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The University of Southern Mississippi

A STUDY OF SATP SCORES AND PRINCIPALS' PERCEPTIONS FOR  
TRADITIONAL AND ALTERNATE ROUTES TO TEACHER CERTIFICATION

by

Eddie Eugene Moore

Abstract of a Dissertation  
Submitted to the Graduate School  
of the University of Southern Mississippi  
in Partial Fulfillment of the Requirements  
for the Degree of Doctor of Philosophy

May 2012

## ABSTRACT

### A STUDY OF SATP SCORES AND PRINCIPALS' PERCEPTIONS FOR TRADITIONAL AND ALTERNATE ROUTES TO TEACHER CERTIFICATION

by Eddie Eugene Moore

May 2012

This study explores the differences between traditional and alternate route certification by focusing on the achievement of students who have been instructed by teachers from each program. In addition, this study identifies the strengths and weaknesses of teachers from each certification route through surveys and interviews with principals in the sample. Previous studies on this subject have focused on elementary or middle schools, which limits the information available for the high school level. This study was directed toward high school teachers in core subject areas tested in Mississippi's accountability model. The purpose of this study was to connect student test scores to the teachers' certification routes and to identify strengths and weaknesses of each route through feedback from principals. The Mississippi Subject Area Test (MSAT) scores in Algebra I, Biology I, English II, and U. S. History were analyzed. The test results revealed no significant advantages or difference for either teacher certification route; however, the data collected from principals indicated a perceived advantage for traditional route teachers. This study distinguishes the differences between accumulated student test results and perceptions by principals. The results provide high school administrators with a resource to compare high school test scores of students instructed by traditional or alternate route teachers.

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May 2012

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TABLE OF CONTENTS

ABSTRACT.....ii

ACKNOWLEDGMENTS.....iii

LIST OF TABLES.....vi

CHAPTER

I. INTRODUCTION.....1

Statement of the Problem

Purpose of the Study

Theoretical Framework

Hypotheses

Definition of Terms

Delimitations of the Study

Limitations of the Study

Assumptions of the Study

Justification for the Study

Summary

II. REVIEW OF RELATED LITERATURE.....20

History of Certification Standards

Traditional and Alternate Route Comparisons

Teacher Effectiveness on Student Achievement

Job Performance of Alternate and Traditional Routes

Qualities of Effective Teachers

The Principal’s Impact on Teacher Effectiveness

Summary

III. METHODOLOGY.....70

Introduction

Research Design

Participants

Instrumentation

Research Procedures

Data Analysis

Summary



IV.	ANALYSIS OF DATA.....	86
	Introduction	
	Data Analysis	
	Results	
	Summary	
V.	DISCUSSION AND RECOMMENDATION.....	102
	Introduction	
	Discussion	
	Limitations	
	Recommendations for Future Research	
	Recommendations for Policy and Practice	
	Summary	
	APPENDIXES.....	114
	REFERENCES.....	125

LIST OF TABLES

Table

1. Gender of Principals Participating in the Survey.....74

2. Educational Experience of Principals in the Survey.....75

3. Administration Experience of Principals Participating in the Survey.....75

4. Descriptive Statistics with Dependent Variable: Algebra I Mean.....89

5. Estimated Marginal Means—Algebra I Adjusted Mean.....89

6. Descriptive Statistics with Dependent Variable: Biology I Mean.....90

7. Estimated Marginal Means—Biology I Adjusted Mean.....90

8. Descriptive Statistics with Dependent Variable: English II Mean.....91

9. Estimated Marginal Means—English II Adjusted Mean.....92

10. Descriptive Statistics with Dependent Variable: U.S. History Mean.....93

11. Estimated Marginal Means—U.S. History Adjusted Mean.....93

12. Descriptive Statistics Report for Teacher Dependability, Classroom Management, Student Relationships.....95

13. Descriptive Statistics Report for Student Mastery, Communication, Cooperative Attitude.....97

14. Thematic Coding for Strengths of Traditional and Alternate Route Teachers.....98

15. Thematic Coding for Weaknesses of Traditional and Alternate Route Teachers.....99

## CHAPTER I

### INTRODUCTION

The teacher shortages in Mississippi have created a demand for qualified teachers. The emphasis placed on hiring *highly qualified* teachers, which was initiated from the key legislative provisions of the No Child Left Behind Act of 2001 (NCLB), combined with local school districts committed to classroom size reduction has created even more demand for teachers. The *highly qualified teacher* status is defined as one who “holds at least a bachelor’s degree, holds full state certification, and has demonstrated adequate knowledge of core subjects being taught by the teacher” (U. S. Department of Education, 2005).

To combat the growing demand for teachers created by these stimuli, the creation of alternate route certification programs have become a normal phenomenon throughout the United States, including Mississippi. These programs allow teaching candidates with bachelor degrees to be hired without having completed traditional preparation coursework or completing practice teaching requirements. Conversely, traditional route certification programs require the completion of all classroom management coursework and student teaching assignment before being *qualified* to teach. Some critics assert that traditional programs require unnecessary, burdensome coursework that provides no real advantages for teaching preparation. Supporters of traditional programs contend that alternate route programs place insufficiently prepared teachers in the classrooms (Finn, 2003). The comparisons and contrast differences have been debated through examining the advantages and disadvantages of each program to teacher certification; however, few rigorous studies have revealed concrete answers in relation to student achievement. The

ultimate need for improvements in traditional and alternate route programs can provide students with the instructional values necessary. This study is intended to inform both program initiatives about the relationship of teacher certification route on student achievement.

### Statement of the Problem

The Education Reform Act of 1980 brought the alternative certification possibility to those who were educated in certain fields of expertise but not trained for employment in education. As most had little problems passing the certification exams, many had problems translating the classroom content to the students (Finn & Kanstroom, 2000). The Higher Education Act of 1998 focused on teacher accountability standards. Under Title II of the Act, new requirements were issued to ensure teacher preparation, certification, and licensing. The growth in alternative routes for teacher certification began to boom in 2000. Colleges and universities began to administer programs that enabled participants to earn teaching certificates that focused on teacher preparation (Feistritzer, 2005b). At the beginning of the 21<sup>st</sup> century, a study conducted on the effect that teacher certification had on student achievement revealed the quality levels of the teacher workforce. The demand for more teachers was an area of concern, especially when the fear that the possibility of teacher shortages might cause an applicant pool with diminished talent. Evidence of such findings led to many debates about the quality of teachers. Many agreed on what teachers should know and understand to be effective, but opinions varied about how to train good teachers to ensure better education for students (Hess, 2002).

The estimates for individuals receiving alternate route certification in the United States have shown significant increases since 2000. Alternate route certification approximates in 2003-04 were around 39,000. This number rose to 50,000 in 2004-05 and to 59,000 in 2005-06. In 2007, all 50 states and the District of Columbia had programs for alternate teacher certification (National Center for Alternative Certification, 2010). The general make-up of persons seeking alternate certification is as follows: 70% are older than 30 years of age; 46% teach in a large city; nearly half worked in a non-education field the prior year (National Center for Education Information, 2005).

It is clear that many non-traditional individuals who have entered the teaching profession are making significant contributions to education on the 21<sup>st</sup> century. This has caused a dramatic change for people beginning their teaching careers much later in life and later in their academic careers. The changing market for experienced and qualified teachers has spurred the movement forward toward increased numbers alternate route certified teachers (NCEI, 2005).

People entering the teaching profession through alternate route certification tend to be older with various college degrees and experiences in other occupations. Reports show that alternate teachers have higher retention rates than traditional route due to the preparation programs and the vast experiences from other fields of employment while learning how to adequately deal with social differences within the population. Reports also show that alternate route teachers have a strong commitment to teach during the advanced period of their lives (NCEI, 2005).

## Purpose of the Study

Numerous articles have been written and debates abound about the effectiveness of traditional route and alternate route certified teachers (Finn, 2003). Due to the many changes taking place in the school systems and the growing importance on school credibility standards, the responsibility for hiring the best possible teachers has become the most important ingredient for student achievement (National Council on Teacher Quality, 2007).

Studying the effectiveness of teachers in the classroom and connecting the positives and negatives to teacher training and certification can be an effective tool for school districts to use when trying to find the most qualified teachers to help reach the high-performing status. Debates abound about the possibility of allowing more individuals to apply for teaching jobs. Most research shows that this will increase the potential supply of teachers and create more competition for the instructional positions. High-performing districts usually have the privilege of hand picking teachers from the nation's top teacher education graduates. These best of the best graduates are in high demand, but districts with less prestige have a difficult time attracting such promising candidates (Hess, 2002).

Many believe that reforming the current certification system by making it easier for college graduates to receive alternative certification would help all schools raise the level of education by having more choices to find the best possible instructor. The traditional licensure system was productive when accountability standards were not as demanding. The teacher assessment standards were non-existent with no reliable means for evaluating the effectiveness of teachers. Changing times have progressed education

standards to rely on student performance and relate the test scores directly to the teacher. The past system was dominated by input regulation as the way to control teacher quality. The assessment systems of today provide adequate feedback on student learning. Administrators are subject to new forms of accountability to check indiscretions or incompetence (Hess, 2002).

Giving school districts more freedom to hire promising instructors does not mean that all decisions will be correct, but opening up more possibilities could give them the advantage to interview more candidates. Having information about the effectiveness of certain training programs and the research that provides information about teacher quality would be another advantage for making better judgments when hiring teachers (Hess, 2002).

Administrators will continue to have the dubious job to retain or release teachers based on job performance and student achievement, but the process can be stressful on all parties involved. Students who are assigned incompetent teachers are negatively affected from receiving inadequate instruction. Lost time for learning can never be replaced. Making better hiring decisions can be most beneficial to student learning and ultimately the entire school environment. The comparative study of traditional and alternate routes to teacher certification can give administrators information that can help them make better judgments and avoid hiring practice mistakes.

### Theoretical Framework

Research provided by Marzano (2003) in his book entitled *What Works in Schools* empowers the findings that schools committed to research based reform have a direct connection to successful student achievement. The factors recognized as most important

for the progression of school improvement are based on providing a guaranteed and viable curriculum. With the present-day circumstances that hold key factors in possibilities for continued improvement, it seems highly likely that these are the best of times for making student achievement dreams come true by eliminating socio-economic and environmental obstacles. Marzano expressed that the importance for identifying school-level factors, teacher-level factors, and student-level factors in schools enables them to rise above the excuses of the past to ensure overall student achievement (Marzano, 2003).

Research by Reynolds and Teddie (2000) identified school-level factors in student achievement directly connected to levels of expectations by the administration and instructors. Teaching and leadership proved to be the key ingredients to making positive gains in schools. Marzano (2003) identified the five most important school-level factors as follows: Guaranteed and viable curriculum; challenging goals and effective feedback; parent and community involvement; safe and orderly environment; collegiality and professionalism. His research provided clear connections to the students given the appropriate opportunity to learn. The districts that devoted the most resources and time to providing and protecting the curriculum standards held the greatest advantage when measuring student achievement on standardized assessments. Schools that planned the best possible framework for providing this curriculum and set goals to reach accomplished these through extensive research-based feedback information about student progress. Through diagnosis of problem areas with the entire student body and individualized instruction effectiveness, the prognosis for cures became more evident. This communication with students and parents provided clearer understanding of finding



successful solutions and integrating them for the best advantages. This increased community involvement gave great support for emphasizing the importance of safety and order to students and the need to focus on classroom work. Working together through teamwork techniques gave teachers a much easier task to provide greater quality of instruction. With these momentum swings toward student motivation, schools gained greater levels of success (Marzano, 2003).

When studying the different certification routes and the effectiveness of each, the fact that teachers who have the greatest effect on student achievement were identified as extremely significant (Stronge, 2007). Wright, Horn, and Sanders (1997) reported on 60,000 students across grades 3 through 5 that wide variations existed among the effectiveness of teachers; therefore, the improvement of teacher instruction and effectiveness would have a direct positive correlation to improvement in student achievement, regardless of environmental concerns. According to Marzano (2003), the teachers who mastered three key factors proved to be most effective toward moving students toward mastery of subject matter. Using instructional strategies that work included a variety of student learning based methods while providing consistent guided instruction and student feedback. Researched-based strategies for increasing student achievement (Marzano, Pickering, & Pollock, 2001) included identifying student commonalities, implementation of student reinforcement, including the importance of practice and homework, and providing various teaching methods and strategies. Using detailed lesson planning and pacing guides offered great support for teachers to follow the curriculum benchmark objectives and planned activities (Marzano et al, 2001). The classroom management skills research (Marzano, Marzano, & Pickering, 2003) focused

on the importance of teacher/student relationships with critical implementations of rules, procedures, and consequences for establishing control of the instructional process as a classroom leader. Being a proactive teacher who relates well with students was found to be a necessary component to motivating students to reach their potential.

Further research by Marzano (2004) reported about the importance of building background knowledge associated with building a greater vocabulary for students. The study reported that direct vocabulary instruction relating words to content surpassed the same instruction without the content connection or no vocabulary instruction at all. The teaching of vocabulary was reported to enhance student understanding of terms across the entire curriculum which aids in advancing students in all areas. This increased level of vocabulary transformed to better reading fluency and confidence of students (Marzano, 2004). This alleviates the problematic motivation of students addressed with the recent research by Chapman and Vagle (2011). Student motivation is a set of beliefs that directly influence behavior (Martin & Dawson, 2009). Teachers who direct a classroom that develops student's peer learning and positive teacher to student relationships aid in helping student motivation (Martin & Dowson, 2009). Many times student success is a direct result to motivation, and as the confidence goes up, their academic achievement follows the same path (Guskey, 2009a). Marzano (2003) identified student interest as being a most robust motivation. Regardless of environmental restraints, students who have exposure to background knowledge of vocabulary and motivation standards that enable them to excel, increased student achievement is a reality (Marzano, 2003).

The quality of instruction is directed and managed by the schools administration. The constant necessity of the role of leadership being one of the school instructional

leader leads all who fill other roles in the school to follow the example being modeled. The schools that used the data analysis associated with student progress were the ones saw substantial gains in achievement, but incremental gain programs are the longest lasting depth needed for improvements to continue for extended years (Marzano, 2003). Finding innovative ways to reach students and interest them, especially by using entertainment such as competitive instructional games, allows students to become interested in the content without being subjected to the humiliation of past failures (Marzano, 2010).

The bottom line for improving student learning is a coupling of work ethic and quality of instruction. Teacher quality can never be underestimated, and work ethic is a main ingredient in that mix (Chapman & Vagle, 2011). Effective instruction is the sound framework that student achievement is derived, and improvements in this area, either by the improvement with existing teachers or by administrators' judgments of hiring better teachers, can vault student achievement to new heights (Marzano, 2007).

### Hypotheses

The following research hypotheses will guide the study:

H<sub>01</sub>: There was no difference in student performance in Algebra I based on whether teachers received traditional or alternate route training controlling for percentage of students receiving free lunch and years of teacher experience.

H<sub>02</sub>: There was no difference in student performance in Biology I based on of students receiving free lunch and years of teacher experience.

H<sub>03</sub>: There was no difference in student performance in English II based on whether teachers received traditional or alternate route training controlling for

percentage of students receiving free lunch and years of teacher experience.

H<sub>04</sub>: There was no difference in student performance in U. S. History based on whether teachers received traditional or alternate route training controlling for percentage of students receiving free lunch and years of teacher experience.

H<sub>05</sub>: There was no difference in teacher variables (1) dependability; (2) classroom management and instruction; and (3) student relationships for teachers that received traditional versus alternate route training.

H<sub>06</sub>: There was no difference in subject area teacher variables (1) student mastery; (2) communication; and (3) cooperative attitude for teachers that received traditional versus alternate route training.

#### Definition of Terms

Terms, which are unique to this research, technical in nature, or subject to interpretation are defined below:

*Alternative Certification Programs (AC)*-These teacher certification programs allow individuals from other educational and career fields to become schoolteachers. According to the research, approximately 200,000 certified teachers in the United States have gone through an alternative program. Teacher candidates must have at least a bachelor's degree and a 2.5 cumulative grade point average. Most ACP programs usually take a year to complete (National Center for Education Evaluation and Regional Assistance, 2010).

*Community College*—The term *community college* is defined as “any institution regionally accredited to award the associate in arts or the associate in science as its highest degree”; furthermore, that definition includes the “comprehensive two-year,

college as well as many technical institutes, both public and private” (Cohen & Brawer, 2003).

*Mississippi Education Reform Act 1980* - This legislation developed a comprehensive system of standards for secondary education, introduced the concept of parental choice, and outlined an alternate method for teacher certification and licensure (Mississippi Department of Education, 2002).

*Higher Education Act 1998* - Created education action zones; empowered local authorities and the Secretary of State to intervene in the case of failing schools; replaced the grant maintained schools initiative with foundation school (U. S. Department of Education, 2003).

*Highly Qualified Teacher* - A provision of the NCLB Act refers to teachers in all grades who are considered experts in the subject matter/core content areas they teach (Apple, 2007).

*Mississippi Curriculum Test II (MCT II)* - These standardized tests, often referred to as the MCT of Mississippi, is the chief indicator of school accountability for grades three through eight. The areas of language arts, math, reading, and science are tested annually to reflect student mastery and academic growth. Each year more than one million students are administered these tests in Mississippi (Mississippi Department of Education, 2010).

*No Child Left Behind (NCLB)* - NCLB, which refers to the No Child Left Behind Act, 2001, a federal law passed during the George W. Bush administration. NCLB represents legislation that attempts to accomplish standards-based education reform. The

law and its subsequent implementation have grown to be a very controversial issue in education (Jorgenson & Hoffmann, 2003).

*Subject Area Testing Program (SATP)* - These standardized tests, often referred to as the SATP of Mississippi, is the most widely accepted indicator of high school accountability and student mastery of the core subjects being taught. The core subjects tested are Algebra I, Biology I, English II, and U.S. History. Each year more than one million students are administered these tests in Mississippi (Mississippi Department of Education, 2010).

*Traditional Teacher Certification Programs (TC)* – These teacher-training programs are college or university-based and offer specialized instruction for individuals in areas of concentration according to select grade level and/or subject area. These programs require the completion of certification requirements, which may include practice teaching (National Center for Education Evaluation and Regional Assistance, 2010).

#### Delimitations of the Study

The researcher acknowledges the following delimitations of this study:

1. Because of the number of possible predictors associated with high school Subject Area Test scores and the connection to the teacher certification routes, the researcher found it necessary to limit the scope of this research to the four subjects that are tested in Mississippi. These four areas are Algebra I, Biology I, English II, and U. S. History.
2. This research was delimited to one geographic area defined by a single community college district consisting of five counties in rural Mississippi.

Within this district, the collection of data and the impending interviews were limited to the nineteen high school located in these counties.

3. The collection of data for this study was delimited to the nineteen high schools within the select community college district for the school year 2010/2011 only.
4. The variables for the study were isolated from other possible factors that might influence teacher effectiveness. The study did not include the retention rate or longevity of teachers from different certification routes.

#### Limitations of the Study

Because of the relatively narrow focus on this study, the following limitations of this research were recognized prior to the research:

1. Because the data were obtained directly from the Mississippi Assessment and Accountability Reporting System (MAARS) database, accuracy of data was dependent on the information recorded and maintained by the Mississippi Department of Education (MDE).
2. The 2011 Mississippi Subject Area Test information obtained for Algebra I, Biology I, English II, and U. S. History was reliant on the test security plan implemented by each of the nineteen high schools within the study.

#### Assumptions of the Study

The researcher acknowledges the following assumptions of this study:

1. The Subject Area Test data retrieved from the Mississippi Department of Education for the school year 2010/2011 were accurately recorded and obtained from the MAARS database.

2. The teacher certification information obtained for each teacher of Algebra I, Biology I, English II, and U. S. History within the nineteen high schools being studied was accurate and valid.
3. The validity and reliability of the test security plan for the nineteen high schools being studied was administered with full integrity.
4. The survey of principals for the research study was based on personal opinions based on administrative experiences.

#### Justification for the Study

Finding the most effective educators is a top priority that principals and superintendents identify. Better understanding of teacher effectiveness enables them to make better decisions for student achievement. The connection between teacher quality and student achievement was invariably the emphasis for much research to provide much needed information for school districts that strive for improvements. The intention of the NCLB law to place *highly qualified* teachers in classrooms was to increase the quality of teachers. This study was intended to clarify the differences between the traditional and alternate route certifications and identify if either produces a significantly better quality of teachers.

According to a value-added assessment study (Rivkin, Hanushek, & Kane, 2005) in Tennessee, students scored approximately 50 percentile points higher when taught by high-quality teachers for three consecutive years as opposed to students who were taught by low-quality teachers for the same period of time (Rivkin et al., 2005). It was difficult to adequately measure teacher quality but not as hard to track test scores. Some studies have traced teacher test scores on college entrance exams or basic skills tests, and results



show that the students under high-scoring teachers are more likely to score higher on student achievement tests as well (Rivkin et al., 2005).

Teacher experience also seems to have a positive influence on student test scores. Teachers with five or more years of experience typically compare higher gains in student achievement test scores than teachers with less experience (Rockoff, 2004). There were several studies that contradicted each other concerning the quality of teachers who have different backgrounds to teacher certification (Laczko-Kerr & Beliner, 2002).

Past studies (Fowler, 2003) show that the quality of the teacher influences student achievement more than the students' race, class, prior academic record, or the school a student attends. More recent studies show that students lacking good teachers contribute to major achievement gaps in student achievement (Center for Public Education, 2008).

There are many top qualities of effective teachers, but the Center for Public Education lists these seven listed are most important: Preparation; Positive attitude; Organization; Active; Patience; Fairness; Clearness. The teacher is the role model to set the tone for the students to follow. Teachers who show enthusiasm and commitment are more likely to have students to reciprocate good qualities than teachers who are negative, impatient, and unprepared. The attitude of the students is most of the time a direct reflection of the teacher. Teaching is most effective when students are motivated by a desire to learn. Teacher enthusiasm in the subject generates interest from the student, which reflects the positive attitude of the teacher (CPE, 2008).

Teacher preparation and organization was often proven to be of quality in the lesson plans generated in advance. Further investigation proves the value of the lesson plans through teacher evaluations conducted through both announced and unannounced

classroom observations. Effective teachers demonstrate an active philosophy for the classroom environment, filled with intriguing and informative classroom décor along with interactive possibilities for students to engage. Work ethic of the teacher is most important and has no substitute to positively equal effectiveness. Effective teachers also have a simplistic approach to explain complex ideas. Teachers who stress basic fundamentals throughout each lesson break down barriers that students sometimes view as insurmountable. The patience of teachers when dealing with students shows true caring for student success. Students know and sense the genuine heart of a teacher and one who shows equality and fairness to all students (Center for New Design in Learning and Scholarship, 2010).

The Rockoff (2003) research offered a lot of definitions of effective teachers, but commitment to students learning, knowledge of the subject matter, managing students effectively, and setting goals for students and themselves most often creates positives in all phases of education. A teacher's happiness can affect the classroom climate and ultimately the students within (Stronge, 2007).

The school districts being studied have made small gains in student performance on Subject Area Tests and MCT2 test scores during the past five years, but improvements are not substantial enough. The community college district includes five surrounding counties that provide tax dollars, students, teachers, and many more means of support. The K-12 schools in this district rely on the community college for professional training, educational resources, dual enrollment opportunities for students, and many other areas of support. The college provides teacher education programs that can transfer to higher educational colleges and instructional programs for alternate route certification to

students who have finished degrees in other fields of study. The college is eager to improve any areas for preparing students to become teachers. This study provided information to the college to expose areas to concentrate efforts for improvements. The five counties in the community college district also embraced the idea that administrators obtain the information necessary to make better hiring decisions. School district leaders understand that reaching higher levels of student mastery is directly dependent on the quality of instruction. The findings of this study equips the school districts with information to help administrators hire effective teachers and assist them in designing better student-oriented programs.

### Summary

The history of finding qualified teachers points to consistent laws that adjusted the requirements in order to make the teaching profession more attractive to well qualified individuals. The Education Reform Act of 1980 brought changes that slowly began to affect instruction, but the Higher Education Act of 1998 created new standards to ensure better classroom instruction for all schools. The federal mandate, No Child Left Behind, 2001, not only required highly qualified instructors in schools, but it also set goals for student progress and ultimate goal achievement. The need for teachers with subject knowledge superiority began to draw more individuals from other fields of employment into education. With the traditional college schools of education producing fewer teachers than the demand, the alternate routes for teacher certification became a necessary track to fill the needs.

The debate that arose from the alternate route teacher certification was that of overall quality in association to student achievement. The differences with preparatory

requirements that focus on classroom management, curriculum planning, differentiated instruction, student assessments and evaluations, teacher collaboration, and other teaching responsibilities created theories of doubt for both traditional and alternate teacher certification routes. The mindset that either route is superior to the other is the fodder for future controversial discussions, but the common thread that fuels this is continued focus on the facts based on student learning. This study was to address those facts with a study sampling of students and teachers in high schools in a diversified district.

The study first examined the state standardized test scores and established which teachers instructed the students. The study then connected which teachers received the traditional route for certification and which finished the alternate route. The Subject Area Test results for high school students was compiled from a sampling of schools within the community college district and connected to the instructor's certification facts. These scores were compared to establish the effectiveness of the teacher upon student achievement. The research established a list of teachers who completed traditional and alternative routes for certification. The list was divided per school and sent to the administrators for feedback on teacher dependability, classroom management and instruction, student/teacher relationships, student mastery of instruction, communication with parents and students, and cooperative attitude for the teachers studied. The study process included research variables for teacher comparison studies based on gender, work-experience, student achievement, and evaluation results. In order to adequately reflect the concept of the study, the research included a comparison study on the general

background of teachers and students, teacher program characteristics, and the characteristics of the schools.

The focus of this study was to determine if there was a significant difference among the quality of instruction between the traditional and alternate routes for teacher certification and how student achievement was affected. These findings produced information that administrators can use to gauge the quality of teachers and make decisions based on research findings that can elevate school districts to substantial growth status.

## CHAPTER II

### LITERATURE REVIEW

#### History of Teacher Certification Standards

The practice of alternative teacher certification is not a new concept. In the 19<sup>th</sup> century, it was common for each school district to hire and certify its own teachers and administrators. The shortages of college graduates made it necessary to explore ways to find intelligent individuals who were willing to teach children the proper methods to learn subjects such as reading, writing, arithmetic, and science. Many urban school districts set up their own normal schools. In 1983, only eight states had alternative route certification programs. By 1999, 40 states and the District of Columbia had implemented one or more models (Feistritzer & Chester, 2000).

The debate for teacher education reform in the United States was ongoing for decades before alternate route programs became a reality. Representatives of academic or traditional teacher education programs extended the debate to include policy makers, economists, sociologists, and researchers (Wilson & Tamir, 2008). The questions about traditional education programs revolved around the training that some referred to as pedagogical preparation for teachers and the value placed on student achievement (Cochran-Smith, 2005). The supporters of the traditional university education training often referred to the use of professional standards and performance-based assessment of these programs. The objectors to these tracks to the education profession cited discrepancies in the certification regulations creating barriers for qualified people to enter the field (Cochran-Smith & Fries, 2001).

One report, *A Nation at Risk*, (National Commission on Excellence in Education, 1983) addressed the problem of quality and quantity in the education field by developing a collaborative program for teachers and administrators to work to improving classroom instruction. The report proposed an agenda for the professionalization of the teaching profession. The report also brought public opinion to examine the education programs and the teacher qualifications as well. Other reports from the Carnegie Forum on Education and the Economy Teaching (1986) and the Holmes Group (1986) suggested an increase in training requirements for college programs, new standards for ongoing teacher education, and performance-based assessments for teachers (Gatlin, 2009).

The typical concern for insiders of the teaching profession was conserving the status quo associated with university-based teacher education programs. Stakeholders from outside the teaching profession were devoted to challenging that status quo (Hess, 2005). This faction advocated breaking down the traditional barriers for potential teachers receiving certification through the introduction of worthwhile alternate routes to teacher certification (Feistritzer, 2005a). Arguments abounded that even though teacher quality was identified as the most important factor affecting student achievement, the traditional education programs failed to produce enough quality or quantity to meet the demands (Stotko, Ingram, & Beaty-O’Ferrall, 2007).

In 1996, the commitment to class size reduction in schools across the nation created openings for many alternate-route teachers who had little or no teaching preparation prior to receiving emergency certification. Many sought teaching employment after being dissatisfied with the uncertainty of the business world (Fideler, Foster, & Schwartz, 2000). The alternate program is distinctly different than traditional

programs with regards to participants receiving income while completing the requirements for certification. This is an advantage for people seeking a second career who are attracted to the teaching profession after receiving degrees in other fields. This allows them to continue meeting financial obligations while going through the process of requirements of the alternate programs (Birkeland & Peske, 2004).

The purpose for alternative teacher certification programs also arose from perceived teacher shortages in both rural and urban settings. A report by Huang, Yi, and Haycock (2002) indicated that in the high-poverty districts of California, 23% of teachers did not have teaching licenses, whereas, only 13% of teachers without license existed in the remainder of the state. The alternate-route programs enabled these districts to hire certified teachers rather than relying on trying to fill positions with emergency licensing as a solution to fill vacancies. This granted prospective teachers a way to earn a living while offering more support to those who fulfilled the needs in these areas of high demand (Huang et al., 2002).

In 2003, Rod Paige, U. S. Secretary of Education, identified the alternate teacher training programs as the answer to the teacher shortage. In response, the federal government added \$41.65 million to budget allocations to support the creation of these programs. This allowed mid-career professionals to shift to teaching positions without causing a hardship on the family financial matters (Blair, 2003). The perceived teacher shortage was viewed by many as being a way to improve teacher quality while replacing teachers with emergency certification. This was also seen as a valuable tool to recruit more knowledgeable individuals, train prospective teachers, and certify participants for multiple years (Feistritz & Chester, 2002).



Experts needed to hire 2.2 million teachers through 2010 (Birkeland & Peske, 2004). The urgency of the federal government and officials created great awareness about the issue to be addressed by the public as well. The federal No Child Left Behind Act of 2001 (NCLB) legislation called for “highly qualified” teachers in every classroom, changes in demographics in the teaching force, a growing public school population, and class-size reduction efforts in some states contributed to teacher shortages (Birkeland & Peske, 2004). Research by Young (2003) also revealed an aging workforce of teachers with impending retirement as possibly contributing to future teacher shortages. The report indicated that more than 30% of teachers were over 50 years of age and more than half would retire before 2010 (Young, 2003).

Another factor causing concern was the fact that 30% of teachers were leaving the profession within three years and as many as 50% within five years of employment (Ingersoll & Smith, 2003). Research by Lankford, Loeb, and Wyckoff (2002) revealed that more than half of the teachers leaving the profession were actually migrating to higher-achieving schools, ultimately leaving poorer districts trying to find suitable teachers to fill positions. This localized nature of shortages created high demand for teachers in some areas while other areas had an influx of applicants (Hanushek, Kain, O’Brian, and Rivkin, 2004).

The continued increases in the demands for teachers coupled with the radical views of education reformists caused many states, frustrated with the traditional teacher education programs failure to produce adequate results, to put the creation of alternate routes high on the agenda (Klagholz, 2000). Visionaries contended that the answer was in these new programs that would attract high-quality candidates from other professions and

revitalize the existing traditional programs to revolutionize the training structure (Walsh & Jacobs, 2007). The reforms from the 1990s became common in most school districts during the following decade (Wilson & Tamir, 2008). In 2007, 20% of new teachers hired were products of the alternate routes (National Council on Teacher Quality, 2007). There was a significant increase in the number of alternate routes to teaching in many states, as well as programs such as *Teach for America* (Feistritzer & Chester, 2002).

Alternate-route programs were established for the following reasons: to provide accessibility to the teaching workforce for nontraditional teachers; to attract teachers to geographical regions having difficulties recruiting enough teachers; To attract potential teachers to subject areas with shortages, such as math and science; to attract intellectual and highly qualified individuals who held degrees in other areas (Birkeland & Peske, 2004). Birkeland and Peske (2004) reported that the quick route to teacher certification would continue to lure potential teachers to the field of education. He also reported that 55% of the participants in this research reported that they would much more likely consider entering the teaching profession if they did not have to consider going back to school to complete education courses (Birkeland & Peske, 2004). Fowler (2003) reported on the research compiled for the Massachusetts Institute for New Teachers that the state policy for alternate-route certification had increased the pool of qualified candidates and attracted individuals who indicated that they would have not entered the profession without this opportunity (Fowler, 2003).

The Higher Education Act of 1998, a reauthorization of the 1965 HEA, created a new focus on teaching and higher instructional levels for the classroom. The accountability standards were the set expectations that all teachers were required to meet.

Federal funds were promised, under Title II of the Act, to train teachers to meet all requirements set with the accountability standards. Although alternate-route programs were well established prior to this Act, these higher teaching requirements coupled with emphasis placed on the reduction of class sizes created a boom for participants and college programs (Feistritzer, 2005a). Ensuing studies (Hess, 2005) revealed the impact of teacher quality on student achievement. The new emphasis placed on quality training was a hotly debated issue, especially when the seemingly easier method for obtaining a teaching certificate through the alternate route gained momentum. Teacher training became a main focus, and the requirement of Continuing Education Units (CEU) for teachers was a requirement that ensured the progression of teacher instruction (Hess, 2005).

The research reviews of the successfulness of teachers and the alternate programs found areas of concern and deficiencies. Walsh and Jacob's research (2007) in 11 states indicated that programs were not selective enough when signing candidates, lacked enough flexibility to support potential high-quality candidates, and were not providing enough training and support for alternate route teachers. They also noted that some programs required unnecessary and irrelevant course work. The most devastating report was that most alternate programs seemed to be mirror images of the traditional programs (Walsh & Jacobs, 2007). Many alternate programs have become mere variations of the traditional route theme (Boyd, Grossman, Lankford, Leob, & Wyckoff, 2008b).

Due to the increased demands for teacher units and the need for producing qualified teachers to meet these needs, the traditional and alternate route programs have recruited teaching prospects to train with the best practices in mind. The transfer of

classroom instruction to student learning is the ultimate motivation for studying the effectiveness of the teacher preparatory programs. Each of the programs has distinctive styles and variations that equip teachers with the necessary training to become effective instructors to reach the goals of student achievement. Through thorough examination of each program, the differences and comparisons can be made to help determine which is superior.

### Traditional and Alternate Route Comparisons

School improvement is directly linked to improvement in student achievement. The goals set by school administrators and staff can only be reached with trained teachers who are effective and with a staff that works together with a focus on student achievement. Over 200 studies (Darling-Hammond & Cobb, 1996) conducted prior to the Higher Education Act of 1998 indicated that the most important factor in student achievement and overall school improvement is with an effective, skillful teacher. According to Ferguson and Brown (2001), expert teachers account for 40% improvement in student learning, more than any other factor. Rockoff (2003) stated that students who have several effective teachers in a row made significant gains in achievement while students who had at least two ineffective teachers in a row lost significant ground in achievement. Wenglinsky (2002) reported that the single most important factor affecting academic growth in the student populations was the differences in teacher effectiveness.

The importance of effective teachers cannot be overemphasized when focusing on improvement in student achievement. School goals and mission statements reflect the very dedication to finding ways to reach student needs and aid in student academic growth. Regardless of the training programs such as the traditional and alternate routes to

teacher certification, strengths and weaknesses abound in both. The criteria designed with each program to meet the basic needs for teachers to be equipped to become effective instructors can be a major factor with overall school improvement. By analyzing each program's requirements, better understanding of the philosophies of each can exhumate facts for future references.

### *Traditional Route Requirements*

The impact of pedagogical preparation for the traditional route programs in many instances is consistent with student achievement. Instructional methods, student learning theories, student evaluation and testing, educational psychology and sociology, and historical successes in education are areas that are stressed in college preparation programs (Zeichner & Schulte, 2001). These areas are given virtual exclusiveness and focus pointed to the purpose of teaching. These proposed classes create reality for real experiences and pointed responsiveness for natural teaching effectiveness (Darling-Hammond, 2000).

The Ruenzel (2002) study suggested that the teacher preparation based on subject matter alone is inadequate for teaching toward high subject matter standards. In many instances, teachers have fully mastered the basic skills and even beyond the inevitable advancement understanding at the college level, but they sometimes lack the depth of understanding when faced with students' questions. The responsiveness is many times lacking in the teachable moments that extend the curriculum beyond the basics and into the creative world from the students' minds. This higher-level thinking is considered analysis, synthesis, and evaluation, and creates the basis for problem solving techniques that students desperately need (Zeichner & Schulte, 2001).

The traditional teacher education programs have been challenged as not meeting the needs of the ever-changing society of students. Many programs have taken the criticism and made necessary changes in the agenda for a transformation and redesign. The most successful changes have been reflected in the programs by creating stronger clinical design, stronger content coursework, additional training for student learning and development, common and formative assessments, and special needs students and English language learners. The clinical design has moved toward placing teaching candidates in more practical settings and helping connect coursework to the practice teaching. Reports from university supervisors of these programs show evidence that graduates are better prepared and have better contribution to student learning (Boyd, Grossman, Lankford, Leob, & Wyckoff, 2008b).

Buice (2003) reported an analysis of the New York City teacher education programs showed more positive effects with the redesigned agenda. This study found that teacher certification is a significant predictor of student achievement. The team of researchers cited the findings from exemplary programs with the following features:

- more direct supervision with the quality of student teaching placement
- connection from student teaching placement areas to possible teaching employment, such as subject area, grade levels, and student demographics
- coursework load in specified areas and content knowledge of teaching methods
- candidates use of teaching practices and tools focused on in courses and clinical placement

- focus on the curriculum designed in the district and state education department
- portfolio of clinical work performed in the classroom setting and experience program stability reflected by tenure-line university instructors

These effective teacher education programs also have a clinical curriculum and a didactic curriculum, which requires candidates to apply what they are learning into curriculum plans and teaching applications based on professional teaching standards (Boyd et al., 2008a).

The quality programs have adjusted the clinical experiences to require at least a full academic year of student teaching under the direct supervision of one or more expert teachers who model high quality instruction. The candidates are required to work alongside these quality teachers who show best methods for student learning while taking coursework that interweaves the teaching experiences with content knowledge. Studies of these highly developed programs suggest that graduates become teachers who feel more knowledgeable and prepared to teach and are rated higher by their employers (Darling-Hammond & Bransford, 2005).

Teacher subject matter preparation and student achievement have a positive relationship according to a research study based on the areas of mathematics (Rockoff, 2003). The study indicated that there was only minimal additional effect on student performance on tests with teachers who studied beyond five undergraduate courses. Teachers, who were math majors and had no traditional classes on instructional procedures associated with mathematics, had no bearing on student performance. Courses in mathematics education for teachers contributed much more to the positive student

performance on tests than teachers with only undergraduate mathematic courses. The science teachers studied showed significant differences on student achievement. There was a positive relationship between additional graduate coursework and student achievement, especially in the physical sciences (Rockoff, 2003).

Researchers found that in 80% of the studies (Zeichner & Schulte, 2001) conducted, the education coursework was a better predictor of student achievement than the teacher subject matter major or GPA of the prospective teacher when entering the educational program. The interpretive studies indicated that teachers who complete the traditional route programs institute their knowledge of instructional strategies to better benefit the students and the individual needs to learn to the fullest. Classroom management and discipline training creates an atmosphere for students to excel and focus on the material being presented in an environment conducive to the total process. The routines established by the teachers' studying best practices for classroom rules and procedures solidifies the timing for education coursework. Many traditional route teachers expressed an ability to recognize their ability to reorganize the subject matter in light of how it should be presented and taught in multiple facets (Zeichner & Schulte, 2001). The research found on student teaching preparation includes a few small interpretative studies. They focus on teaching skills not associated with the required subject matter courses within the student major concentration. These studies of clinical training indicate positive effects of field experience on future teacher success.

The substantial amount of time spent in the field experience involves learning the best techniques to become a best teacher possible. The field experience component is a staple of the traditional route teacher program. Many studies show that newly certified



teachers respond on surveys as this component being the most powerful part of the teacher preparation program.

The research of the field experience component for the traditional route trainer program explored three areas associated with the clinical component.

1. Promising practices in field experiences
2. Factors that shape student teaching
3. The impact of traditional student teaching in comparison with longer internships (Zeichner & Schulte, 2001).

The Qu and Becker (2003) study examined the promising practices in field experiences concluded that student teaching could be more educative for those who follow this route. The study researchers found that new teachers learned most from the experiences when the college program director required an action research project designed by the institution. The laboratory experiences shared field experiences with other prospective teachers about organizing instruction, reflecting on success, and making necessary improvements in difficult areas. The consensus among the program participants is that the cooperating teachers have a powerful influence on the student teaching experience. Even when the cooperating teacher held different teaching philosophies than the new ideas being presented during college preparatory classes, most student teachers indicated a greater understanding of two distinctly different teaching styles. The observation of the regular classroom teacher and the live experience provided double exposure to the first hand point of view for the field experience teacher (Qu & Becker, 2003).

The factors that shape student teaching are conclusively different according to the individual involved, but the cooperating teacher generates distinct personal spins on the field experience (Laczko-Kerr & Berliner, 2002). The beliefs and knowledge of the student teachers' and the cooperating teachers both contribute greatly to how the field experience is evaluated. The cooperating teachers work with the prospective teachers in many ways to focus on the subjects, discipline needs, personality, classroom management and control, and finding the best practice to be effective. Some cooperating teacher offer little advice or support and indicate an accommodation of publicized status quo of schools and their own practices. These teaching personalities can create negativity among the exuberant and energetic student teachers. Many cooperative teachers view their role as an enabler and stress independence and personal interpretation of the practice teaching experience.

One very important factor that prospective teachers must always realize is the importance of establishing routines for classroom management, discipline, and time for instruction. Without these initial requirements in place, the teacher cannot focus on student learning. Learning these survival skills, learning personalities and dealing with students, and understanding the various complexities and differences for student learning creates situations that cannot be simulated without field experience (Wong, 2004).

Articles written by Wilson, Floden and Ferrini-Mundy (2002) about comparative studies of 5-year and 4-year programs report that teachers who went through yearlong internships were more satisfied with the field experience component. Many programs only require observation blocks during half of the school year, and most are not conducted in the same school setting as the field experience placement. The concluding

summary indicated that the extended time gave student teachers more of a full year picture of what it takes to build student understanding and constant review of learned skills that must become a natural reflex for mental capacity. This yearlong experience seemed to significantly contribute to the quality of new teacher instruction (Wilson, Floden & Ferrini-Mundy, 2002).

#### *Alternate Route Requirements*

The alternative route program controversy is embedded in the challenge posed from some state and school district run programs by traditional university and college control over teacher education programs. In some cases, there are lower standards than in college and university teacher preparation programs, and the alternative programs are viewed as attempting to undermine the importance placed on field experience by the institutions. It seems to imply that this is not necessary and all that is needed is content knowledge and an apprenticeship in a school during internship (Birkeland & Peske, 2004). Advocates of the alternative route program indicate that it is intended to bring more academically competent individuals into the teaching profession who would otherwise enter another profession (Feistritzer & Chester, 2002).

The Constantine et al. (2009) studies indicate that the average age of students who receive certification through the alternate route programs is 35, which is significantly higher than the average traditional route student at age 25. This is not surprising due to the program design to attract individuals from other careers into the teaching profession. The population of students entering the teaching profession has generally risen in average age as the trend shifts to people beginning to teach later in life. The alternate route

programs have helped those non-traditional students find their way into the education profession (Feistritz & Chester, 2002).

The teacher retention question is addressed in the Ingersoll and Smith (2003) study about whether the alternate programs will be able to bring in teachers who will stay in the deficient areas that they were placed. Traditionally certified teachers responded in the study that they were more satisfied after the first year and were more likely to be committed to teaching as a career (Darling-Hammond, 2010). Wilson et al. (2002) indicates that teachers from alternate routes have lower academic qualifications than teachers from traditional routes, are less likely to remain in the profession for a career, and many times enter the alternate programs to avoid the traditional route teacher preparation requirement (Wilson et al., 2002).

The alternate route certification programs require teachers to complete a practicum experience while teaching in the classroom. This is a positive attraction to most and is seen as one of the distinct advantages to traditional route programs. Three of the advantages reported were financial rewards, independence as the classroom teacher, and learning to teach through experience. Overwhelming responses from interviews of alternate route teachers cited that earning a salary while completing the preparation requirement was a definite advantage economically and philosophically. The idea that learning while on the job provided immediate feedback for adjustments to be made as soon as necessary. Participants of alternate programs that had the luxury of hands-on experiences and responsibilities expressed appreciation of the experience (Gatlin, 2009).

Some alternate route programs have high standards for entrance, coursework, and mentorship. In many cases, the alternative programs are very similar to the traditional

certification, only customized to accommodate the clientele. An example of the Dallas Independent School District Alternate Route Program was created from collaboration between the local school district and the nearby college of East Texas State University in 2000. The coursework was created by the college and derived by consultation with the school district. The end result was a very similar set of coursework to the traditional college program, but altered to fit the urgent needs for worthy teachers who held subject area degrees. The number of credit hours required for courses was comparable to teacher preparation programs for traditional students, but carried out in conjunction with the actual named teacher of record (Zeichner & Schulte, 2001).

The research reviewed from Georgia, California, and New Hampshire about the alternative route programs does point to diversity among the recruitment pool, but mixed reports about the quality of teachers and equally diverse. The alternate programs vary from 1-year programs, 2-year programs, and a few weeks of pre-training before placement as a teacher (Qu & Becker, 2003). These scenarios ultimately create the mixture of reports about the various alternate route teachers.

#### *Alternate Route Variances*

As many states began accepting the responsibilities for the creation of programs for potential teachers to complete the alternate certification, state universities began setting up acceptable criteria for meeting these needs. One example of the programs in Mississippi is the Teach Mississippi Institute (TMI) set up by the University of Mississippi in 2008. Conditional acceptance is given to students who have received a bachelor degree in a designated field of study and passing scores on the Praxis I and Praxis II tests in the area of study. The areas of science, math, English, social studies,

business, and special education have separate Praxis II tests within the broad field of study, and each certified code for the state of Mississippi is reflective of these tests (Teach Mississippi Institute, 2007).

The Teach Mississippi Institute requires two components after students have been accepted into the program. The first component requires a 10-week course taught online three to nine hours per week. In addition, a one-day TMI Orientation and an additional one-day workshop midway through the course work are mandatory. The next phase requires each student to complete sixty hours of field experience in a Mississippi classroom setting with a highly qualified teacher in grades 7-12. Students must record the time on a log form for activities and time spent in the classroom and an evaluation sheet must be completed by the teacher and returned to the TMI office upon completion (Teach Mississippi Institute, 2007). Program participants should assist the classroom teacher by assisting with supervision or other areas, preparing instructional materials, checking student assignments, tutoring individual students, or teaching lessons in small groups or to the whole class. The teacher will evaluate the areas of attendance, interactions, professionalism, and assistance in the classroom.

The final part of the classroom observation component is a reflective summary that includes the participant's personal experiences that address feelings, attitudes, and perspectives on the field experience. This includes descriptions of the school environment, grade level and student make-up, classroom structure routine and schedule, curriculum and teaching strategies, differentiated instruction methods observed, and participation in activities and teaching (Teach Mississippi Institute, 2007).

Research by Walsh and Jacobs (2007) reports positive observations about attracting a diverse pool of prospective teachers in relation to age and ethnicity. It seems that older people take advantage of this opportunity and in many instances the individual maturity of a teacher is a very beneficial factor when dealing with children. Also, the inclusion of highly qualified people of different ethnic backgrounds brings that spirit of working together as an example for students to follow. Alternate routes are mixed with attracting the best and most qualified individuals. In some districts, prospective teachers in alternate route programs had GPA averages that were higher than the traditional route students in English, but mathematics and science scores are usually lower (Walsh & Jacobs, 2007).

The Qu and Becker (2003) research reported that the percentage of alternate route teachers teaching out of subject content concentration areas was higher than that of traditionally certified teachers. These teachers seem to offset any negative connotation to the alternate connection by consistently receiving higher evaluations from administrators and consistently scoring higher on state certification tests than that of traditional route teachers. This is attributed to the fact that extensive programs with high entrance examinations are issued to prospective participants, which acts as a natural screening device. The Qu & Becker (2003) research also examined the effects of the alternate programs on student achievement in comparison to the traditional route teachers. The results showed that there were no differences in the average student achievement (Qu & Becker, 2003).

Upon reviewing the research literature, it seems that many features of the alternative programs provide high-quality teachers. The programs include high standards,

good mentoring-based supervisory support, good training before and during teacher placement, good instructions provided for lesson planning, and good provision for responsibility and accountability (Roach & Cohen, 2002).

#### Teacher Effectiveness on Student Achievement

Strategies to spend more time teaching a few critical concepts rather than trying to cover more material in classrooms has grown in merit as increased state tests focus more on fundamentals (Heck, 2007). Research by Guskey (2009a) indicated that students learn better when in-depth treatment is narrowed to most important topics. Professional educators are centering curriculum on state standards while isolating the most key concepts before exploring extension of instruction planning. Teachers guide students through vital understanding that is essential before future concepts can be added. Building understanding in an organized and step-by-step approach better fits student needs. This approach also can be used as an intervention screener to ensure that all students master these key concepts before moving forward to more advanced learning. It is apparent that students become frustrated when class instruction seems to move forward without all students having the confidence that accompanies successful learning (Guskey, 2009a).

#### *The Effect of Homework Assignments*

Homework assignment research by Cooper (2007) indicated that unequal opportunities exist when students leave the classroom and go home to diverse environments. Many obstacles and differences include parental supervision, college-educated parents, reference resources, Internet and computer access, and suitable studying locations. Teachers must take careful precautions to organize homework in



accommodating ways so that no student will be disadvantaged when completing assignments. The research also indicated that the use of technology to be highly effective for improving communication with the home environment and understanding for the completion of homework assignments (Cooper, 2007).

Teachers use homework assignments to provide additional learning outside of the classroom environment to strengthen students' skills. It also serves to keep parents involved and informed about the child's mastery of material. For this strategy to become reality, teachers must work carefully to create homework assignments as important parts of the curriculum framework. This additional practice should be to complement classroom instruction by providing students with opportunities to become confident learners (Cooper, 2007). Establishing homework routines and clearly making assignment connections to extra credit or positive reinforcement opportunities with grading procedures creates increased incentives for students. Avoiding misunderstandings can be accomplished by beginning the assignments during class. Teaching the advantages and strategies of improving homework skills can help students with organizational skills while breaking down assignments into sequential parts (Cooper, 2007). The downfall of placing too much emphasis on homework assignments is that the teacher has limited control over the learning environment. Inequalities exist in all varieties of diverse dwellings, and the pressure to successfully complete these assignments is contingent on outside forces more so than intrinsic motivation (Glasgow, McNary, & Hicks, 2006).

#### *Providing Feedback for Students*

Principals have emphasized the power of instructors giving positive feedback to students for many years. The most recent research (Reeves, 2007) gives merit to this

philosophy as being critically important when assisting students in learning. Reeves reported that when studying teachers of writing, the more specific comments made by teachers about student work, the more students accurately improved writing skills and showed growth. The more teachers give positive feedback and give praise for effort, the more students continue to work toward improvement. Teachers inspire students to continue to work on improvement techniques to grow as writers (Reeves, 2007).

Teachers can use exemplary models of writing samples to show students what good writing organization looks like and what good content feels like. By providing and explaining the grading rubric, students can make connections and corrections based on the required demonstrations. Inevitably, student revision of incorrectness coupled with positive feedback for strengths of the assignment leads to student growth and understanding (Glasgow et al., 2006).

### *Teacher Quality*

Howse, Lange, Farran, and Boyles (2003) researched the self-regulation and attention skills of students through a study of elementary students. The focus was on students' abilities to focus on classroom instruction and the rate of distraction in relation to student performance. The research indicated that teachers must organize classrooms that actively address the self-regulation of attention skills. Students from lower-income backgrounds were cited as potential attention deficit problems. The study indicated that less time should be spent on motivation techniques and more time be dedicated to developing specific skills needed for academic success. Students who created a journal for planning, determining stages for learning, and reflection after the completion of assignments fared better than those who did not. The journal also provided students to

make necessary adjustments for the next assignments in accordance to the teacher instruction (Glasgow et al., 2006).

Research information about the connection between teacher quality and student achievement was reported in an article by Heck (2007). The report infers that quality, in this case, should be identified as the percentage of teachers who meet state licensing, content, and performance standards. The research focused on whether student achievement was substantial when dependence was on the teacher qualities that were defined. The research also focused on teacher quality as an organizational ownership that schools somehow produce through high expectations and learning environment (Heck, 2007). The quality of teaching tracks preparation, licensing, and content knowledge and how the students' opportunities to learn are affected by academic expectations, instruction, and student support (Darling-Hammond, 2006).

The findings of research by Heck (2007) provides evidence that the quality of teachers does matter in determining the differences in schools in the student achievement levels of reading and math and the growth rates in math. Classroom effectiveness and teacher characteristics, professional preparation, and licensing were each researched and identified as having positive connections to student achievement (Heck, 2007). The findings also indicate that these student achievement levels have other variables that clearly affect the scores, most notably with social class and race/ethnicity (Heck, 2007). The student relationship to the teacher seems to overcome many challenging learning opportunities through the individual support that the teachers contribute to the learning experience (Goldhaber, 2002).

It is not clear how organization, strategies, and behavior control of the entire school transforms into the individual teacher classroom and how much these connections affect high student achievement (McCaffrey, Lockwood, Koretz, & Hamilton, 2003). It has been noted that some differences in teaching procedures in classroom practices between high and low-producing schools are contingent on instructional content, time on task, and discipline rules and procedures (Levin & He, 2008). It is also not clear if teachers who exude positive or negative personalities to students affect students that lead to differences in future academic advantages or disadvantages (McCaffrey et al., 2003). Most research reports focus on students' test scores and the connection to the classroom teacher responsible for the learning during that time frame. Initial claims identify factors that attempt to answer questions, but more research is needed to identify major differences in teacher quality in the classrooms (Hamilton, 2003).

The most frequent measure from the McCaffrey et al. (2003) report was to use teacher observations for best attributes and professional qualifications. The study was tied to teaching experience and levels of education. The reason given for this criteria used was that it was directly tied to salaries; therefore, it was much easier to track than the intangibles associated with high qualities of effective teachers. The findings reported that experience does have positive effects with classroom management and organization, but it shows limited effectiveness when implementing innovative techniques and integrating technology (McCaffrey et al., 2003). The education levels and experience do appear to provide some evidence connected to student gains, but further explanations regarding this theory suggested that there were mixed findings dependent on the circumstances and the particular subjects being taught (Goldhaber, 2002).

Several studies from the Kane, Rockoff, and Staiger (2006) report cited some positive connections between students' achievement in relation to teacher academic skills, but it seems to be tied to certain subject areas and course work preparation. The particular areas of concentration expertise attained by a teacher through the completion of college courses in one field was deemed more effective due to the fact that students had a greater degree of success (Kane, Rockoff, & Staiger, 2006). Examples showed instances where teachers teaching subjects outside their realm of expertise had a negative effect on student achievement. There is only limited evidence regarding the differences between alternate route and traditional route teachers. The report does state that the consideration for a particular route to certification did not skew the facts for the number of courses taken in a particular field being a positive attribute for teacher quality (Kane et al., 2006).

The Goldhaber (2002) research reported the inadequacies in the teaching profession in relation to the conditions of school districts. These conditions were given as the reason for the difficulty that these school districts have when attempting to hire or retain fully qualified teachers. As a result, these challenges cause school administrators to hire teachers who are less qualified or teachers who are forced to teach subjects outside their certified areas. These challenges associated with poor districts are great obstacles when trying to meet the desperate needs of students who attend schools in low-performing districts (Goldhaber, 2002). Socioeconomically challenged areas are twice as likely to employ teachers who have teachers with less than three years experience and are much more likely to employ teachers who are not fully certified or are teaching outside of their preparation fields. These inequalities compound the problem with student

achievement in relation to highly qualified teachers with vast experience and content expertise (Oakes, 2005).

There are more challenges from the Goldhaber (2002) report that claims a link between high-quality teachers and high quality student achievement. The report states that the quality of the programs for training prospective teachers has great variance and is not always clearly correlative. The states all seem to have some similarities about becoming certified, but different certification requirements alter the generalizing aspect. For example, the content knowledge demonstration requirement for many states is nonexistent in others. While some required certification tests are required, the passing rates for receiving teaching licensure swings with wide ranges according to which state is being studied (Feistritzer, 2005b). The second concern exists from the fact of relationships between teacher certification standards and student achievement. Although the personal relationship for teaching certification and student achievement is researched, the overall organizational environment of the school and school district is not included in the study. The studies show the correlation from the teacher qualifications but not the overall district perceptions to hiring practices that generate individuals who possess the district requirements. This macro-level aspect is a determinant with student achievement and is a direct relation to the sensitivity for creating a stronger teaching community. The other concern indicates that affluent districts and schools hire teachers who possess higher qualifications and that the opportunity to have this option is nonexistent with poorer districts (Goldhaber, 2002).

Poverty or family conditions are regularly used as an excuse to explaining the achievement gap for poor and minority students, but in reality, studies consistently point

to the systematic differences in teacher quality (Goldhaber, 2002). The demand placed on effective teachers has created shortages in urban areas and in areas where high minority student populations exist. Due to this factor, these school districts are regularly forced to employ teachers who are less effective instructors. Reeves (2005) reports that students who are taught by teachers who are ineffective instructors for two years in a row can never recover the learning skills lost during those years. When improvements are made in teacher quality of instruction, the largest gains are recorded with the improvement of these low achieving students (Wong, 2007). Good instruction is 15 to 20 times more powerful than family background and income, race, gender, and other explanatory variables (Aaronson, Barrow, & Sander, 2007).

#### *Diverse Cultural Challenges*

Teachers, who are determined to being more effective for all students, must understand the importance of being prepared for using multi-cultural teaching methods and inclusive instruction. Traditional teacher education programs stress strategies to better meet the needs of all students. Considerations about the characteristics of prejudice and racism are main points for teachers to deal with the challenges of teaching ethnic and minority students and to provide social support while challenging these students to be successful (Glasgow et al., 2006). One method to help bring instruction and social support together is the use of cooperative learning groups. Groups are divided with understanding that differences in gender, race, ethnicity, and ability can actually provide all students the avenue to learn how to work with the various unique diverse groups that are reflective in the current American society (Glasgow et al., 2006).

Teachers who possess high multi-cultural competence have an ability to relate to the uniqueness of each student in relation to the diverse cultures that defines their identity and perspective. Teachers must move past stereotypical references that many groups face in society and identify the influences that help construct instructional strategies that better meet the educational needs for these groups of students (Glasgow et al., 2006). Through teacher modeling, all students can learn to exhibit better skills for addressing fellow students as well. Classrooms that are populated with these diverse cultures provide many opportunities for teachable moments that are common beliefs and behaviors for all cultures. Creating critical thinking topics for students during classroom discussions can bring about complex situations, but finding similarities and commonalities can bridge the gap for prejudices and divisions (Glasgow et al., 2006).

Teachers must be aware of certain precautions to take in order to avoid being a stumbling block instead of an open door to diverse student learning success. Teachers must realize that references to diverse cultures and approaches must be carefully diagnosed before implementation in many situations. Developing these teaching styles takes time, and in many instances, experience with multiple opportunities can provide the best understanding. Avoidance of patronizing multicultural groups is of utmost importance when trying to make instructional breakthroughs (Hanusheck, Kain, O'Brian, & Rivkin, 2005).

New teachers express the challenges of dealing with actual students in school environments. Traditional route teacher candidates receive multiple chances to record hours of observation and practicum experience during their pursuance of a degree in education, but reality sometimes brings about situations that were not part of the training



while in college (Glasgow et al., 2006). These idealistic views and expectations prior to teachers receiving a job placement in education can cause anxiety for new teachers. Alternate route certified teachers are usually regarded as less prepared to deal with this diverseness at traditional route teachers. Regardless of the route to teaching, overcoming these obstacles and creating personalized relationships is essential to becoming an effective teacher (Glasgow et al., 2006).

The most important aspect to reaching students and meeting their educational needs is establishing relationships that emphasize personal attention with each student. This requires a conscious effort to communicate successfully and develop strategies to emphasize personal instruction tailored to fit each student's emotional and social situations (Heck, 2007).

Teaching styles that deal with numerous cultures are businesslike approaches and teaching with assertiveness (Rockoff, 2003). Some effective teachers deal with classroom diversity with a democratic approach. This democratic style is based on cooperation, goal setting, shared decision-making, and shared responsibilities. This style respects the rights of others and enables students to take more control and responsibility over their own achievement. This approach is built around ownership of all involved and stresses that freedom to succeed is coupled with self-reliance. The normal tendency of teachers who used this approach were mostly new to the profession and trained in giving students more input in classroom decisions (Lee & Burkham, 2003).

The businesslike approach and highly structured approach was a commonality for more experienced teachers (Heck, 2007). This approach did seem to maintain respectful relationships with students by stating clear expectations and stressing the importance of

following established rules and procedures. These were communicated in great detail and students were very aware of what the expectations were in the classroom and individually as well. Students were given a no excuses approach and expected not to interfere with the rights of other students to learn (Heck, 2007).

The greatest weakness among new teachers in the Glasgow et al. (2006) study was described as a lack of confidence in dealing with students in assertive ways. Establishing a balance of power in the classroom is usually an experience factor that is generated after understanding first-hand the imminent urgency to classroom control. Teachers must learn to balance the authority position with providing students opportunities for input while avoiding power struggles. Most ethnic and cultural groups believe that authority is earned through personal effort and maintained through personal character. There is an understood relationship to a position of authority, but most effective teachers earn respect of students by establishing personal relationships (Glasgow et al., 2006).

Beginning teachers in the Glasgow et al. (2006) study responded to questions about establishing authority and effectiveness as learning through mistakes. These mistakes were described as using weak or soft approaches during the first days and weeks of school. The study reported that new teachers quickly found that by establishing assertiveness, students better understood what was expected (Glasgow et al., 2006). This is an approach that teachers improve on with time and experience, and assertive teachers must understand the importance of relationships in accordance to effectiveness. Teachers must be consistent and fair when dealing with student misbehavior and must never ignore it. This can lead to the power shifting from teacher to student and consequently lead to

increased misbehavior of other students. This can create havoc on the learning environment (Cipani, 2008).

Assertive teachers can still use democratic decision making a part of the classroom experience, but there should be careful consideration to protecting the classroom standards and rules established. Maturity should be a key consideration when using democratic involvement. It is the duty of the teacher to know when students have the necessary maturity to provide input through freedom of choice. Teachers must know how to ensure balance between teacher authority and control without forfeiting the cooperative spirit of the students (Cipani, 2008).

The Glasgow et al. (2006) study also found that teaching success in urban and diverse cultural areas is dependent on the teachers' ability to establish good learning environments by establishing positive cultural management practices. All students respond to teachers who seem to care and understand the situations of each student. In these cases, as with most cases in education, experience is the best teacher (Glasgow et al., 2006).

#### Job Performance of Alternate and Traditional Routes

The Walsh and Jacobs (2007) research shows that the academic qualifications based on the grade point averages of teachers has not indicated any significant differences between traditional and alternate route certified teachers. Content examination scores used as a comparative study also show very similar averages and no significant differences between the two groups as well. There were indications that in both groups, some inadequate teaching did exist from both groups. The areas of teacher performance based on the study of professional examination scores indicated that the

correlation between the two did not necessarily show which teachers were stronger instructors. Several teachers held opposite values, which pointed the study to other variables that might be more indicative. All the areas studied showed mixed findings, with strengths and weaknesses as interchangeable as the personalities found in the mixture of teachers (Walsh & Jacobs, 2007).

The competence teaching issue of alternatively certified teachers has been a main concern in the teaching profession since the influx of those seeking the non-traditional avenue to a career was initiated. The teaching research to find areas that helped create some perspective on the subject led to five areas of examination. These areas include the following:

1. Professional knowledge examinations scores of alternate route graduates
2. Problem perceptions of alternate route program graduates
3. Ratings of teaching performance of alternate route program graduates
4. Alternate graduate teacher ratings from classroom observations
5. Student performance of alternate route graduates (Zeichner & Schulte, 2001)

The comparison of teacher' scores on the professional knowledge examination focused two areas from two different states. The Boyd et al. (2006) study from New York showed no significant differences in scores of alternate route graduates and traditional, but the research did show distinct differences of entrance test scores in relation to race. Praxis tests and ACT test results showed that blacks score significantly lower. The Qu and Becker (2003) study from Illinois showed that there was no significant difference in test scores of candidates entering the traditional or alternate route to teacher certification (Qu & Becker, 2003).

Addressing the area of problem perceptions in the classroom, the Hanushek Kain, O'Brian, & Rivkin, (2004) study researched selected schools in Dallas, Texas. The areas assessed were of perceived problems of beginning teachers and the confidence and satisfaction levels. Of the areas studied related to classroom management and teacher experience, no significant differences existed between teachers of the traditional or alternate routes. Reports did show a great satisfaction after the first year of teacher with both groups. The reports from the research showed that after three years of teaching, there were no significant differences in teacher confidence or satisfaction (Hanushek et al., 2004).

The rating scales for the comparison of the two routes of teachers showed a mixture of strengths and weaknesses. A New Hampshire study (Andrew, Cobb, & Giampietro, 2005) showed that principals, mentor teachers, and supervisors had indicated a superior rating for traditionally certified teachers in comparison to alternate route teachers (Andrew et al., 2005). A study, (Hanushek et al., 2004) conducted in Dallas, Texas, indicated that alternate route teachers were average first year teachers.

The classroom observation research (Hanushek et al., 2004) conducted was from the Dallas, Texas program. Teacher observations were conducted with the study group in each in the following five areas:

1. Instructional strategies
2. Classroom management
3. Presentation of subject
4. Learning environment
5. Responsibility

The interns observed received exceptional or standard ratings in all of competency areas (Hanushek et al., 2004). The area of student performance is one that is directly related to the efficiency of teacher (Guskey, 2009b). The Constantine et al. (2009) study connected the traditional and alternate routes to certification to the student test scores in math and reading. The students in math showed slightly higher scores in the alternate teacher classrooms, but no significant differences were reported. The students tested in reading showed slightly higher scores in the traditional teacher classrooms, but no significant differences were reported in this area either (Constantine et al., 2009).

Research by Sato, Wei, and Darling-Hammond in 2008 examined teacher time spent on development and use of a variety of assessment teaching strategies. The research discovered that few teachers implemented strategies and concepts that they studied in their college coursework. Most education classes stress the importance of student assessment and researching which instructional methods have the best results. It is designed to drive future instruction. Resources are available, but most teachers indicate a dilemma for choosing the best reliable information (Sato et al., 2008).

Most teachers construct units or lessons in a complete package while relating instruction to goals and objectives. The Reeves (2005) research of the *90/90/90* schools indicated that through assessing where students are in relation to necessary skills prior to teaching a unit, teacher understanding for assessing the results should generate the plans for strategies. This allows students to receive instruction that they perceive as new material rather than reviewing previous skills already understood. This process allows teachers to adjust according to the needs of the students, whether that is to move forward or slow the instructional pace (Reeves, 2005).

Both the traditional route teachers and the alternate route teachers indicated that these strategies were parts of the teacher preparedness process in both certification routes. College education programs spend extended time to ensure that future teachers understand the importance of student assessment driven methods. Alternate route programs place time on task techniques or learning by doing instruction to complete the same task. The problem with student assessment instruction is not that the programs do not effectively teach teachers the proper methods, but rather, the teachers do not effectively carry out their learning. Many theories are given for this avoidance such as obstacles with time, resources, and support, but until excuses evaporate, improvements in instruction will be slow to advance (Glasgow et al., 2006).

#### Qualities of Effective Teachers

Research information (Heck, 2007) about the connection between teacher quality and student achievement reported that differences in the perceived quality indicators varied with the opinions of people. The report infers that quality in this case, should be identified as the percentage of teachers who meet state licensing, content, and performance standards. The question focused on whether student achievement was substantial when dependence was on the teacher qualities that were defined. The study focused also on teacher quality as an organizational ownership that schools somehow produce through high expectations and learning environment (Heck, 2007). The quality of teaching is tracked through preparation, licensing, and content knowledge and the students' opportunities to learn are affected by academic expectations, instruction, and student support (Darling-Hammond, 2006).

The findings of the Heck (2007) study provides evidence that the quality of teachers does matter in determining the differences in schools in the student achievement levels of reading and math and the growth rates in math. The findings also indicate that these student achievement levels include other variables that clearly affect the scores, most notably with social class and race/ethnicity (Heck, 2007). The student relationship to the teacher seems to overcome many challenging learning opportunities through the individual support that the teachers contribute to the learning experience (Goldhaber, 2002). The Heck (2007) report information also provides two major categories that point to teacher quality, content knowledge and positive interaction with students. Classroom effectiveness, teacher characteristics, professional preparation, and licensing were each researched to identify the connections to student achievement as well. These areas were critical to the success for student learning to take place (Heck, 2007).

It is not clear how organization, strategies, and behavior control of the entire school transforms into the individual teacher classroom and how much these connections affect high student achievement (McCaffrey et al., 2003). It has been noted that some differences in teaching procedures in classroom practices between high and low-producing schools are contingent on instructional content, time on task, and discipline rules and procedures (Gatlin, 2009). It is also not clear if teachers who exude positive or negative personalities to students affect students that lead to differences in future academic advantages or disadvantages (McCaffrey et al., 2003). Most research reports (Clotfelter, Ladd, & Vigdor, 2005) focus on students' test scores and the connection to the classroom teacher responsible for the learning during that time frame. Initial claim



identify factors that attempt to answer questions, but more research is needed to identify major differences in teacher quality in the classrooms (Hamilton, 2003).

### *Teacher Qualifications and Knowledge*

The most frequent measure from the report was to use teacher observations for best attributes and professional qualifications (McCaffrey et al., 2003). The most studies (Boyd et al., 2008b) used were tied to teaching experience and levels of education. The reason given for this criteria used was that it was directly tied to salaries; therefore, it was much easier to track than the intangibles associated with high qualities of effective teachers (Boyd et al., 2008b). The education levels and experience do appear to provide some evidence connected to student gains, but further explanations regarding this theory suggested that there were mixed findings dependent on the circumstances and the particular subjects being taught (Goldhaber, 2002).

The research from Kane et al. (2006) cited some positive connections between students' achievement in relation to teacher academic skills, but it seems to be tied to certain subject areas and course work preparation. The particular areas of expertise or concentration attained by a teacher by having particular training in college through the completion of courses in one field was deemed more effective due to the fact that students had a greater degree of success. Examples showed instances where teachers teaching subjects outside their realm of expertise had a negative effect on student achievement. There is only limited evidence regarding the differences between alternate route and traditional route teachers. The report does state that the consideration for a particular route to certification did not skew the facts for the number of courses taken in a particular field being a positive attribute for teacher quality (Kane et al., 2006).

The Goldhaber (2002) report stated the inadequacies in the teaching profession in relation to the conditions of school districts. These conditions were given as the reason for the difficulty that these school districts have when attempting to hire or retain fully qualified teachers. As a result, these challenges cause school administrators to hire teachers who are less qualified or teachers who are forced to teach subjects outside their certified areas (Goldhaber, 2002).

Socioeconomically challenged areas are twice as likely to employ teachers who have teachers with less than three years experience and are much more likely to employ teachers who are not fully certified or are teaching outside of their preparation fields. These inequalities compound the problem with student achievement in relation to highly qualified teachers with vast experience and content expertise (Oakes, 2005).

There are more challenges from the Goldhaber (2002) report that claims a link between high-quality teachers and high quality student achievement. The research reported that the quality of the programs for training prospective teachers has great variance and is not always clearly correlative. The states all seem to have some similarities about becoming certified, but different certification requirements alter the generalizing aspect (Walsh & Jacobs, 2007). For example, the content knowledge demonstration requirement for many states is nonexistent in others, while some required certification tests are required, the passing rates for receiving teaching licensure swings with wide ranges according to which state is being studied (Walsh & Jacobs, 2007). The second concern identified in the Goldhaber (2002) study exists from the fact of relationships between teacher certification standards and student achievement. Although the personal relationship for teaching certification and student achievement was

researched, the overall organizational environment of the school and school district was not included in the study. The study shows the correlation from the teacher qualifications but not the overall district perceptions to hiring practices that generate individuals who possess the district requirements. This macro-level aspect is determinant with student achievement and is a direct relation to the sensitivity for creating a stronger teaching community. The other concern indicates that affluent districts and schools hire teachers who possess higher qualifications and that the opportunity to have this option is nonexistent with poorer districts (Goldhaber, 2002).

### *Classroom Management and Planning*

Classroom management is a major component of successful teaching that must be mastered for student achievement to reach potential goals. Teachers who study and use evidence-based practice in the classroom management techniques seem to benefit greatly with more success in student behavior. Evidence-based behavior management based on scientific studies by practitioners have given validation to certain treatments to situations with the highest success rates for solving problems that might arise. Classroom teachers use treatments, techniques, or interventions that have been scientifically proven and recorded in literature to be the most effective for the problems faced (Cipani, 2008).

The validation of the treatment used for the evidence-based study is contingent on the teacher's ability to demonstrate a cause and effect relationship with the student or the entire classroom population (Cipani, 2008). The Alberto and Troutman (2006) study for evidence-based practices established best practices from conducting cause and effect results from controlled conditions and prescribing different treatments for the study. Teacher qualities for best classroom management skills are commonly linked to

evidence-based best practices (Alberto & Troutman, 2006). Whether the teachers studied are masters of classroom management by natural talent alone or teachers who study and research the best methods to conduct classroom procedures is not always clearly understood. What is understood is that teachers who possess these skills and implement them with success translate effective instruction to better student success (Cipani, 2008).

The development of student competence is directly related to student behavior. To develop students who are intrinsically motivated, quality teachers develop student competence by offering numerous strategies, which are contingent on the individual student treatment necessary. Short-term daily classroom assignments and tests provide starting points and information about shortcomings that exist. Without teacher intervention to find ways for individual students to succeed, behavior problems in some form or fashion will ultimately cause disruptions. When the short-term competence problem is solved and students are reinforced with successful competence, the negative behavior problems take a departing reduction appearance (Cipani, 2008).

The behavior plans derived from evidence-based classroom management or by self-taught experience of teachers cannot increase student learning by implementation alone. These effective techniques, as helpful as they may be, must be accompanied by good teacher instruction to make a difference in student achievement. Good classroom management does not override poor teacher instruction, but it does provide better learning environments for good instruction to dictate better student learning (Cipani, 2008).

Disruptive behavior in the classroom interrupts instruction and is a distraction to the entire classroom. It can take many forms, minor or major, but the most commonly

overlooked forms are those categorized as minor. Examples of these may include out of seat, loud talking, body language, non-verbal communications, unauthorized talking, and many others. Teachers who set classroom rules and procedures, teach them to the students, and are consistent with enforcement create the best environment to provide students with an organized effective instructional classroom. Teachers can increase student time on task by reducing or eliminating the distractions that arise through minor rule violations. When teachers focus on appropriate behaviors, the degree of time spent on student competence increases. The direct relation to positive behavior and positive student competence is invariably connected (Cipani, 2008).

Research by Wiliam and Thompson (2008) reviewed teacher planning and the classroom process to increase time on task. The study focused giving higher priority to classroom management along with learning through experience the importance of establishing rules and procedures. By dedicating much more time to teaching the classroom rules and procedures along with establishing a rapport with students, time spent on task during the school year was a direct result. Spending time to teach these rules and procedures proved to be time well spent at the beginning of school (Wiliam & Thompson, 2008).

The creation of a safe and orderly learning environment helps students feel comfortable in the classroom and focus more on the positive aspects of the student/teacher interaction. Teachers feel that covering these rules and procedures helps reduce time spent off task through constant explanation throughout the school year. Developing clear guidelines for the routines make clear differences in time spent on covering class content. As teachers become more experienced, the process becomes more

streamlined and efficient, which translates to better classroom instruction (Glasgow et al., 2006).

### *Collaboration*

The importance of collaborative teams within the school system is difficult to over emphasize. It is very important to make sure that teachers are focused on the right issues that lead directly to improved results for student learning. Professional learning communities in schools provide collaborative systematic processes in which teachers work together to impact student learning through better classroom practices. This should produce better results for students and ultimately, the entire school (DuFour, DuFour, & Eaker, 2008).

Collective inquiry helps the teams develop skills for individual members who learn on others experiences and awareness of normal classroom management. The shared knowledge comes from working together to better reach common goals to better meet the needs of all students. This is much like any profession experiencing success. The education profession can emulate the business successes by collaboratively working in teams and finding solutions to problems and needs (Stiggins & DuFour 2009).

Collaborative teams of teachers use common assessments to better identify students who need more time for learning, identify the most effective teaching strategies that proved the most effective, identifying areas where students are experiencing more difficulty, and identifying goals for individual teachers and students. The process is based on individual teachers' assessments in the classroom daily, individual assessments of their own students, and state and district benchmark assessments (DuFour et al., 2008).

Collaboration in education is a process that helps new and experienced teachers. Its theme is enriched with total involvement of all stakeholders. Teacher isolation does not allow for growth to develop by learning from others who have specific expertise or new innovative training. It allows dependence on each other for creative solutions to problems that arise when planning and carrying out student instruction. This structure allows a learning community of new and veteran teachers to contribute in a team building effort to tackle school improvement. Grade level and subject area teams consistently receive better results with careful curriculum development and student instruction than individual collections of teachers who work in isolation, regardless of teacher mastery (Wong, 2007).

These collaborative efforts are very beneficial to new teachers who receive certification through either traditional or alternate routes. This is proven to be the most effective way for teachers to learn. Professional development that incorporates teacher networks and study groups to focus on student learning has high degrees of success (Wong, 2007).

#### *Teacher Use of Student Assessments*

The teacher taking ownership and being committed to the subject curriculum and its development in the classroom is a major step toward student learning improvements. The success of student learning in any classroom subject requires individuals who demonstrate a sense of true concern for outcomes and a determination for achievement. With the focus first and foremost on student learning, teachers who seek the best practice for student achievement are most important to overall success. One of the most powerful best practice tools available for improving student learning is the implementation of high-

quality common formative assessments. These assessments must be consistently administered and frequent. They must also set up to build test taking endurance skills for students (DuFour, 2010).

The formative assessments should be an ongoing part of monitoring student progress. They can provide teachers with information regarding the effectiveness of their teaching practices and how to better intervene when individual students are struggling with a particular area. Clearly defined goals and feedback to students provide more insight and understanding about how to improve. The most effective method to generate equality testing for all students is to form collaborative teams of teachers to have input about general specifics concerning the strengths and weaknesses of potential test items. Through shared experience and knowledge of the curriculum, the creation of formative assessments for all subject areas can be a shared product and promote working together to better reach goals (DuFour, 2010).

There is strong evidence that raising student performance is directly related to setting and improving formative assessments. This powerful instructional tool has such strong evidence to support the claim of raising standards while building teacher awareness for the individual needs of students (William, 2007). Teachers have access to a powerful weapon for improving student achievement with the implementation of formative assessments. This can enhance student achievement and teacher performance by engaging both in a standards-based program aimed at better teaching practices and student learning (Marzano, 2006).



### *Mentorship*

Beginning teachers need support programs to help them deliver quality instruction to students. One method to help teachers learn to teach in the shortest time possible is through a quality mentorship program. This type of induction program for beginning teachers, regardless of the training from traditional or alternate programs, can make significant differences in teaching capabilities and student achievement (Smith & Ingersoll, 2004). Teachers without the support of such induction programs normally take three to seven years of teaching experience to fully impact student's learning experiences. The comprehensive mentorship and induction programs accelerate the process and are effective in promoting student learning within the first year in most cases (Hierck, 2009). School districts face continued challenges as an average of 14% of teachers leave the profession after the first year and as many as 50% leaving within five years. This exodus is most often just as the teachers are developing fully as high-quality teachers. This leaves schools with the endless cycle of training new teachers each year, which has a huge impact on students (Smith & Ingersoll, 2004). Strong induction programs provide new teachers with the support and opportunities to grow early in their careers by being involved with the decision-making processes and having necessary guidance from administration and mentor teachers. This helps teachers develop better classroom management skills, organized instruction and materials, and instinctive student interaction (Smith & Ingersoll, 2004).

### The Principal's Impact on Teacher Effectiveness

Quality teaching has consistently been established as the most critical means by which students improve and close achievement gaps. Research by Erkins (2009) reported

that money spent on giving teachers continued opportunities to improve classroom skills delivered the best returns on investments (Erkins, 2009). Creating comprehensive induction programs can be very beneficial to beginning teachers, regardless of certification tracks from traditional or alternate programs (Darling-Hammond, 2010).

Beginning teachers must mold instruction to address specific student needs by learning to teach required standards, use self-evaluation to tailor instruction based on student performance, review student achievement data to plan instruction around the established curriculum, and adjust and understand the culture of the school. School districts that provide necessary training for teachers regularly report higher student gains with test scores. These districts normally have induction programs and sustained professional development programs to insure the necessary teaching skills are provided. These programs are designed to train new teachers to acclimate into the new school environment and become knowledgeable about the district standards and vision (Erkins, 2009). The professional development training is aimed at helping all teachers become better classroom managers, assisting teachers to understand how to teach lessons for student achievement, and ensuring that teachers set high expectations for student success (Wong, 2007).

### *Teacher Evaluations*

The purpose of teacher evaluations has traditionally been for the purposes of assignment, hiring, dismissal, or teacher improvements (Conley & Glasman, 2008). With the addition of emphasis placed on state test scores, the use of evaluations has been objects of fear for teachers and administrators. The new accountability standards places all jobs in jeopardy with factors connected to student performance on state tests (Rice &

Croninger, 2005). This emphasis placed on new state standards resulted from the 1980s perception that school instruction had become too relaxed and lacked teacher accountability for student achievement. Advocates for improvements pushed for stronger administrative leadership for instructional improvements and using tests to guide more instruction. Promotion of a two-way communication relationship with teachers help principals better understand student needs (Collinson & Cook, 2007).

The new emphasis placed on teacher evaluations caused teacher uneasiness about possible non-acceptable job performance. The fear was that the evaluations were less about teaching ability and more about political agendas. The beginning teachers were fearful that this new concentration on evaluation standards would place them in perilous positions; whereas, veteran teachers were confident that teaching experience would be a favorable component during evaluations (Conley & Glasman, 2008). Teachers with valuable classroom experience took advantage of their knowledge of administration expectations by performing as reliable and formidable competent teachers. The opportunity for error based on subjective judgments of principals was quite possible, especially when disagreements existed about what appropriate instruction really looked like. The subjective model was equal to the administrative judgments from observations of performance without extensive notice to other key components associated with good instruction (Glasman & Glasman, 2006).

Teacher evaluations of today are more reflective with emphasis placed on student learning and teacher improvement. Principals can provide valuable feedback to teachers for the purpose of improving instruction. The collaborative teaching methods implemented in schools such as the establishment of professional learning communities

can provide all teachers with teacher resources and mentors through communication meetings. These organizational and evaluation systems capitalize on collaboration to encourage teachers to explore new methods and strategies with return the best results. Principals must be facilitators for such implementation systems but must also offer individual assistance to ensure collective improvements. The evaluation process should be based on finding strengths and weaknesses of teachers. The principal's role should be to offer understanding of shortcomings and suggestions for improvements. By building areas that need improvements, principals can provide teachers with a trusted leader for honest and sincere feedback and act as a primary resource of advice (Conley & Glasman, 2008).

It is essential for the growth of instructional value in schools that principals introduce the newest and best practices to all teachers. Research, knowledge-based programs, and job related practices enable teachers to take advantage of these opportunities to increase student achievement. Using formative assessments in additions to good teaching practices are integral parts of student learning success. Creating a culture for learning and sharing experience expertise with instruction procedures must be the leader's chief responsibility to enable teachers to better utilize their teaching skills. Principals must work to create a learning environment for all learners, including teachers (DuFour, DuFour, Eaker, & Many, 2006).

Master teachers understand that students are responding under their instruction in positive ways, and they are excited when the magic of learning is easily identified during the instruction. The most effective teachers who are known for having a knack of getting through to students seldom analyze or can give specifics to what they are doing to create

this learning atmosphere. The need to replicate these teaching talents is of great value to new teachers and teaching peers who are looking for ways to improve their own classroom instruction (William & Thompson, 2008).

The traditional teacher evaluations conducted by principals are good to ensure that adequate teaching is taking place, but many times it does not help teachers with self-evaluation for improvement. The best practice of evaluation for principals is to conduct areas that need improvement and communicating suggestions for teachers to improve in these areas. Much like setting goals for students and working toward reaching those goals, teachers should identify where they are as an instructor and where they want to work toward becoming. The principal can offer such feedback while pointing strengths and weaknesses of teachers. Principals must be viewed as teachers of teachers by being leaders dedicated to overall improvement (Erkens, 2009).

In most cases (Erkens, 2009), the traditional evaluations by principals concentrated on individual teachers. The overall evaluation of the entire program and department effectiveness must focus on student learning. The improvement of instruction is best accomplished by providing teachers with opportunities to learn from other teachers. The creation of instructional team type planning and collaboration can help all teachers grow as a better teaching unit. The individual talents and ideas can be shared where synthesizing the creation of best practice initiatives can bring all phases of school success closer to reaching goals (Erkens, 2009).

#### Summary

Research studies about alternate and traditional route teacher certification vary according to the seemingly constant biases that exist, depending on the slanted point of

view taken. A constant answer was not discovered about the pluses and minuses between the two routes that individuals take to become teachers. There was a time when drastic measures were needed to find teachers to fill teaching spots in schools. The need still exists, especially in urban areas, but due to the economical downturn, teacher cuts have been the norm in recent years.

The debate between the two teacher certification routes is ongoing, but many factors affect the outcome for teacher effectiveness. Distinct differences that do exist include training program approaches, college content classes, classroom management philosophies, and lesson preparation strategies. There are several similarities such as test requirements, certification requirements, and program commonalities. Studies (Gatlin, 2009) indicate that alternate route teachers actually are more prepared with content areas by being in other college majors that require more classes to be taken in specialized fields of study. Other studies (Lesley, Gee, & Matthews, 2010) show educational classes that stress classroom management, diversified methods, and multiple teaching strategies produce teachers who are more prepared to deal with classroom management.

The best qualities that teachers possess were the subject of much research, and findings indicate that there are indeed intangibles that individuals possess such as natural talents for teaching. The research cited from the literature review indicates that nothing can substitute for good work ethic. A person whose principles are based on work ethic and integrity can inspire students to seek ways to become more successful. There are teachers who have special qualities for teaching that hold teacher certification from either of the routes studied. The question is not whether those individuals exist, but rather how

effective in general are the conglomerate groups that represent each teacher certification program.

Other factors that attract reputations for good teaching are based on helping other teachers and being good school employees. Teachers fill many leadership roles within the school setting. Schools are dependent on the teachers and employees to maintain the normalcy and to improve over time. These acts of cooperation and collaboration help all through establishment of instructional teams. The importance of teachers who are eager to help with many phases of the success of the school is imperative. Improvements can be made over time with any teacher, but waiting on experience to dictate much needed improvements puts student learning in jeopardy while the process takes place. The research shows the importance of first and second year teachers being more prepared. The traditional and alternate route programs researched did show discrepancies between beginning teachers with classroom management, but few studies exist that search for student assessment success based chiefly on state test standards. Finding this answer is the compass that leads to better student learning.

## CHAPTER III

### METHODOLOGY

#### Introduction

This chapter provides a review of the problem statement, the research questions discussed in the research design, participants and instrumentation, summarizes the research procedures, and outlines the data analysis proposed. Limitations were set for the parameters within which the research was conducted. The traditional and alternate routes to teacher certification were the focus of the information gathered from each part of the research. This study was approved by the Institutional Review Board (Appendix A) at the University of Southern Mississippi prior to the onset of this research study.

#### Research Design

For this mixed methods study, the quantitative portion was used to ascertain information about differences in student performance that were connected to the teachers' certification tracks (alternate or regular route). The study design was quasi-experimental and cross-sectional in that there was no random assignment of students to teachers differing in certification route, and performance was measured only once during the course of the study. Consequently, no causal inferences were made about the impact of certification route and teacher/student performance, and only information about co-variation was available. The research design included two methods for obtaining information to complete the research study, archival and survey data. The study was conducted within a single geographical location defined by a community college district in rural Mississippi. This included 12 separate school districts, including 19 high schools within this area where the research was conducted. District superintendents (Appendix B)



and high school principals (Appendix C) were sent letters for school approval for the study.

#### *Archival Data*

The student test scores and teacher certification information were obtained from the Director of Research and Statistics from the Mississippi Department of Education (Appendix D). Detailed requests for information identified were presented to the director in written form after an initial personal meeting was concluded. Consent from each school district (Appendix E) in the research was obtained. The information was obtained with all student and teacher identification information removed.

#### *Survey Instrument*

Questionnaires, issued to principals from each high school in the study, generated data for a comparison study completed on the variable indicators for teachers who received certification through the traditional or alternate routes. The surveys (Appendix F) were conducted in person, by phone, and/or through e-mail. The following research hypotheses guided the study:

H<sub>01</sub>: There was no difference in student performance in Algebra I based on whether teachers received traditional or alternate route training controlling for percentage of students receiving free lunch and years of teacher experience.

H<sub>02</sub>: There was no difference in student performance in Biology I based on whether teachers received traditional or alternate route training controlling for percentage of students receiving free lunch and years of teacher experience.

H<sub>03</sub>: There was no difference in student performance in English II based on whether teachers received traditional or alternate route training controlling for

percentage of students receiving free lunch and years of teacher experience.

H<sub>04</sub>: There was no difference in student performance in U. S. History based on whether teachers received traditional or alternate route training controlling for percentage of students receiving free lunch and years of teacher experience.

H<sub>05</sub>: There was no difference in teacher variables (1) dependability; (2) classroom management and instruction; and (3) student relationships for teachers that received traditional versus alternate route training.

H<sub>06</sub>: There was no difference in subject area teacher variables (1) student mastery; (2) communication; and (3) cooperative attitude for teachers that received traditional versus alternate route training.

#### Participants

The five-county study region, located in rural Mississippi, contained 12 separate school districts, including a total of 19 high schools (grades 9-12). In the 2010/2011 academic school year, the total enrollment in these high schools was 9,874 students. The total number of certified teachers in grades 9-12 in these districts was 617, of which 148 taught in an area tested through Mississippi Subject Area Tests. Within the 19 high schools studied, 36 counselors, 27 assistant principals, and 19 principals were employed.

#### *Archival Data*

The sample (N=148) for this study was comprised of Algebra I, Biology I, English II, and U. S. History teachers from the five-county area defined by a select community college district. Within this five-county district, 7,226 Mississippi Subject Area Tests were given to students in the 19 high schools during April 2011. Identifying teacher information obtained from the Office of Research and Statistics was eliminated,

but categorical data containing gender, socioeconomics, and teacher certification and experience were included.

#### *Survey Data for H<sub>05</sub> Participants*

The survey portion (Appendix F) of this research was obtained through a questionnaire process with the principals (N=19) of the high schools within the research study region. The survey instrument included principal responses to questions based on the entire staff of each school. The survey instrument was designed to test the perceptions of principals using a Likert-type scale. The survey instrument was tested for validity by using the Cronbach's alpha test. Through this testing, the instrument was found to be a good measure of the principal responses. From the principal survey addressing all certified teachers (N=617), information results included 1) ratings on dependability 2) ratings of classroom management and instruction and 3) ratings on teacher/student relationships. Questions 1-10 were directed toward traditional route teachers and questions 11-20 were directed toward alternate route teachers.

#### *Survey Data for H<sub>06</sub> Participants*

Questions 21-40 related the principal's perceptions of teachers in SATP including Algebra I (N=47), Biology I (N=36), English II (N=34), and U. S. History (N=31). Questions related information about overall instruction, communication, and attitude. The subject area test teachers (N=148) that received traditional versus alternate route training were compared on 1) student mastery of instruction; 2) ratings of communication; and 3) ratings of cooperative attitude. Questions 21-30 were directed toward traditional route teachers and questions 31-40 were directed toward alternate route teachers.

Of the 47 teachers of Algebra I from the study region, 40 were traditionally certified (85.11%) and 7 were alternately certified (14.89%). Of the 36 teachers of Biology I from the study region, 31 were traditionally certified (86.11%) and 5 were alternately certified (13.89%). Of the 34 English II teachers from the study region, 32 were traditionally certified (94.12%) and 2 were alternately certified (5.88%). Of the 31 U. S. History teachers from the study region, 27 were traditionally certified (87.10%) and 4 were alternately certified (12.90%).

The tables below reflect the demographic information for the principals from the school districts in this study. Table 1 shows the gender information, Table 2 shows the years of experience in the education profession, and Table 3 shows the years of experience for each principal in school administration.

Table 1

*Gender of Principals Participating in the Survey*

	Frequency	Percent
Male	16	84.2
Female	3	15.8
Total	19	100.0

Table 2

*Educational Experience of Principals Participating in the Survey*

Years Range	Frequency	Percent
6-10	1	5.3
11-15	6	31.6
16-20	6	31.6
21 or more	6	31.6
Total	19	100

Table 3

*Administration Experience of Principals Participating in the Survey*

Years Range	Frequency	Percent
1-2	2	10.5
3-5	4	21.1
6-10	11	57.9
11-15	2	10.5
Total	19	100.0

## Instrumentation

### *Archival Data-H<sub>01</sub>, H<sub>02</sub>, H<sub>03</sub>, H<sub>04</sub>*

The archival data used in this study were based on the test results of the 2011 Algebra I, Biology I, English II, and U.S. History subject area tests. The information was obtained with approval from the Director of Research and Statistics in the Mississippi Department of Education (Appendix G). The teacher certification information, traditional and alternate, for teachers of these SATP courses was also obtained through methods and through interviews with high school principals when necessary. Data from these 19 high schools within the study region were used to compare student performance for students of teachers who received alternate or traditional certification. The archival data were linked by each subject area to subject area teachers and tested separately to distinguish possible differences in student achievement across subject area disciplines in relation to the teacher certification route.

### *Survey Data-H<sub>05</sub>*

The survey instrument was designed to gather information from the principals of the 19 high schools in the sampling research region. The instrument questions were divided equally between traditional route teachers (questions 1-10) and alternate route teachers (questions 11-20) with variations according to the teaching role implemented by the administration of each school. This section of questions (1-20) was directed toward the entire staff. The information from the responses was intended to address discrepancies associated with teacher dependability, classroom management and instruction, and student/teacher relationships. The desire was to establish any findings as being underlying obstacles that might affect teaching effectiveness and to attach the

frequency to a certification route being researched. The items were rated on a Likert-type scale ranging from 1, representing *strongly disagree*, 2 representing *disagree*, 3 representing *agree*, 4 representing *strongly agree*.

#### *Survey Data-H<sub>06</sub>*

The second section of the survey questions (21-40) was directed toward only the teachers (N=148) of the subject area tested courses. These classes included Algebra I, Biology I, English II, and U. S. History. This narrowed line of questioning was intended to address instruction more unique to these courses. The instrument questions were divided equally between traditional route teachers (questions 21-30) and alternate route teachers (questions 31-40). The measurable areas and documentation provisions were intended to test the principals' perceptions of the teachers of each certification route about the areas of student mastery of instruction, teacher communication with students and parents, and cooperative attitude of the teachers. The desire was to establish connective findings that affected student achievement and to attach the frequencies to either certification route researched. The items were rated on a Likert-type scale ranging from 1, representing *strongly disagree*, 2 representing *disagree*, 3 representing *agree*, and 4 representing *strongly agree*.

#### *Qualitative-Thematic Coding*

The final section of the school administration survey was an open-ended, opinion-based response from the principal of each school that addressed strengths and weaknesses of traditional and alternate certification teachers. These responses were limited to the reflection of Algebra I, Biology I, English II, and U.S. History teachers only, since these were the areas in the archival data collection process obtained from the 2011 Mississippi

Department of Education subject areas test results. The information obtained from these responses was reported according to the identification frequency given by the principals of the 19 high schools in the study.

This section of the survey instrument provided deeper exploration of the questions about the effectiveness of the certification routes. Bringing each of these components together gave better understanding to which route was better suited to meet the academic needs of high school students.

### Research Procedures

#### *Archival Data*

Information extracted from the state database by authorized personnel from the MDE Office of Research and Statistics was obtained for the select five-county region in this study. The following steps outline the suggested procedures established for collecting the data for this research study:

- The researcher's request to the appropriate personnel in the Telecommunications and Information Systems (TIS) Department in connection with the Office of Research and Statistics (Appendix D) required that anonymity be guaranteed by excluding the student names, social security numbers, and any other nondescript identifiers before being sent to the researcher. This data gathered from each school during the 2010/2011 school year, which reflected the test result data from the Algebra I, Biology I, English II, and U. S. History subject area tests provided the input for analyses.

Teacher demographics, teacher performance, and student performance variables were identified and are briefly discussed below:



(1) Teacher information included gender, years of experience, and certification route. The National Center for Education Information (NCEI, 2005) indicated that 70% of participants who completed the alternate route programs were older than thirty years of age. This advanced age group brings vast experiences from former jobs, and the report also indicated that they have more dedication and adaptation to the education field. The NCEI (2005) also indicated that more than 40% of the entrants were males. With most make up of most student bodies averaging around 51% female and 49% male, the average make up of teachers reflected a discrepancy of 75% female and 25% male.

Teacher experience also seemed to have a positive influence on student test scores. Students of teachers with five or more years of experience typically had higher gains in student achievement test scores than students of teachers with less experience (Fetler, 2001). The preparation programs associated with the traditional and alternate routes indicated varying degrees of course requirements and clinical placements (Hess, 2002). The advantages of each route for teacher certification were the sources of debate, along with the identified weaknesses as well. New evaluation procedures were evolved that allowed principals to provide constructive feedback to teachers that outline suggestions for the continuance of improvements (Reeves, 2006).

### *Survey Data*

Information obtained from the 19 high school principals' responses to the survey instrument for the five-county region provided the data for H<sub>05</sub> and H<sub>06</sub> in the study. The following steps outline the suggested procedures established for collecting the data for this research study:

- Collected data for each of the six indicators functioned as an established reflection for common connections for the traditional and alternate teaching certification routes.
- The parameters for the data collection began during the summer 2011 and concluded during the fall, 2011.
- Data gathered from the questionnaires of the principals representing the 19 high schools in the research study provided information that was indicated through the survey instrument.

### Data Analysis

The components for this study included six hypotheses with each one having unique description measures to satisfy the necessary testing associated with each. In addition, a qualitative component open-ended response instrument was used to compile data from the 19 principals interviewed. The archival data collected from the Mississippi Department of Education were used for  $H_{01}$ ,  $H_{02}$ ,  $H_{03}$ , and  $H_{04}$ . The survey instrument information from the 19 high school principals of the schools in the study provided the data for  $H_{05}$  and  $H_{06}$ . These responses to the principal survey questionnaire were linked to six variables divided equally between traditional and alternate route teachers.

#### *Archival Data- $H_{01}$ , $H_{02}$ , $H_{03}$ , $H_{04}$*

The  $H_{01}$ ,  $H_{02}$ ,  $H_{03}$ ,  $H_{04}$  were tested concerning differences in student performance in Algebra I, Biology I, English II, and U. S. History. The student scores were divided according to teachers who received traditional or alternate route training. The controlling covariates were the percent of students considered poverty level with free lunch at the school and teacher experience. Four separate ANCOVA tests were conducted with

standardized scores in the content areas (Algebra I, Biology I, English II, and U. S. History) and the measured variable and teacher training (traditional or alternate route) as the grouping variable. The analysis was conducted with alpha set to .05.

#### *Survey Data-H<sub>05</sub>*

In order to test H<sub>05</sub> concerning differences in teacher variables 1) teacher dependability 2) classroom management and instruction 3) student relationships based on traditional versus alternate route training, a Repeated Measure ANOVA test was used with teacher training (traditional or alternate route) as the grouping variable and the three teacher variables were given as the dependent variables. The analyses were conducted with alpha set to .05. Separate One Way ANOVAs were conducted with each variable with alpha set to .01 to maintain the error rate per experiment at .05 using the Bonferroni correction.

#### *Traditional Route Teacher Questions for H<sub>05</sub>*

The responses to the survey questionnaire from the principals concerning traditional route teachers were linked to the three variables identified in H<sub>05</sub>. The questions linked to variable 1) teacher dependability was numbered 1 and 5. The Cronbach's alpha test for the survey instrument questions identified reported .438 reliability. The questions linked to variable 2) classroom management/instruction were numbered 2, 4, 6, 7, 8, and 9. The Cronbach's alpha test for the survey instrument questions identified reported .791 reliability. The questions linked to variable 3) student relationships were numbered 3 and 10. The Cronbach's alpha test for the survey instrument questions identified reported that .650 reliability for these questions.

*Alternate Route Teacher Questions for H<sub>06</sub>*

The responses the questionnaire from the principals concerning alternate route teachers were linked to the three variables identified in H<sub>06</sub>. The questions linked to variable 1) teacher dependability, were numbered 11 and 15. The Cronbach's alpha test for the survey instrument questions identified reported .531 reliability. The questions linked to variable 2) classroom management/instruction were numbered 12, 14, 16, 17, 18, and 19. The Cronbach's alpha test for the survey instrument questions identified reported .875 reliability. The questions linked to variable 3) student relationships were numbered 13 and 20. The Cronbach's alpha test for the survey instrument questions identified reported .650 reliability.

*Survey Data-H<sub>06</sub>*

In order to test H<sub>06</sub> concerning differences in subject area teacher variables 1) student mastery, 2) communication, 3) cooperative attitude based on traditional versus alternate route training, a Repeated Measure ANOVA test was conducted with teacher training (traditional or alternate route) as grouping variable and the three teacher variables as the dependent variables. The analyses were conducted with alpha set to .05. Separate One Way ANOVAs were conducted with each variable with alpha set to .01 to maintain the error rate per experiment at .05 using the Bonferroni correction.

*Traditional Route Teacher Questions for H<sub>06</sub>*

The responses to the questionnaire from the principals concerning traditional route subject area teachers were linked to the three variables from H<sub>06</sub>. The questions linked to variable 1) student mastery, were numbered 21, 26, 28, and 29. The Cronbach's alpha test for the survey instrument questions identified reported .791 reliability. The

questions linked to variable 2) communication, were numbered 22, 23, 24, and 27. The Cronbach's alpha test for the survey instrument questions identified reported .839 reliability. The questions linked to variable 3) cooperative attitude were numbered 25 and 30. The Cronbach's alpha test for the survey instrument questions identified reported .754 reliability.

#### *Alternate Route Teacher Questions for H<sub>06</sub>*

The responses to the questionnaire from the principals for alternate route subject area teachers were linked to the three variables from H<sub>06</sub>. The questions linked to variable 1) student mastery, were numbered 31, 36, 38, and 39. The Cronbach's alpha test for the survey instrument questions identified reported .888 reliability. The questions linked to variable 2) communication, were numbered 32, 33, 34, and 37. The Cronbach's alpha test for the survey instrument questions identified reported .788 reliability. The questions linked to variable 3) cooperative attitude were numbered 35 and 40. The Cronbach's alpha test for the survey instrument questions identified reported .754 reliability.

#### *Qualitative-Thematic Coding*

The feedback information from the open-ended portion of the principal's interviews produced qualitative input for the study to show strengths and weaknesses identified for each dependent variable, traditional and alternate route teachers. The responses were color coded with frequencies and reported as most often identified being significant and continuance reporting reflected through the least response identified. The compiling of various responses produced ancillary findings reported in Chapter IV of the study. Future studies in this area can connect these findings to possible improvements in the traditional and alternate requirements for programs associated with each.

## Summary

The research study of the traditional and alternate routes to teacher certification produced findings that were limited by design. The design chosen identified test results from the Mississippi Subject Tests in Algebra I, Biology I, English II, and U. S. History. This was a casual comparative study with connection of student test results to teacher certification. A survey component of the research study was conducted through personal interview questionnaires with the principals within the study sampling area. This area was a five-county district associated with a local community college, which attracted students from the feeder schools within the district. This district included 19 high schools from which the testing data results were obtained and the administrative surveys were conducted.

The research hypotheses were the focus of the information received and organized into the various categories established for the comparative study. The procedures for obtaining data through the sources identified and the components and indicators of variance were detailed in the appropriate sections of this chapter. The study instruments chosen to analyze the results were the ANCOVA for the comparative information obtained from the factual information for the study with separate One Way ANOVAs for each variable to report findings. The open-ended response questions in the survey conducted with the 19 principals of the high schools in the study provided informative results for the qualitative component in the study.

The sequential information from the archival testing data and the survey instrument provided valuable research information for future studies. The connection to

student mastery and proficiency of the curriculum can help toward the continued improvement in teacher quality and instruction.

## CHAPTER IV

### ANALYSIS OF DATA

#### Introduction

The primary approach to conduct this study was quantitative, with mixed methods approaches also employed. The focus was to determine the effectiveness of alternate and traditional route teachers based on student achievement on the Mississippi Subject Area Tests. The study also included survey information obtained from principals from the 19 high schools in the study. This information provided the basis for teacher variables with both traditional and alternate route teachers employed in all high school classes and more specific variables for teachers in the Subject Area Test areas. These principals also provided feedback based on administrative experience about the strengths and weaknesses of teachers representing each certification route. The objective of this part of the research was to identify the perceptions of principals for traditional route and alternate route teachers. The combination of test score analysis and feedback from principals based on perceived ideas provided the comparison between the teaching routes as being fact based or opinion based.

#### Data Analysis

The study research gathered information from the 2011 spring testing in areas of Algebra I, Biology I, English II, and U. S. History compiled from the sample district of 19 high schools located in 12 school districts. The student scores (N=8,940) were categorized according to the certification type of teacher, traditional or alternate route, with covariates indicated with the percentage of free lunch and teacher experience for each school. Each category was analyzed using SPSS 20.0 edition to complete separate



ANCOVA tests for each of the SATP tested areas. The teacher certification training, traditional or alternate route, were the grouping variable. The results of the tests provided the statistical information to test  $H_{01}$ ,  $H_{02}$ ,  $H_{03}$ ,  $H_{04}$  stated as follows:

$H_{01}$ : There was no difference in student performance in Algebra I based on whether teachers received traditional or alternate route training controlling for percentage of students receiving free lunch and years of teacher experience.

$H_{02}$ : There was no difference in student performance in Biology I based on whether teachers received traditional or alternate route training controlling for percentage of students receiving free lunch and years of teacher experience.

$H_{03}$ : There was no difference in student performance in English II based on of students receiving free lunch and years of teacher experience.

$H_{04}$ : There was no difference in student performance in U. S. History based on whether teachers received traditional or alternate route training controlling for percentage of students receiving free lunch and years of teacher experience.

To test hypotheses 5 and 6, a survey instrument was designed and delivered to the 19 high school principals (N=19) in the study sample. Also included in this process was an interview portion of open-ended questions, which were set to identify the strengths and weaknesses of traditional and alternate route teachers. The purpose of these contrasting research methods was to identify fact-based and perception-based results for each teacher certification route. The results of the test provided statistical information to test each of the following hypotheses.

$H_{05}$ : There was no significant difference in teacher variables 1) dependability; 2) classroom management; and instruction and 3) student relationships for teachers

that received traditional versus alternate route training.

H<sub>06</sub>: There was no significant difference in subject area teacher variables 1) student mastery; 2) communication; and 3) cooperative attitude for teachers that received traditional versus alternate route training.

## Results

### *Hypothesis*

The first hypothesis stated that there is no significance difference in student performance in Algebra I Subject Area Tests regardless of whether they were students of traditional or alternate route teachers. The ANCOVA univariate analysis of variance test conducted with the Algebra I Subject Area Tests based on student achievement showed no significant difference of student mean scores and the connection to traditional or alternate route teachers. With the alpha set at .05, the test showed that the significant level was greater than .05, which means that no significant difference was found. Table 4 shows the grouping, mean, standard deviation, and sample size for the Algebra I test. The tests of between-subjects effects was identified as  $F(1,43) = .037, p = .848$ . Table 5 shows the adjusted mean with covariates (Free lunch=42.32%; Teacher Experience=10.66 years) calculated in the model.

Table 4

*Descriptive Statistics with Dependent Variable: Algebra I Mean*

Certification Route	Mean	Std. Deviation	n
Traditional	660.33	6.82	40
Alternate	657.23	7.36	7
Total	659.86	6.91	47

Table 5

*Estimated Marginal Means— Algebra I Adjusted Mean*

Certification Route	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Traditional	659.95	1.05	657.83	662.07
Alternate	659.38	2.68	653.97	664.79

### *Hypothesis 2*

The second hypothesis stated that there is no significance difference in student performance in Biology I Subject Area Tests regardless of whether they were students of traditional or alternate route teachers. The ANCOVA univariate analysis of variance test conducted with the Biology I Subject Area Tests based on student achievement showed no significant difference of student mean scores and the connection to traditional or alternate route teachers. With the alpha set at .05, the test showed that the significant level was greater than .05, which means that no significant difference was found. Table 6

shows the grouping, mean, standard deviation, and sample size for the Biology I test. The tests of between-subjects effects was identified as  $F(1,32) = 2.01, p = .166$ . Table 7 shows the adjusted mean with covariates (Free Lunch = 48.11%; Teacher Experience = 11.56 years) calculated in the model.

Table 6

*Descriptive Statistics with Dependent Variable: Biology I Mean*

Certification Route	Mean	Std. Deviation	n
Traditional	648.79	7.75	31
Alternate	647.38	4.81	5
Total	648.59	7.37	3

Table 7

*Estimated Marginal Means—Biology I Adjusted Mean*

Certification Route	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Traditional	649.17	1.01	647.12	651.23
Alternate	645.01	2.69	639.52	650.49

### *Hypothesis 3*

The third hypothesis stated that there is no significance difference in student performance in English II Subject Area Tests regardless of whether they were students of traditional or alternate route teachers. The ANCOVA univariate analysis of variance test conducted with the English II Subject Area Tests based on student achievement showed no significant difference of student mean scores and the connection to traditional or alternate route teachers. With the alpha set at .05, the test showed that the significant level was greater than .05, which means that no significant difference was found. Table 8 shows the grouping, mean, standard deviation, and sample size for the English II test. The tests of between-subjects effects was identified as  $F(1,30) = .575, p = .454$ . Table 9 shows the adjusted mean with covariates (Free Lunch = 47.03%; Teacher Experience = 11.12 years) calculated in the model.

Table 8

#### *Descriptive Statistics with Dependent Variable: English II Mean*

Certification Route	Mean	Std. Deviation	
Traditional	650.36	6.06	32
Alternate	644.00	1.13	2
Total	649.99	6.07	34

Table 9

*Estimated Marginal Means—English II Adjusted Mean*

Certification Route	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Traditional	650.19	1.04	648.08	652.31
Alternate	646.75	4.39	637.79	655.71

*Hypothesis 4*

The fourth hypothesis stated that there is no significance difference in student performance in U. S. History Subject Area Tests regardless of whether they were students of traditional or alternate route teachers. The ANCOVA univariate analysis of variance test conducted with the U. S. History Subject Area Tests based on student achievement showed no significant difference of student mean scores and the connection to traditional or alternate route teachers. With the alpha set at .05, the test showed that the significant level was greater than .05, which means that no significant difference was found. Table 10 shows the mean, standard deviation, and sample size for the U. S. History test. The tests of between-subjects effect was identified as  $F(1,27) = .290, p = .594$ . Table 11 shows the adjusted mean with covariates (Free Lunch = 45.16%; Teacher Experience = 11.65 years) calculated in the model.

Table 10

*Descriptive Statistics with Dependent Variable: U.S. History Mean*

Certification Route	Mean	Std. Deviation	n
Traditional	361.56	17.01	27
Alternate	352.83	11.19	4
Total	360.43	16.50	31

Table 11

*Estimated Marginal Means—U.S. History Adjusted Mean*

Certification Route	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Traditional	361.07	3.00	354.91	367.23
Alternate	356.12	8.47	338.74	373.49

### *Hypothesis 5*

The questionnaire process was conducted with the 19 high school principals, which included a section of survey questions that addressed the entire teaching staff. These responses were directed toward the differences in traditional and alternate route teachers based on the administrative experiences of the principals. The questions were written to categorize responses for three areas: (1) teacher dependability; (2) classroom management and instruction; (3) student/teacher relationships. The items were rated on a

Likert scale ranging from 1, representing *strongly disagree*, 2 representing *disagree*, 3 representing *agree*, and 4 representing *strongly agree*.

In order to test  $H_{05}$  concerning differences in teacher variables, a Repeated Measure ANOVA test was used with teacher training (traditional or alternate route) as the grouping variable and the three teacher variables (dependability, classroom management, student/teacher relationships) were given as the dependent variables. Separate One Way ANOVAs were conducted with each variable. The results of the survey provided the statistical information to test the hypothesis stated as follows:

$H_{05}$ : There was no significant difference in teacher variables (1) dependability; (2) classroom management and instruction; and (3) student relationships for teachers that received traditional versus alternate route training.

The results of the tests revealed that principals perceived that there was a difference between traditional route and alternate route teachers in the areas of dependability, classroom management, and student/teacher relationships. In all three variables, the tests showed a significant level less than .05. The multivariate test showed a significant difference based on averaged variables,  $F(16) = 15.612, p < .001$ . The univariate test showed a significant difference in student/teacher relationships of traditional and alternate route teachers,  $F(1,18) = 13.57, p = .002$ . The univariate showed a significant difference in dependability of traditional and alternate route teachers,  $F(1,18) = 20.00, p < .001$ . The test also showed a significant difference in classroom management of traditional and alternate route teachers,  $F(1,18) = 50.63, p < .001$ . In this case, results show that the hypothesis tested false. Through the principal survey questions designated for this study, it was established that the perceptions of principals revealed



that traditional route teachers performed better than alternate route teachers in the areas of dependability, classroom management, and student/teacher relationships. Table 12 shows descriptive statistic differences between traditional and alternate route teachers in the variable areas by reporting the mean and standard deviation.

Table 12

*Descriptive Statistics Report for Teacher Dependability, Classroom Management; Student Relationships (N=19)*

Certification	Variable	Mean	Std. Deviation
Traditional	Dependability	3.05	.497
Alternate	Dependability	2.79	.508
Traditional	Classroom Management	3.12	.350
Alternate	Classroom Management	2.45	.464
Traditional	Student Relations	2.97	.424
Alternate	Student Relations	2.61	.427

Likert scale: 1=strongly disagree, 2=disagree, 3=agree, 4=strongly agree

### *Hypothesis 6*

A questionnaire process was conducted with the 19 high school principals, which included a section of survey questions that addressed only the subject area teachers at each school. These responses were directed toward the differences in traditional and alternate route teachers based on the administrative experiences of the principals. The questions were written to categorize responses for three areas: (1) mastery of instruction;

(2) communication; and (3) cooperative attitude. The items were rated on a Likert scale ranging from 1, representing *strongly disagree*, 2 representing *disagree*, 3 representing *agree*, and 4 representing *strongly agree*.

In order to test  $H_{06}$  concerning differences in teacher variables, a Repeated Measure ANOVA test was used with teacher training (traditional or alternate route) as the grouping variable and the three teacher variables (student mastery, communication, cooperative attitude) were given as the dependent variables. Separate One Way ANOVAs were conducted with each variable. The results of the survey provided the statistical information to test the hypothesis stated as follows:

$H_{06}$ : There was no significant difference in subject area teacher variables (1) student mastery; (2) communication; and (3) cooperative attitude for teachers that received traditional versus alternate route training.

The results of the tests revealed that principals perceived that there was not a difference between subject area teachers from traditional and alternate routes in the areas of student mastery, communication, and cooperative attitude. The multivariate test within subjects effect showed no significant difference within subjects,  $F(16) = 1.99, p = .156$ . The univariate test showed significant differences in all three variables with levels less than .05. The univariate test showed a significant difference in student mastery of traditional and alternate route teachers,  $F(1,18) = 5.50, p = .031$ . The univariate showed a significant difference in communication of traditional and alternate route teachers,  $F(1,18) = .796, p = .022$ . The test also showed a significant difference in cooperative attitude of traditional and alternate route teachers,  $F(1,18) = 6.06, p = .024$ . Based on the multivariate results, the perceptions of principals revealed that there were no significant

differences in subject area teachers from traditional and alternate routes in the areas of student mastery, communication, and cooperative attitude. Table 13 shows descriptive statistic differences between traditional and alternate route teachers in the variable areas by reporting the mean and standard deviation.

Table 13

*Descriptive Statistics Report for Student Mastery, Communication; Cooperative Attitude*  
(N=19)

Certification	Variable	Mean	Std. Deviation
Traditional	Mastery	3.24	.475
Alternate	Mastery	2.89	.585
Traditional	Communication	3.14	.561
Alternate	Communication	2.86	.474
Traditional	Cooperative	3.34	.528
Alternate	Cooperative	2.95	.550

Likert scale: 1=strongly disagree, 2=disagree, 3=agree, 4=strongly agree

### *Qualitative-Thematic Coding*

The open-ended part of the interview with the principals involved in the study provided informative perceptions of principals that helped explain the survey instrument responses that showed the differences between traditional and alternate route teachers. The strengths and weaknesses as seen by these principals of teachers who completed certification based on traditional college major programs or alternative programs were identified through the freedom to reveal opinions based on principal experiences. The

responses from the 19 principals in this study were comparatively categorized to minimize the extensive list of responses. The following tables report the results from the open-ended questions. Table 14 charts the strengths of the traditional and alternate route teachers as identified by the principals of the 19 high schools in the study. The number of times that the response was identified is in parenthesis adjacent to the response. Table 15 charts the weaknesses of the traditional and alternate route teachers as identified by the principals. The number of times that the response was identified is in parenthesis adjacent to the response.

Table 14

*Thematic Coding for Strengths of Traditional and Alternate Route Teachers (N=19)*

Traditional Route Strengths	Alternate Route Strengths
Classroom Management (10)	Work Ethic (10)
Planning for Instruction (6)	Eager to Learn/Improve (6)
Knowledge of Curriculum (5)	Experiences in Subject/Life (6)
Lesson Presentation (4)	Content Knowledge (4)
Content Knowledge (4)	Communication w/Students (3)
Differentiated Instruction (4)	Collaboration (2)
Preparation for Teaching (3)	Connect relevance (2)
Work Ethic/Dependability (3)	Excitement to Teach (2)
Education Profession Calling (3)	Focus on Results (1)
Organization (3)	Classroom Management (1)

Table 14 (continued).

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Time Efficiency (2)
Collaboration/Teamwork (2)
Experience (1)
Willing to serve others (1)
Focus on Students (1)
Understanding Resource Tools (1)
Flexibility (1)
Desire to be Best (1)

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Table 15

*Thematic Coding for Weaknesses of Traditional and Alternate Route Teachers (N=19)*

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Traditional Route	Alternate Route
Weaknesses	Weaknesses
Adaptation to Change (9)	Classroom Management (10)
Burnout/Motivation (6)	Preparedness to Teach (9)
Flexibility (3)	Differentiated Instruction (4)
Differentiated Instruction (2)	Time Management (3)
Content Knowledge (1)	Organization (3)
Parental Communication (1)	Content Knowledge (2)
Becoming Overwhelmed (1)	Student Relations (2)
Adjusting to Student Failure (1)	Being Part of School Program (1)

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Table 15 (continued).

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Narrow Focus on Accountability Standards (1)	Leadership in School (1)
Not Following Administration Directions (1)	Disillusioned by Profession (1)
Time on Task (1)	Assessment of Student Progress (1)
Working in Isolation (1)	Motivation Techniques (1)
	Parental Communication (1)

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### Summary

The results of the tests run for comparing traditional and alternate route teachers revealed variations based on each of the hypothesis researched. Hypothesis 1, 2, 3, and 4 were each based on archival data with student mean scores being the focal point for the subjects of Algebra I, Biology I, English II, and U.S. History. In each of these cases researched, there was found to be no significant difference in the scores of students who were instructed by either a traditional or alternate route teacher. Each of the null hypotheses connected to the subject area tested areas was accepted because no significant difference existed.

The results from hypotheses 5 and 6 were collections from the 19 principals included in this research. The collection of data for null hypothesis 5 concluded that the null hypothesis was rejected. An advantage for traditional route teachers, inclusive of the entire staff, did exist according to the perceived ideas of these principals in the study. The feedback for null hypothesis 6 from these principals only included the teachers from subject area tested courses. The results revealed slight advantage differences for variables with traditional route teachers, but the overall multivariate tests did not show a significant

difference. The null hypothesis was accepted. The thematic coding portion of the study further illustrated the perceived ideas of principals that traditional route teachers are indeed superior to alternate route teachers.

The differences in the two different approaches to this study revealed that there was a distinct difference in the perceptions of the principals and student achievement according to traditional and alternate route teachers. The SATP scores of the students in Algebra I, Biology I, English II, and U.S. History were relatively similar. The survey and interview process with the 19 principals showed a much different perspective with a slight advantage being toward the traditional route teachers.

## CHAPTER V

### DISCUSSION AND RECOMMENDATIONS

#### Introduction

This research study was intended to help school administrators make better decisions when hiring teachers by determining if traditional or alternate route programs produce better instructors. The discussion that follows is an attempt to review the information obtained through the archival and survey data. The limitations that were identified with the research are discussed also. Recommendations for future studies are included to help follow-up research avoid obstacles that became apparent during this process.

#### Discussion

The analysis of this report was to examine the effectiveness of traditional and alternate route teachers based student achievement scores on the high school Subject Area Tests that are given during the spring of each school year in Mississippi. These tests in the research, administered during the spring semester 2011, were Algebra I, Biology I, English II, and U. S. History.

The first hypothesis suggested that no significant difference existed between traditional and alternate route teachers with reference to their students' achievement on Algebra I Subject Area Tests. This study included 40 traditional route teachers and 7 alternate route teachers. The results showed that no significant differences were found, with very little differences in the average mean scores. These findings support the research results of Constantine et al. (2009). This research study of math achievement



with elementary students showed slightly higher scores with students of alternate route teachers, but no significant differences were found.

The second hypothesis was focused on Biology I student test scores on the Subject Area Tests with the connection to traditional and alternate route teachers. The research studied 31 traditional route and 5 alternate route teachers. The data revealed that, just as with the Algebra I data, no significant difference was found in Biology I. These findings support the research by Qu and Becker (2003) that found no differences in student achievement with teacher certification routes. Qu and Becker did theorize that many science majors were changing professions from engineering, medicine, and business related fields to the teaching profession. This content knowledge superiority based on additional coursework was the basis for theories that alternate route teachers would produce superior student test scores, but these suggestions were not proven to be consistent with this study.

The third hypothesis tested confirmed that no significant differences were found with the student scores on Subject Area Tests in English II in association with traditional or alternate route teachers. There were 32 traditional route teachers included in the study and only two alternate route teachers. These vast sample size differences did not skew the results of the study enough to show any significant differences. The research results of this study oppose the research of Buice (2003) in New York that suggested that language arts teachers were superior from traditional route programs. The Buice research theorizes that language arts teachers take additional subject education courses that provide training for incorporating a variety of instructional methods that compliment the strengths of student learning.

The fourth hypothesis also confirmed that no significant differences were found with students of traditional ( $n = 27$ ) or alternate route ( $n = 5$ ) teachers on the U. S. History Subject Area Tests. These results confirm the study in by Zeichner and Schulte (2001) that stated no difference existed with student performance based on the instruction from traditional or alternate route teachers.

These first four hypotheses were all based on archival data collected from the Mississippi Department of Education. The purpose of this fact-finding mission was to examine if, indeed, advantages existed with teachers from different training programs. Each of the subject area teaching positions was highly dominated by a high percentage of traditional route teachers. This trend seems to be consistent throughout the entire state, even though alternate route teachers are regularly found teaching other classes. This is probably due to the perceived differences as viewed by the school principals, who are given the task of hiring and placing teachers. The remaining part of this research focused on these practices.

The fifth hypothesis stated that no significant difference would be found with traditional or alternate routes with the variables of dependability, classroom management, or student/teacher relationships. The data collected for this study were from a survey instrument from the 19 principals representing the schools in the sample study, gathered during the questionnaire process. The survey instrument was divided into sections associated with traditional and alternate route teachers. The questions were pre-assigned to the three variables identified. The purposed reflection focused on all teachers in the school, including subject area teachers. The research data revealed that there were significant differences identified by the principals in the areas of dependability,

classroom management, and student/teacher relationships. These perceived opinions of principals were easily identified with the follow-up interview. Many of the principals expressed that they had many more problems with student behavior in the classes of teachers from the alternate route programs than the traditional route programs. The research by Boyd et al. (2008b) suggests that teacher experience is the variable that the traditional route teachers normally hold an advantage over alternate route teachers. In this study, this was confirmed with the traditional route teachers averaging more years of experience. The study by Heck (2007) contends that student achievement and teacher quality differences are based on the perceived opinions of people. Many times these perceptions are based on past experiences that keep principals from placing teachers in the highly important subject area classes. With all 19 of the principals in the study being from the traditional route programs, the biased opinions of these principals could have influenced the results totaled from each survey question concerning the entire staff of teachers. However, there was some feedback from principals during the interviews that reflected an element of pleasant surprise when an alternate teaching candidate produced great results. One principal elaborated about his preconceived prejudices against hiring an alternate route teacher until pushed to a last resort situation. This situation did come to fruition, and an alternate route teacher was finally the only choice available to the principal. As he discussed the three years that followed this decision, it seemed like the technology intelligence of the alternate route teacher had spread throughout the school among co-workers and student alike. This scenario changed the way the principal looked at the alternate route programs, and he expressed no hesitation with repeating the process to find the best instructor for his school.

This research shows that administrators sometimes limit judgments about hiring people who might become great instructors. Marzano (2003) stated that the importance of the administration management of instruction was not only important throughout the observation and feedback process, but also, the great decisions made by administrators to evaluate the qualities for potential before making decisions to hire teachers is essential for continued growth in schools. Through this research, it became more apparent that misplaced limits tend to narrow vision about the possibility for better instructors by eliminating candidates through these perceived ideas.

The sixth hypothesis stated that no significant difference would be found with traditional or alternate route teachers with the variables of student mastery, communication, and cooperative attitude. The 19 high school principals responded to the portion of the survey instrument that reflected on subject area teachers only. When the three variables were individually tested through the univariate test, each scored less than .05, which meant that there was a significant difference between traditional and alternate route teachers, with traditional route teachers scoring higher. When the multivariate test was run, taking into consideration the three variables together, no significant difference was found. This was a shift from the principals' evaluations based on the entire staff, reflected in hypothesis 5.

The understanding found from this research hypothesis was that principals place alternate route teachers in positions that do not require state testing. With only the subjects of Algebra I, Biology I, English II, and U. S. History being in the state tested areas, many other subjects, necessary for school districts to meet accreditation standards, are good areas to place teachers without proven effective instruction. This practice acts as

a training ground or screening for the best teachers before placing them in the tested subjects that they may also have certification to teach. In many schools, this narrows the teacher pool in state tested subjects to include only the best quality teachers, regardless of the certification route. This selection of the best also gives teachers longer to establish their strengths and improve weaknesses, an advantage for more experienced teachers. Taking this rationale into account, it stands to reason that this group of teachers would be scored higher by principals than the entire staff. Research by Boyd et al. (2008b) stated that the experience variable is more of a key to student learning than the route of certification. Even though this was not taken into account on the survey instrument, the principal responses gave feedback that indicated that experience did make a positive difference in student learning. Rockoff (2004) research reported that after 5 years of teaching experience, no differences existed between traditional or alternate route teachers. With subject area teachers being more experienced in this research, this feedback by the principals agreed with this data.

The open-ended section of the principal's responses gave great understanding of the consistency of the scoring on the survey instrument. Comparing the strengths and weaknesses of the traditional and alternate routes according to the principals' experiences, it was easy to see why some teachers from each route could climb to quality status. In 11 out of 19 principal interviews, classroom management was identified as the number one strength of the traditional route teachers. In 10 out of 19 principal interviews, classroom management was identified as the greatest weakness of the alternate route teachers. It seems that this is an area where the traditional route programs are preparing teaching candidates better than alternate route programs. This is a fundamental aspect of

teaching that gets overlooked with the degree of importance that it should receive.

Marzano et al. (2003) reported that without classroom management, the degree of intelligence of the instructor had no value for students learning. Research by Heck (2007) stated that a business-like approach with highly structured classroom parameters helped students achieve learning without the distractions that come with chaotic environments. This research supports this line of thought. It also seems that principals understand more about the importance of classroom management than anyone in the school, and when instructors learn how to be in control of the class, student achievement benefits greatly.

The number one strength of alternate route teachers, identified by 10 of the 19 principals, was work ethic and desire to improve. Principals identified the greatest weakness of traditional route teachers 9 times as being resistant to change and burnout. These almost seem as opposite as the classroom management strength and weakness. It takes a work ethic mentality to seek changes that can make improvements, so it stands to reason to suggest that resistance to change is due to a lack of work ethic. Research by Chapman and Vagle (2011) reported that the bottom line for improving student learning is a coupling of work ethic and quality of instruction. Teacher quality can never be underestimated, and work ethic is a main ingredient in that mix. This can be found in an instructor from the traditional or alternate route, but evaluating this prior to making a recommendation for teacher employment is a judgment that all principals must perfect to improve student learning.

### Limitations

Several limitations were found during the research that could have impacted the results. Further research about comparisons between traditional or alternate route teachers

should seek to avoid these limitations to get a clearer picture of understanding. The small sample size emerged as a limitation. These 12 school districts had limited numbers of students when comparing the traditional and alternate route teacher classrooms. The discrepancy of student numbers limited the cross-district blend that was the initial plan of study. Some districts had no alternate route classrooms, and a few had multiple alternate route classrooms. This limited the even distribution that was necessary for a perfect comparison. Tracking and comparing the experience of teachers was a limitation due to the fact that the alternate route programs have been more recently formed. This was reflected by the fact that most alternate route teachers were less experienced than traditional route teachers. The experience factor was also limited with no correlation to similar teacher experience comparisons to judge the effect on student achievement. The socioeconomic differences between districts and schools were a limitation. Many of alternate route teachers were found to be teaching in low performing schools in poverty stricken areas of the study region. This caused uneven comparisons of student test scores. The sample area was highly dominated by traditional route teachers, which caused great ranges in the comparison numbers of teachers. The low number of alternate route teachers held little room for error to show great differences for the comparison study of teachers. Through feedback from principals, it became apparent that tracking the various training requirements from different alternate route programs was a limitation. These variations caused unparalleled preparation experiences within the alternate route teachers in the study. Some had initially finished the alternate route program in certain fields and returned to receive additional certification in the traditional route programs. The reliability of the survey instrument seemed to be jeopardized by principal perceptions or

biased opinions due to the fact that all principals surveyed were traditional route graduates. This, coupled by the fact that some schools had no alternate route teachers teaching in the areas of the subject area courses, led to the possibility that responses were skewed.

### Recommendations for Future Research

#### *Elementary Teachers vs. Secondary Teachers*

While trying to research the traditional and alternate route teachers and the quality of each to benefit secondary education schools, it was discovered that this process could be carried out much better through the Mississippi Curriculum Test (MCT) scores. These tests are given to grades 3 through 8 with virtually all teachers involved in tested areas. The secondary school setting only tests Algebra I, Biology I, English II, and U. S. History, so the vast majority of teachers are eliminated from state testing responsibilities. For instance, if all English teachers taught an English II class, which is state tested, the comparison of these teachers could more easily be compared. For this reason, future recommendations are for research to look at the teachers of grades 3 through 8.

#### *Sample Size*

The small size in this study was a limitation. This sample included 12 school districts with 19 high schools. The recommendation for future research includes a much larger sample size, possibly all 152 school districts in Mississippi. The area researched was predominately rural and supported well by local funding. By increasing this sample size to include the whole state, the inclusion of areas highly dominated with alternate route teachers in areas of high need would give better research returns. The increase of



the sample size would also give greater emphasis to the significant levels, thus making it easier to compare the certification routes.

#### *Teacher Experience Limits*

This research did not include setting limits to teaching experience. It was discovered that a variety of teaching experience existed among traditional and alternate route teachers. Research by Rockoff (2004) indicated that after five years of teaching experience, no differences existed between certification routes, but during the first year or two, greater differences were reported. An increase in sample size would also give future research the option set variables to compare similarities with teaching experience between alternate and traditional route teachers. The research data from this comparison could determine which teachers were more effective instructors immediately after completing the traditional or alternate programs. The research could be extended to include comparative studies of teachers who have the same years of experience. The recommendation for future studies is for teaching experience to be including as a grouping covariate to more adequately score differences.

#### *Student Growth as an Indicator*

This research used high school subject area test scores as the determining factor to test the first four hypotheses. If the recommendation to use the MCT scores for grades 3 through 8 is carried out, comparing student growth from the past year gives equal representation to the students with low achievement or from areas where students have experienced problems receiving adequate instruction. The growth model used with the subject area tests is a mixed formula from 8<sup>th</sup> grade MCT scores and harder to compare; however, the comparison of MCT scores between grades 3 through are better suited for

direct correlation. The only exclusion to measure growth in these grades would be in grade 3, where no data from the previous year eliminates any baseline to measure. With the growth formula increasing as the measure of importance in the state, the recommendation for future research in this field of study is to measure the growth in grades 4 through 8.

### *Survey Instrument*

The survey instrument used to gather data from the 19 principals in the region studied revealed perceptions about traditional and alternate route teachers that helped distinguish between archival data and preferences for hiring. The recommendation is for this survey part of the study to continue; however, it should be increased in number to generate more areas to consider, especially with the open-ended responses. An obstacle to include all principals for grades K through 12 would be to create a survey that is compatible and versatile enough to be used. It is important to include the principals' perspectives and to report contrasts that emerge.

### Recommendations for Policy and Practice

The intended use of this research by principals was to provide information that aids in the improvement of instruction practices in schools. The archival data studied with hypothesis 1 through 4 showed that little or no advantages were shown with either teacher certification route. The previous research (Marzano, 2007) pointed to teacher quality being related to work ethic, relationships, attitudes, classroom management, content knowledge, and a talent to reach students. This analysis of Subject Area Test data proves that no advantages exist with merely limiting employment decisions based on the certification route programs. There is no magic formula that will produce a guiding light

to help administrators make great decisions for hiring great instructors every time. These judgments are reserved for much deeper thinking than the close-mindedness that has dominated many school decisions. This seemed to occur with the comparisons of test facts and principal perceptions found in this research study. The recommendation for future practice concerning this debate is to carefully study the facts and find the intangibles that are necessary for teachers to effectively guide student learning.

### Summary

This purpose of this research was to give principals more information about hiring quality teachers. The comparative study between traditional and alternate route teachers produced data that reflects the strengths and weaknesses of each program. The study was two-fold, in that it tied quality instruction to the subject area test scores in high schools with archival data, and it reflected the perceptions and opinions of principals through the survey instrument data. Bringing these two aspects together to help with data-driven decisions by principals in the hiring process of teachers was the main goal.

The sincere desire to share knowledge for better understanding to benefit student learning is the hope from this researcher. The greatest commodity and greatest challenge is definitely the students. With quality instruction in every classroom, this challenge will reach greater heights and potential. To help make others better is to better the world.

## APPENDIXES A

## IRB APPROVAL LETTER


**THE UNIVERSITY OF  
SOUTHERN MISSISSIPPI**

INSTITUTIONAL REVIEW BOARD

118 College Drive #5147 | Hattiesburg, MS 39406-0001

Phone: 601.266.6820 | Fax: 601.266.4377 | www.usm.edu/irb

**NOTICE OF COMMITTEE ACTION**

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.  
Projects that exceed this period must submit an application for renewal or continuation.

 PROTOCOL NUMBER: **11052302**

 PROJECT TITLE: **A Comparative Study for Traditional and  
Alternate Routes to Teacher Certification**

 PROJECT TYPE: **Dissertation**

 RESEARCHER/S: **Eddie E. Moore**

 COLLEGE/DIVISION: **College of Education & Psychology**

 DEPARTMENT: **Educational Leadership**

 FUNDING AGENCY: **N/A**

 IRB COMMITTEE ACTION: **Exempt Approval**

 PERIOD OF PROJECT APPROVAL: **07/28/2011 to 07/27/2012**



 Lawrence A. Hosman, Ph.D.  
Institutional Review Board Chair

7-29-2011

Date

## APPENDIX B

## DISTRICT SUPERINTENDENTS' LETTER

Eddie Moore  
159 S. Main Street  
Pontotoc, Mississippi 38863  
July 29, 2011

School Superintendent  
Address

Dear Superintendent (name)

My name is Eddie Moore, and I am currently serving as the principal at Pontotoc High School in the Pontotoc City School District I am also a graduate student at the University of Southern Mississippi conducting research concerning the comparisons of traditional and alternate routes to teacher certification. I would appreciate your permission in allowing your high school principals to participate in this study through a survey/interview process. Each principal will be complete this process during a scheduled personal meeting where information will be acquired.

All personal information will be kept confidential, and names, personal information, and school or district information will not be disclosed or stated in the dissertation. Principals will not be asked to sign consent forms since their identity will be kept anonymous. When the study is complete, the data will be erased by the researcher and any conversational notes will be shredded to protect anonymity.

There are no risks involved and little or no short-term benefits. Long-term benefits could result from sharing the research findings, at your request, about the advantages and disadvantages of the traditional and alternate teacher certification routes and the connection to student achievement. This connection will be addressed with the 2011 high school subject area tested courses of Algebra I, Biology I, English II, and U.S. History.

Please complete the attached consent form granting permission for your district to participate in the study. If you have any questions, you may contact me at my office (662-489-1275) or my cell phone (662-296-9134). My email address is [emoore@pontotoc.k12.ms.us](mailto:emoore@pontotoc.k12.ms.us). This research will be submitted as a part of a dissertation study and will be published as a dissertation at the University of Mississippi. The project has been reviewed and approved by the Human Subjects Protection and Review Committee, which ensured that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research participant should be directed to the Chair of the Institutional Review Board (IRB) of the University of Southern Mississippi at 118 College Drive #51471, Hattiesburg, Mississippi 39406-0001 or 601-266-6820.

Thank you for participating in this research project.

Sincerely,

Eddie Moore  
Principal, Pontotoc High School  
Doctoral Student, USM

## APPENDIX C

## HIGH SCHOOL PRINCIPALS' LETTER

159 S. Main Street  
Pontotoc, Mississippi 38863  
September 12, 2011

Mr./Mrs./Ms./Dr. (Principal's Name):

My name is Eddie Moore, and I am currently serving as the principal at Pontotoc High School in the Pontotoc City School District. I am also a graduate student at the University of Southern Mississippi conducting research concerning the comparisons of traditional and alternate routes to teacher certification. I would appreciate if you would complete the survey to participate in this study. I have already requested and received permission from your superintendent to conduct this research. This part of the research involves the nineteen principals in the five-county ICC district.

All personal information will be kept confidential, and names, personal information, and school or district information will not be disclosed or stated in the dissertation. Principals will not be asked to sign consent forms since their identity will be kept anonymous. When the study is complete, the researcher will erase the data and any conversational notes will be shredded to protect anonymity

There are no risks involved and little or no short-term benefits. Long-term benefits could result from sharing the research findings, at your request, about the advantages and disadvantages of the traditional and alternate teacher certification routes and the connection to student achievement. This connection will be addressed with the 2011 high school subject area tested courses of Algebra I, biology I, English II, and U.S. History.

Please return the survey by fax to the Pontotoc High School office. (662)-489-5255) If you have questions, you may contact me at my office (662-489-1275) or my cell phone (662-489-9134). My email address is [emoore@pontotoc.k12.ms.us](mailto:emoore@pontotoc.k12.ms.us). This research will be submitted as a part of a dissertation study and will be published as a dissertation at the University of Mississippi. The project has been reviewed and approved by the Human Subjects Protection and Review Committee, which ensure that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research participant should be directed to the Chair of the Institutional Review board (IRB) of the University of Southern Mississippi at 118 College Drive #51471, Hattiesburg, Mississippi 39406-0001 or 601-266-6820.

Thank you for participating in this research project.

Sincerely,

Eddie Moore  
Principal, Pontotoc High School  
Doctoral Student, USM

## APPENDIX D

## MDE OFFICE OF RESEARCH AND STATISTICS LETTER

Eddie Moore  
159 South Main Street  
Pontotoc, MS 38863  
May 12, 2011

Ken Thompson  
Mississippi Department of Education/ Office of Research and Statistics  
P.O. Box 771  
Jackson, MS 39205-0771

Dear Mr. Thompson:

My name is Eddie Moore. I am the principal for Pontotoc High School. I am also a graduate student at the University of Southern Mississippi conducting a comparative study on traditional and alternate route certification teachers. I am seeking your approval in obtaining archival data from the Office of Research and Statistics for SATP information from the five-county region associated with Itawamba Community College. These counties include Chickasaw, Itawamba, Lee, Monroe, and Pontotoc. There are 12 separate school districts and 19 high schools within these counties.

No individual district or school data will be needed. Once obtained and used for this study, data will be deleted by the researcher.

There are no risks involved and little or no short-term benefits. Long-term benefits could result from sharing the research findings about the advantages and disadvantages of the traditional and alternate teacher certification routes and the connection to student achievement. Participation in this study is voluntary and consent may be withdrawn at any time without penalty or prejudice.

Please send a letter from your granting permission to obtain data for participation in this study. If you have any questions, you may contact me at 662-401-9355 or [emoore@pontotoc.k12.ms.us](mailto:emoore@pontotoc.k12.ms.us). This research will be submitted as a part of a dissertation study and will be published as a dissertation at the University of Southern Mississippi if you would like to see the results. The project has been reviewed and approved by the Human Subjects Protection and Review Committee, which ensured that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research participant should be directed to the Chair of the Institutional Review Board (IRB) of the University of Southern Mississippi at 118 College Drive #5147, Hattiesburg, MS 39406-0001 or 601-266-6820.

Again, thank you for participating in the research project.

Sincerely,

Eddie Moore  
Principal, Pontotoc High School  
Doctoral Student, USM

## APPENDIX E

## SCHOOL DISTRICT CONSENT TO PARTICIPATE IN THE STUDY

Dissertation Study:

A Comparative Study for Traditional and Alternate Routes to Teacher Certification

Researcher: Eddie Moore

Institution: The University of Mississippi

Return Information: ( ) High School (Fax if possible)

Fax: (662) 489-5255

Email: [emoore@pontotoc.k12.ms.us](mailto:emoore@pontotoc.k12.ms.us)

Address: 123 N. Main St.

( ), MS 38863

I hereby grant permission for the researcher to contact high school principals in this district, which I serve as superintendent, to participate in the survey questionnaire process for the dissertation study identified in this letter. I understand the explanations given about the study and agree with the procedures.

---

Superintendent Signature / Date

---

School District



## APPENDIX F

## SURVEY INSTRUMENT FOR PRINCIPALS

## Principal Interview/Survey Instrument for Traditional and Alternate Route Teachers

**Instructions: Please answer each question by choosing only one answer per question. Responses are anonymous. Thank you for participating.**

**Please choose only one answer for the following:**

<b>Gender of Principal</b>	Male	Female				
<b>Years of Experience In Education</b>		3-5	6-10	11-15	16-20	21 or more
<b>Years of Experience As Administrator</b>	1-2	3-5	6-10	11-15	16-20	21 or more

**Rating Scale= (1 = Strongly Disagree) (2 = Disagree) (3 = Agree) (4 = Strongly Agree)**

<b>Respond based on the entire certified staff in your school. To what degree do the traditional route teachers rate on the following:</b>	Strongly Disagree.	Disagree	Agree	Strongly Agree
1. Attendance problem is a major issue	1	2	3	4
2. Classroom management skills are superior	1	2	3	4
3. Discipline Issues are minimal	1	2	3	4
4. Lesson Planning shows mastery with detailed information	1	2	3	4
5. Time on Task observations reveal minimal lost instruction	1	2	3	4

6. Work Ethic is exemplary	1	2	3	4
7. Provides and enforces clear structures, rules, and procedures for students	1	2	3	4
8. Knowledge of curriculum is clearly evident	1	2	3	4
9. Instructional strategies/differentiated instruction is evident with a variety of instructional methods	1	2	3	4
10. Communication skills are motivational for students	1	2	3	4
<b>To what degree do the alternate route teachers rate on the following</b>	Strongly Dsagree.	Disagree	Agree	Strongly Agree
11. Attendance problem is a major issue	1	2	3	4
12. Classroom management skills are superior	1	2	3	4
13. Discipline Issues are minimal	1	2	3	4
14. Lesson Planning shows mastery with detailed information	1	2	3	4
15. Time on Task observations reveal minimal lost instruction	1	2	3	4
16. Work Ethic is exemplary	1	2	3	4
17. Provides and enforces clear structures, rules, and procedures for students	1	2	3	4
18. Knowledge of curriculum is clearly evident	1	2	3	4
19. Instructional strategies/differentiated instruction is evident with a variety of instructional methods	1	2	3	4
20. Communication skills are motivational for students	1	2	3	4
<b>Respond based only on the SATP certified teachers in your school. To what degree do the traditional route teachers rate on the following:</b>	Strongly Disagree	Disagree	Agree	Strongly Agree

21. Student performance on SATP is superior	1	2	3	4
22. Communication skills with students are very good	1	2	3	4
23. Parent contacts and communication about student progress is consistent and documented	1	2	3	4
24. Collaboration with other SATP teachers is evident as a normal part of the planning time	1	2	3	4
25. Administrative suggestions for instructional improvements are readily accepted	1	2	3	4
26. Searching for innovative methods to support student learning is a main focus	1	2	3	4
27. Maintains a positive rapport with students about the importance of the SATP	1	2	3	4
28. Pacing is appropriate for the coverage of material necessary for the SATP	1	2	3	4
29. Student assessment is similar/congruent to the SATP	1	2	3	4
30. Teacher is willing and eager to meet the challenge of teaching in a SATP class	1	2	3	4
<b>To what degree do the alternate route teachers rate on the following:</b>	Strongly Disagree.	Disagree	Agree	Strongly Agree
31. Student performance on SATP is superior	1	2	3	4
32. Communication skills with students are very good	1	2	3	4
33. Parent contacts and communication about student progress is consistent and documented	1	2	3	4
34. Collaboration with other SATP teachers is evident as a normal part of the planning time	1	2	3	4
35. Administrative suggestions for instructional improvements are readily accepted	1	2	3	4
36. Searching for innovative methods to support student learning is a main focus	1	2	3	4

37. Maintains a positive rapport with students about the importance of the SATP	1	2	3	4
38. Pacing is appropriate for the coverage of material necessary for the SATP	1	2	3	4
39. Student assessment is similar and congruent to the SATP	1	2	3	4
40. Teacher is willing and eager to meet the challenge of teaching in a SATP class	1	2	3	4

<b>Give your opinion about the strengths and weakness of the traditional and alternate route teachers in Subject Area Test courses in your school.</b>
Traditional Route: Strengths
Traditional Route: Weaknesses
Alternate Route: Strengths
Alternate Route: Weaknesses

Thank you for participating in this study

## APPENDIX G

## MDE OFFICE OF RESEARCH AND STATISTICS APPROVAL LETTER

To: Eddie Moore

From: Ken Thompson

Date: July 25, 2011

RE: Data for dissertation

Mr. Moore – please consider this formal notification that the Office of Research and Statistics will be happy to work with you in obtaining necessary data for use in your dissertation. To provide you with the data, I'll need confirmation from the IRB at your institution that you are working on your dissertation, and you'll need to complete the necessary security documents before receiving any data.

Please let me know if you need anything further.

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