Further, districts should review teacher evaluation outcomes for trends and to determine if the evaluation tool is being

used to its fullest potential in order to help teachers improve. To this extent, further research is needed to determine the individual teacher and student growth within the formal expectations and exchanges identified within the context of teacher evaluation.

Recommendations for Further Research

The following recommendations for further study based on the findings of this study include:

1. An expansion of this study with revisions to examine teacher and administrator perceptions of the process of teacher evaluation in subsequent years of implementation.
2. An expansion of this study with revisions at the district level to compare all secondary schools including virtual and charter schools with teacher to student pairing of data.
3. A study that would include data related to the specific domain elements used for observation, teacher years of experience, teacher instructional practice scores, number of observations as well as final evaluation scores which include VAM.
4. A study that would analyze student achievement at each secondary grade level (6-12) on summative assessments (FCAT Reading 2.0, Writing, Algebra 1 EOC, Geometry EOC, U.S. History EOC, and Biology EOC) with student to teacher pairing of data, teacher effectiveness ratings, and number of observations.

5. A study of the specific behaviors and strategies used by teachers at the classroom level which are expected to improve student achievement.
6. A study focusing on the different teacher evaluation systems and the levels of teacher effectiveness found throughout the state.
7. A study focusing on the different teacher evaluation systems and the levels of teacher effectiveness found throughout another state, region or the entire country.

Conclusion

As was determined in the literature review conducted for this study, educational researchers and scholars have been continually challenged to define the relationships between teacher effectiveness and student achievement. Unfortunately, even with extensive research, and the findings of this study, little has been found to precisely define the relationship between student achievement and teacher effectiveness (Jackson & Lunenburg, 2010). Still, with legislative initiatives at the national and state levels as the guiding foundation for changes to the systems of teacher evaluation and accountability for student achievement, new evaluation models are being mandated (U.S. Department of Education, 2009; Education Personnel, Florida, SB736, 2011a).

Understanding the preliminary implementation of a new model for teacher evaluation was important. Due to limitations and delimitations related to the population and specific calculations of student growth scores, the data reviewed showed little to no significance. However, the results did provide direction for continued research on the

relationships between student achievement and teacher evaluation. To this aim, it is vital for school districts to identify trends in teacher effectiveness ratings as they relate to student achievement, establish consistent measures of student growth and utilize teacher evaluation models to their fullest potential to ensure that both teachers and students continue to improve and are able to compete in a global marketplace.

APPENDIX A
APPROVALS TO CONDUCT RESEARCH

University of Central Florida

College of Education

DISSERTATION PROPOSAL APPROVAL

Permission to Continue with Dissertation

Date 07/18/2012

Name Dana Kaye Jacobson

PID: d1553727

College of Education Code 0827D

Program Major Ed.D. in Ed. Leadership, Executive Track Code 827 829 Degree Ed.D.

Working Title of Dissertation Identifying relationships between the Marzano Causal Teacher Evaluation Model and 9th and 10th grade student achievement during the initial year of implementation at high schools in Osceola County, Florida.

This student is hereby certified as having met all requirements to continue dissertation research.

Date admitted to Candidacy 07/18/2012

Committee Member Signature

H. Bair

Committee Member Signature

Barbara A. Murray

Committee Member Signature

Walter Doherty

Committee Member Signature (Outside COE)

P. Murray

Dissertation Advisor Signature

Filed in Graduate Admissions Office and Doctoral Studies Office

Walter Doherty

Doctoral Program Coordinator Signature

7-18-12

Date



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

Approval of Exempt Human Research

From: UCF Institutional Review Board #1
FWA00000351, IRB00001138
To: Dana K. Jacobson
Date: September 06, 2012

Dear Researcher:

On 9/6/2012, the IRB approved the following activity as human participant research that is exempt from regulation:

Type of Review: Exempt Determination
Project Title: An examination of the relationship between the Marzano Causal Teacher Evaluation Model and student achievement at high schools in a large urban school district in Florida.
Investigator: Dana K. Jacobson
IRB Number: SBE-12-08649
Funding Agency:
Grant Title:
Research ID: N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

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

Signature applied by Patria Davis on 09/06/2012 03:58:48 PM EDT

IRB Coordinator

THE SCHOOL DISTRICT OF OSCEOLA COUNTY, FLORIDA

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Phone: 407-870-4600 • Fax: 407-870-4010 • www.osceola.k12.fl.us

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District 4 – Barbara Horn, Chair
407-462-5642
District 5 – Tom Long
407-462-5782



Superintendent of Schools
Terry Andrews

June 8, 2012

Dana Jacobson
4415 Citrus Drive
Saint Cloud, FL 34772

Dear Ms. Jacobson:

This letter is to inform you that we have received your request to conduct research in our School District. Based on the description of the research you intend to conduct, I am pleased to inform you that you may proceed with your work as you have outlined.

I will remind you that all information obtained for the purpose of your research must be dealt with in the strictest of confidentiality. At no time is it acceptable to release any student or staff identifiable information.

I wish you the best of luck in your future endeavors. If I can be further assistance, please do not hesitate to contact me.

Sincerely,

A handwritten signature in blue ink that reads "Angela Marino".

Angela Marino
Director
Research, Evaluation & Accountability

APPENDIX B
FLORIDA OUTLINE OF TEACHER EVALUATION MODELS

Teacher Evaluation Instructional Practice Models

6/1/2011

State Model *		31
BRADFORD	State	
BROWARD	State	
CALHOUN	State	
CHARLOTTE	State	
COLLIER	State	
COLUMBIA	State	
FRANKLIN	State	
GADSDEN	State	
GILCHRIST	State	
INDIAN RIVER	State	
JACKSON	State	
LAFAYETTE	State	
LAKE	State	
LEON	State	
MARTIN	State	
NASSAU	State	
ORANGE	State	
OSCEOLA	State	
PASCO	State	
PUTNAM	State	
SANTA ROSA	State	
SEMINOLE	State	
ST. JOHNS	State	
ST. LUCIE	State	
UNION	State	
FAU Lab	State	
FAMU Lab	State	
UF Lab	State	
NON RTTT		
Palm Beach	State	
Suwannee	State	
FSU Lab	State	

Based on the research and meta-analyses of Dr. Robert Marzano

Danielson		14
BAY	Danielson	
DUVAL	Danielson	
ESCAMBIA	Danielson	
HERNANDO	Danielson	
HIGHLANDS	Danielson	
HILLSBOROUGH	Danielson	
LEE	Danielson	
LEVY	Danielson	
LIBERTY	Danielson	
MARION	Danielson	
MONROE	Danielson	
OKALOOSA	Danielson	
SUMTER	Danielson	
VOLUSIA	Danielson	

Some of these districts have adopted principles from the state model, including the scoring system and deliberate practice

Other		12
ALACHUA	Other	
BREVARD	Other	
CITRUS	Other	
CLAY	Other	
DADE	Other	
FLAGLER	Other	
JEFFERSON	Other	
MADISON	Other	
MANATEE	Other	
PINELLAS	Other	
POLK	Other	
SARASOTA	Other	

Some of these models include indicators from the state model

EMCS		14
DEBOTO	EMCS	
GLADES	EMCS	
GULF	EMCS	
HARDEE	EMCS	
HENDRY	EMCS	
HOLMES	EMCS	
OKEECHOBEE	EMCS	
TAYLOR	EMCS	
WAKULLA	EMCS	
WALTON	EMCS	
WASHINGTON	EMCS	
NON RTTT		
Baker	EMCS	
Dixie	EMCS	
Hamilton	EMCS	

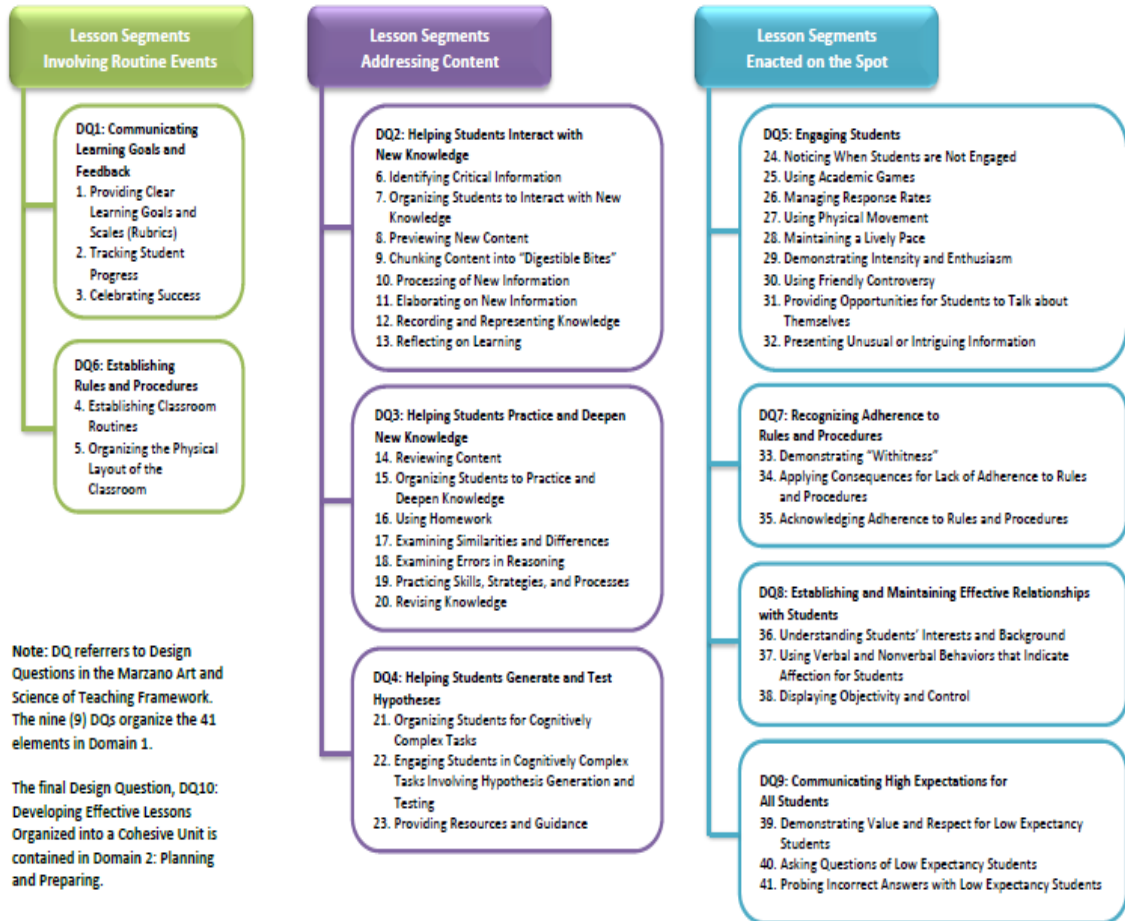
All EMCS systems include indicators from the state model Domain #1

EMCS-Educational Management Consulting Services

**Table retrieved from (Florida Department of Education, 2012e).

APPENDIX C
MARZANO TEACHER EVALUATION LEARNING MAP

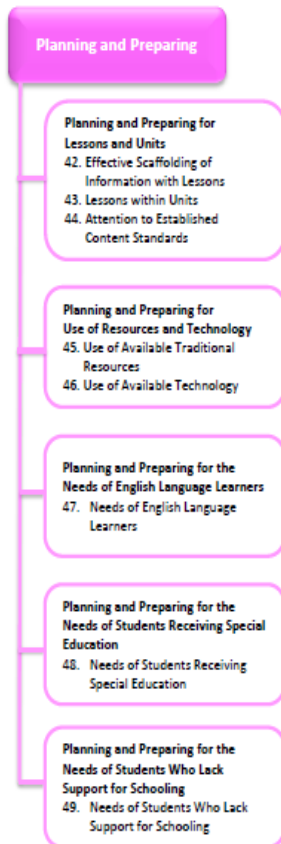
Domain 1: Classroom Strategies and Behaviors



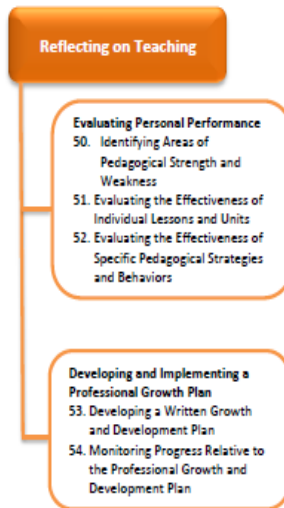
Note: DQ referrers to Design Questions in the Marzano Art and Science of Teaching Framework. The nine (9) DQs organize the 41 elements in Domain 1.

The final Design Question, DQ10: Developing Effective Lessons Organized into a Cohesive Unit is contained in Domain 2: Planning and Preparing.

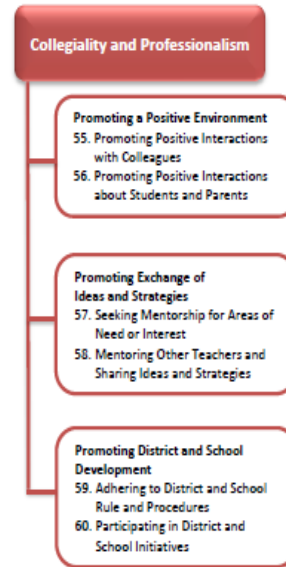
Domain 2: Planning and Preparing



Domain 3: Reflecting on Teaching



Domain 4: Collegiality and Professionalism



Note: Reproduced with permission from Marzano Art of Science Teacher Evaluation Model, Copyright 2011 by Robert J. Marzano. (See also LSI, 2012)

APPENDIX D
REQUEST AND PERMISSION TO USE MARZANO MODEL

Amy R. Flowers
Elementary Literacy Coach, Osceola Co.
Doctoral Student, UCF
4900 Robin Drive
St. Cloud, Florida 34772

Dana K. Jacobson
Secondary Literacy Coach, Osceola Co.
Doctoral Student, UCF
4415 Citrus Drive
St. Cloud, Florida 34772

June 4, 2012

Dr. Robert J. Marzano, Author, Researcher, CEO
Learning Sciences International

Dear Dr. Marzano:

Please accept this letter requesting the use of specific items related to the *Marzano Causal Teacher Evaluation Model* currently being implemented in schools within Osceola County, Florida.

We are each completing doctoral dissertations in Educational Leadership at the University of Central Florida. Our program allows us to conduct field study research that connects theory and organizational learning to current practice and student achievement.

Our respective dissertations are titled:

“An examination of initial year implementation of the *Marzano Causal Teacher Evaluation Model* as it relates to 3rd, 4th, and 5th grade student achievement in the School District of Osceola County, Florida,” by Amy Flowers; and

“Identifying relationships between the Marzano Causal Teacher Evaluation Model and 9th and 10th grade student achievement during the initial year of implementation at high schools in Osceola County, Florida,” by Dana Jacobson.

We would like your permission to reprint and include in our individual dissertations the following items:

- The Teacher Observation Learning Map;
- Evaluation Feedback Protocols for each of the 41 elements in Domain 1; and
- iObservation[®] platform snapshots, including but not limited to professional development tools

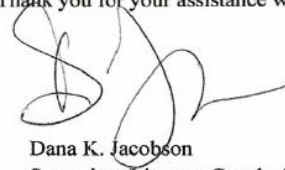
The requested permissions would extend to any future revisions and editions of our individual dissertations, including non-exclusive world rights in all languages. Your signing of this letter will confirm that you own or your company owns the copyright to the above described material.

If these arrangements meet with your approval, please sign the letter where indicated below and return a copy to each of us in the enclosed return envelopes. Thank you for your assistance with this matter.

Sincerely,



Amy R. Flowers
Elementary Literacy Coach, Osceola Co.
Doctoral Student, UCF



Dana K. Jacobson
Secondary Literacy Coach, Osceola Co.
Doctoral Student, UCF

PERMISSION GRANTED FOR THE USE REQUESTED ABOVE:

By: _____
Dr. Robert J. Marzano (or designee)

Date: _____

From: Phil Warrick <Phil.Warrick@marzanoresearch.com>Sun, Jul 08, 2012 6:48:58 AM
Subject: Request Granted
To: Dana Jacobson

Dana

Below I have copied Dr. Marzano's email text granting you permission to use the scales for teacher feedback.

I'll forward the official letter to you via attachment pdf once I scan it.

Phil

Bob's Reply Below:

Phil

I can automatically give them [Amy Flowers and Dana Jacobson] permission to reproduce and use in any way that is related to their research the scales for all 60 elements of my model-- please pass that on to them-- they will have to get permission, though, from lsi to use screenshots from *i*observation but I know that will not be a problem. Thanks

Bob

Dr. Phil Warrick
Associate Vice President
Marzano Research Lab
9000 E. Nichols Ave. Ste. 112
Englewood, CO 80112
512-922-5114

APPENDIX E
SAMPLE STUDENT LEARNING GROWTH VALUE COMPUTATION

Sample Student Learning Growth Value Computation and Points Earned Sample Classroom teacher's Student Roster					
Student	Baseline Score	Summative Score	Difference	Counts for Numerator?	Counts for Denominator?
Student 1	90	100	10	YES	YES
Student 2	75	--	N/A	N/A	N/A
Student 3	20	50	30	YES	YES
Student 4	80	90	10	YES	YES
Student 5	75	80	5	YES	YES
Student 6	70	--	N/A	N/A	N/A
Student 7	65	70	5	YES	YES
Student 8	--	70	N/A	N/A	N/A
Student 9	95	90	-5	NO	YES
Student 10	10	60	50	YES	YES
Student 11	--	40	N/A	N/A	N/A
Student 12	100	100	0	YES	YES
Student 13	--	60	N/A	N/A	N/A
Student 14	90	85	-5	NO	YES
Student 15	35	75	40	YES	YES
Student 16	55	50	-5	NO	YES
Student 17	60	80	20	YES	YES
Student 18	70	85	15	YES	YES
Student 19	60	80	20	YES	YES
Student 20	20	65	45	YES	YES
• Total Individual Students Who Increased Their Scores (e.g., "YES")				12	
• Total Individual Students with Both Baseline and Summative Scores				15	
• Student Learning Growth Value				80%	
• Student Learning Growth Value Point(s) Earned				4	

(School District of Osceola County [SDOC], 2012b, p. 7)

APPENDIX F
INSTRUCTIONAL STAFF RATINGS BY SCHOOL

All High Schools in Study

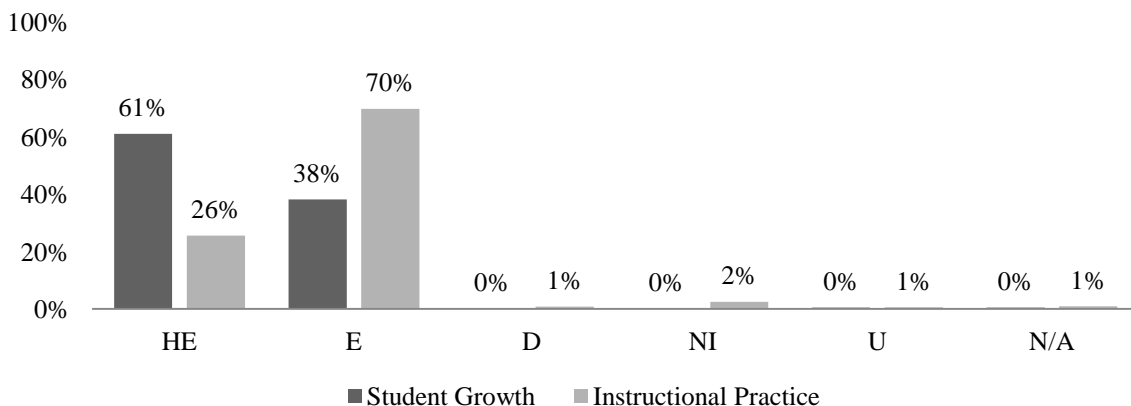
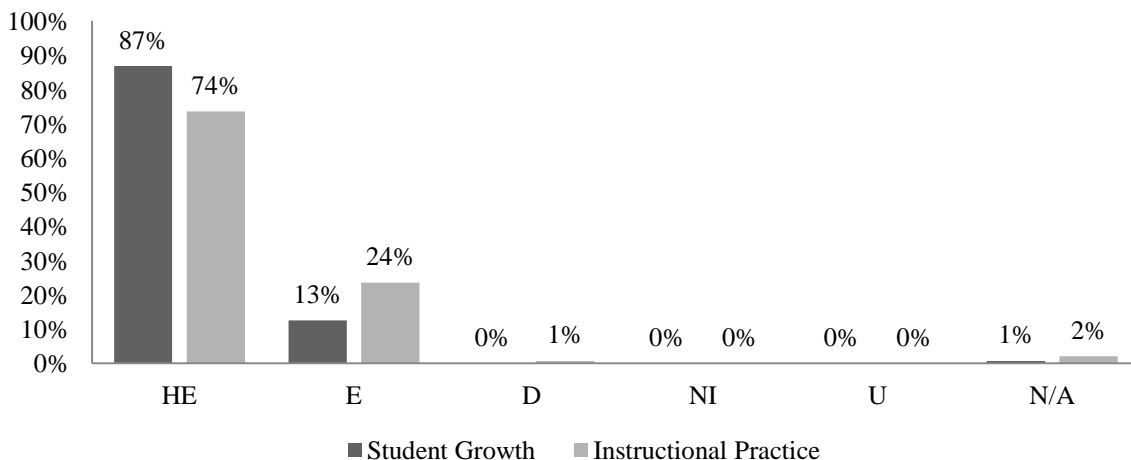


Figure 5. All Schools: Teachers' effectiveness for instructional practice and student growth.

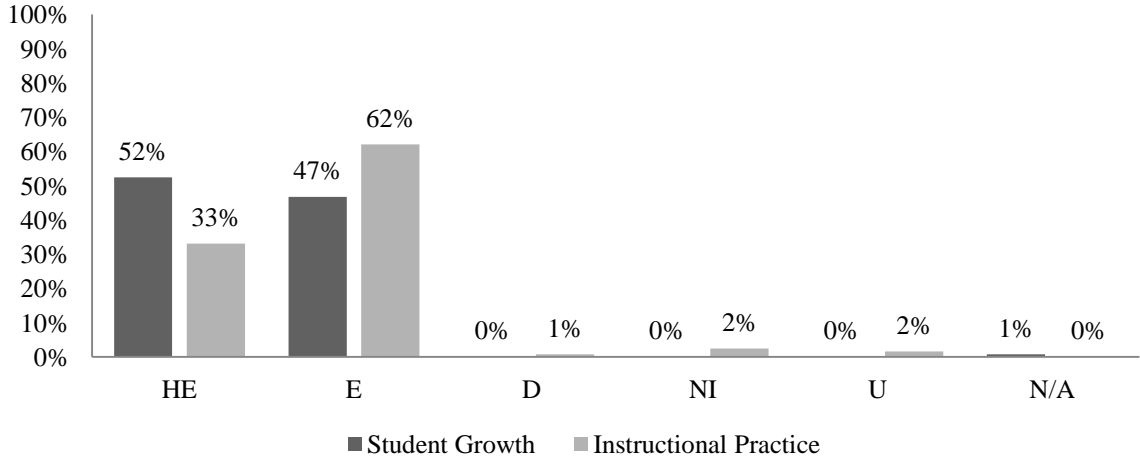
School A



Note: To maintain anonymity, population total for the school was suppressed.

Figure 6. School A: Teachers' effectiveness for Instructional Practice and Student Growth

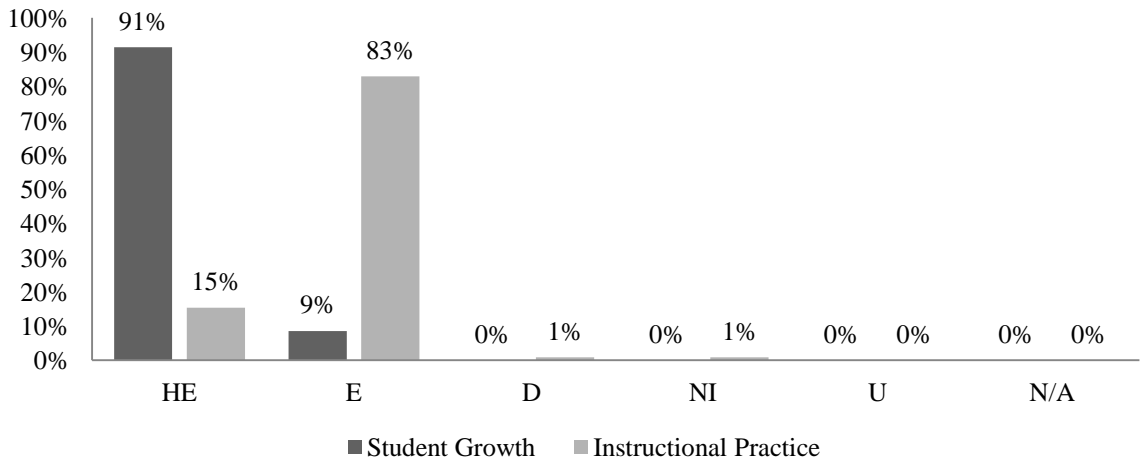
School B



Note: To maintain anonymity, population total for the school was suppressed.

Figure 7 School B: Teachers' effectiveness for instructional practice and student growth

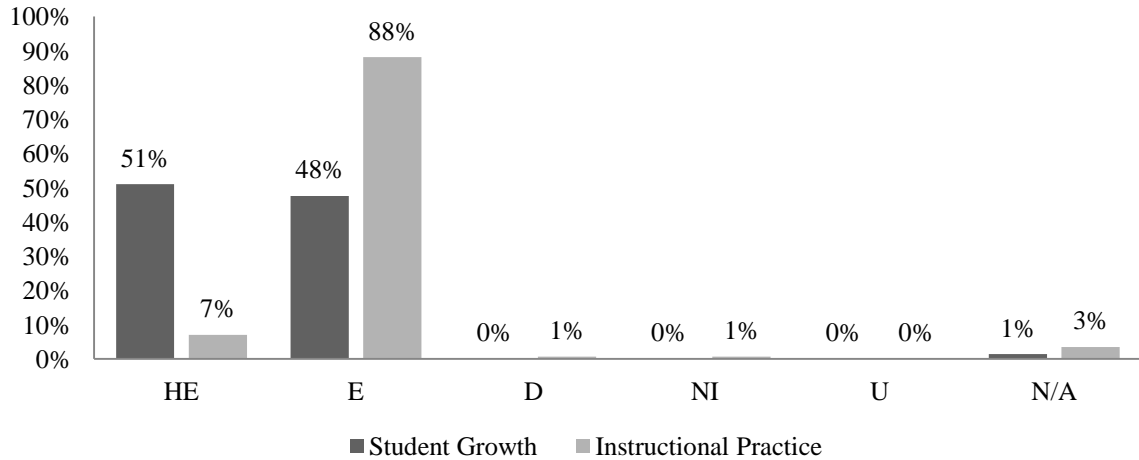
School C



Note: To maintain anonymity, population total for the school was suppressed.

Figure 8. School C: Teachers' effectiveness for instructional practice and student growth

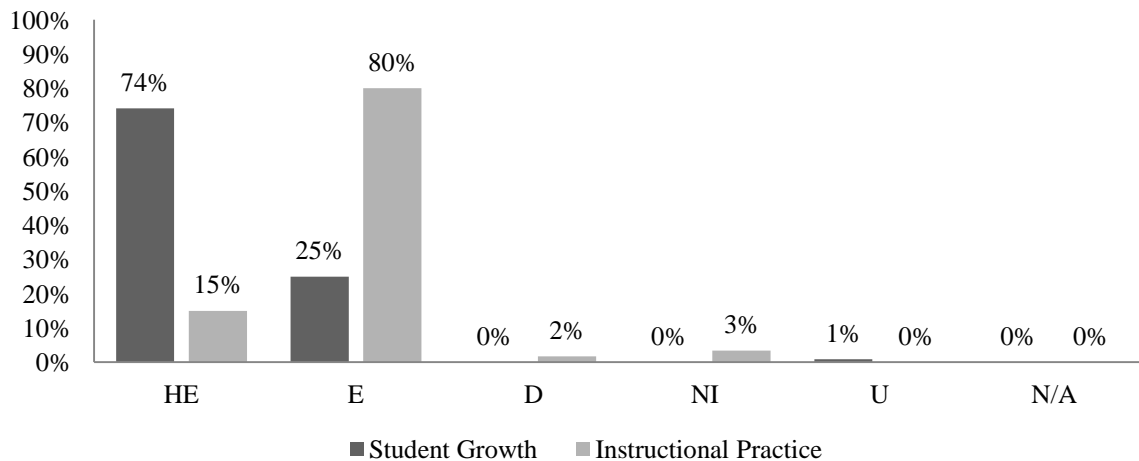
School D



Note: To maintain anonymity, population total for the school was suppressed.

Figure 9. School D: Teachers' effectiveness for instructional practice and student growth

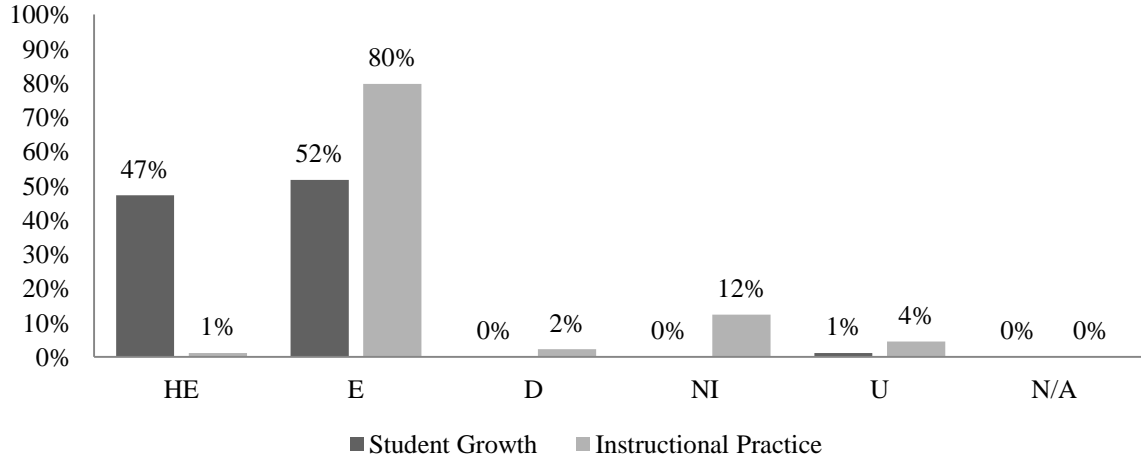
School E



Note: To maintain anonymity, population total for the school was suppressed.

Figure 10. School E: Teachers' effectiveness for instructional practice and student growth

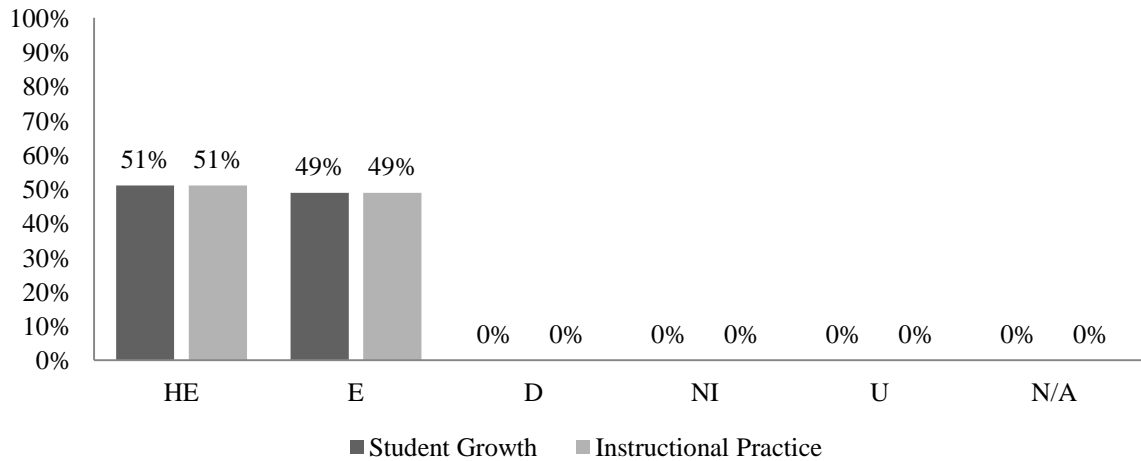
School F



Note: To maintain anonymity, population total for the school was suppressed.

Figure 11. School F: Teachers' effectiveness for instructional practice and student growth

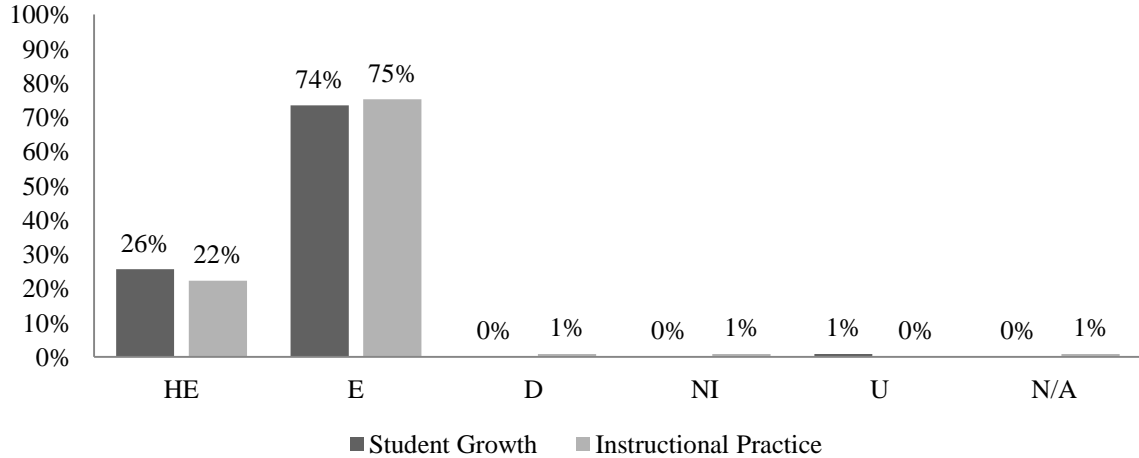
School G



Note: To maintain anonymity, population total for the school was suppressed.

Figure 12. School G: Teachers' effectiveness for instructional practice and student growth

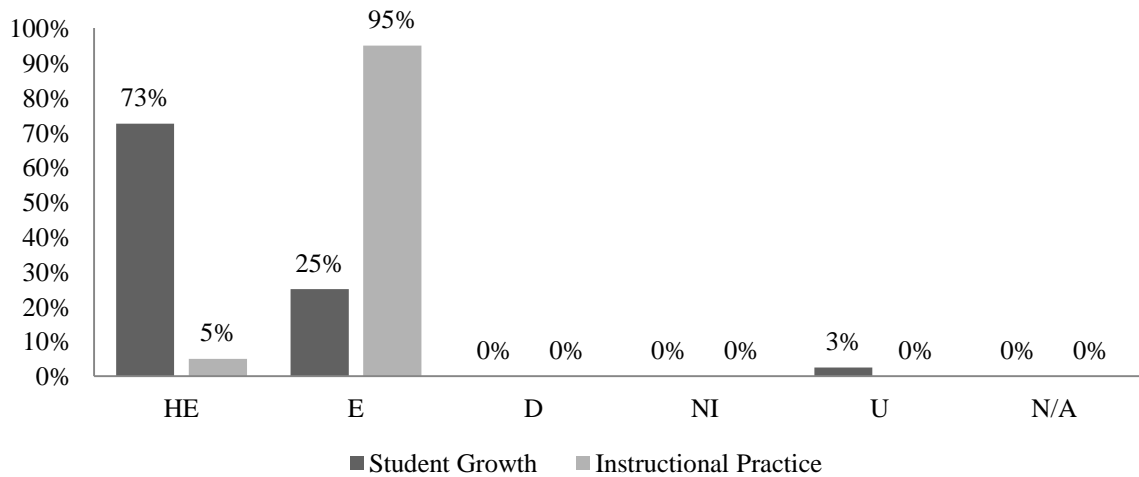
School H



Note: To maintain anonymity, population total for the school was suppressed.

Figure 13. School H: Teachers' effectiveness for instructional practice and student growth

School I



Note: To maintain anonymity, population total for the school was suppressed.

Figure 14. School I: Teachers' effectiveness for instructional practice and student growth.

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