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PROGRAM COMPLETERS' PERCEPTIONS OF TEACHER PREPAREDNESS IN
PLANNING, INSTRUCTION, AND PROFESSIONALISM IN FLORIDA: A
COMPARISON OF DISTRICT ALTERNATIVE PROGRAMS, TRADITIONAL
PROGRAMS, AND EDUCATOR PREPARATORY INSTITUTES

by

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A dissertation submitted in partial fulfillment of the requirements
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in the School of Teaching, Learning, and Leadership
in the College of Education
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Orlando, Florida

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2011

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ABSTRACT

In this research, data collected by the Florida Department of Education (FLDOE) for 2006-2007 and 2007-2008 program completers of the following three Florida teacher preparation programs were compared: the Initial Teacher Preparation Programs (ITP) of approved colleges and universities, District Alternative Certification Programs (DACP), the Educator Preparatory Institutes (EPI).

A factor analysis was performed to identify factors perceived by program completers as important to their preparedness to teach. The factors that most closely supported completers' perceptions of Florida teacher preparation programs regarding successful preparation for the classroom were: Planning and Instruction; Assessment, Communication and Research; Professional Responsibility and Ethical Conduct; and Use of Technology. Differences perceived by program types indicated that completers of the traditional program, initial teacher preparation (ITP), were significantly more satisfied with their preparedness to face the challenges of the classroom than were completers of school district programs (DACP) and community college programs (EPI). Although the teachers in all groups believed that their preparation ranged between effective and highly effective, the scores of the ITP group reflected significantly higher mean scores and ratings closer to highly effective than the DACP and the EPI groups.

Conclusions, implications for policy and practice, and recommendations for future research were offered.

To Bob Rider, who flies with the angels.

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CHAPTER 1 THE PROBLEM AND ITS CLARIFYING COMPONENTS

Introduction

Teacher education has been important because of the powerful effect teachers have had on student learning. Sanders and Horn (1998) found that student achievement was influenced more by teachers than class size or demographics of students. In their study, students assigned to a succession of highly effective teachers made significantly greater gains in student achievement than did those assigned to a similar succession of ineffective teachers. The teacher's effect on student learning, whether positive or negative, not only occurred during the year the teacher was assigned to the student, but had a cumulative effect in later years (Sanders & Rivers, 1996.)

As teachers have faced more diverse classrooms, they have increasingly been held accountable for student performance. Because of the effect of teachers on student learning and the accountability of teachers for student performance, this study addressed three programs leading to teacher certification in Florida and the teachers' aggregate perceptions of their preparedness for planning, instruction, and professionalism.

Statement of the Problem

One of the most popular misconceptions of contemporary times lies within the nation's teacher shortage. Darling-Hammond & Sykes (2003) addressed this issue by examining teacher hiring practices across the nation and found that teacher shortages occur more often due to distributional inequities, rather than overall shortages of qualified individuals. During times of teacher shortages, teacher standards have been

lowered, and alternative routes to professional certification have been implemented at the state level to address these issues. Insufficient preparation and support of new teachers is the bigger problem as many leave the profession within the first five years (Darling-Hammond & Sykes, 2003). Pathways to teacher certification have increased without clear evidence that any of these programs are superior to any other in preparing candidates to be effective teachers in the classroom (Allen, 2003; Shen, 1997; Zhao, 2005). Due to a lack of clearly defined alternative route programs nationwide, the ability to compare programs has been limited. A better comparative base for the various programs exists in the state of Florida because three routes of teacher preparation have been developed. These routes or pathways have relied on a common foundation in curriculum based on the Florida Educator Accomplished Practices (Milton, Curva, Kolbe, Milton, & Milton, 2009). Comparing Florida program completers' perceptions of preparedness regarding particular aspects of teachers' working knowledge, i.e., planning, instruction, and professionalism, was intended to add to the body of research on alternate teacher preparation pathways. It is also anticipated that the results of this study will be useful to program directors and coordinators as they strive to improve teacher preparation in Florida.

Purpose of the Study

The purpose of this study was to compare Florida program completers' perceptions of preparedness regarding particular aspects of teachers' working knowledge, i.e. planning, instruction, and professionalism. The National Center for Education Statistics reported in 1999 that many teachers were not sufficiently prepared during their

pre-service education for the complexities of the classroom. Nearly 50% of beginning teachers leave the profession within the first five years due to lack of preparation and support. (Fulton et al., 2005; Rubalcava, 2005). Researchers have shown that traditionally prepared teachers outperform teachers who are certified through alternative pathways (Darling-Hammond, Holtzman, Gatlin, & Heilig, 2005; Goldhaber & Brewer, 2000; Monk, 1994). Other researchers have shown that alternatively trained teachers have performed as well, or better than traditionally certified teachers (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2005; Tai, Liu, & Fan, 2006; Walsh & Jacobs, 2007). Zientek (2007) argued that the controversy over alternative pathways should cease and focus more on how effective teachers are prepared.

In the pursuit of preparing teachers who can teach all students, the educational community needs to determine if teachers are being armed with the necessary skills to feel prepared in the classroom and what factors best contribute to teacher's perceptions of preparedness. Identifying strengths and weaknesses of teacher preparation programs is the only way to guarantee the improvement of education and provide justification for teacher educator programs. (Zientek, 2007, p. 998)

Allen (2003) cautioned that the lack of substantial research should be kept in mind when weighing claims over what type of teacher preparation programs were most effective. In a summary of the findings of the 2003 Education Commission of the States Report, Allen called for more and better research on teacher preparation, "The lack of research does not necessarily mean the proponents are wrong: but the available evidence simply does not justify the strength with which some advocates insist on the absolute and exclusive correctness of their point of view" (p. 10). In critiquing over 500 peer-reviewed studies of pre-service teacher education between the years of 1990 and 2003, the American Educational Research Association (AERA) Panel on Research and Teacher

Education concluded that there was no particular program structure, e.g., traditional four-year undergraduate program, five-year graduate program, or alternative certification program, that was superior to the other;

Although there was some evidence that teacher preparation and certification had a positive impact on educational outcomes in some content areas and at certain school levels, the research base related to teacher education as policy was neither deep nor robust. Results were mixed in some areas, and there was virtually no reliable research in many other areas. (Cochran-Smith & Fries, 2005, p. 96)

The AERA panel did find that certain strategies used in teacher preparation programs yielded positive outcomes for both students and teachers (Cochran-Smith & Fries, 2005). Walsh & Jacobs, (2007) suggested that because variations among the teacher preparation alternatives have increased, unique, but challenging, opportunities to examine different components of each of the paths became available.

Florida has offered three teacher preparatory programs with many similar, yet contrasting, differences that maximize opportunities for individuals seeking a career in education. The three approved teacher preparation programs were: (a) District Alternative Certification Programs (DACP), (b) Educator Preparatory Institutes (EPI), and (c) Initial Teacher Preparation (ITP) Programs by approved colleges and universities. A key issue in any teacher preparation program is the quality of teacher it produces. Further investigation was needed to determine what differences, if any, have resulted in the preparedness of completers of each of the programs.

Specifically, research focused on the three types of teacher preparatory programs in Florida to determine completers' perceptions regarding their preparation for (a) planning, (b) instruction, and (c) professionalism in effective classroom practice. The researcher compared data collected by the Florida Department of Education (FLDOE) for

the 2006-2007 and 2007-2008 program completers of the District Alternative Certification Programs, the Educator Preparatory Institutes, and the Initial Teacher Preparation Programs of approved colleges and universities. Separate analysis on the 2006-2007 and 2007-2008 implementations of the Teachers from Florida Teacher Preparation Program surveys had been previously conducted by FLDOE. Combining two years of data from these identical surveys provided a robust data set that allowed the researcher to re-analyze the data in a different fashion and take the comparison further, ensuring consistency in the results. This was significant because the years 2006-2007 and 2007-2008 were the first years for measuring completer impact on K-12 student learning by linking teacher preparatory program completers' performance to student achievement as required by the continued program review standards based on Section 1012.56(8) Florida Statutes and State Board of Education Rule 6A-5.066. Specifically, Standard 3, Continuous Improvement has required districts to review and analyze these data as part of the ongoing improvement process for continued program approval.

Definitions of Terms

District Alternative Certification Program (DACP)--a competency based educator certification preparatory program offered through Florida school districts; one of three Florida preparatory routes (Florida Statute 1012.56).

Educator Preparation Institute (EPI)--a modular based educator certification preparatory program offered through community and state colleges; one of three Florida preparatory routes (Florida Statute 1004.85).

Florida Educator Accomplished Practices--a common set of 12 competencies in all of Florida's teacher preparation programs (Florida Educator, 2007).

Initial Teacher Preparation Programs (ITP)--a traditional educator preparatory program offered through universities or colleges culminating with a degree and preparing individuals to qualify for an initial professional teaching certificate; one of three Florida preparatory routes (Florida Statute 1004.04).

Teachers from Florida Teacher Preparatory Programs--2009 Report on State Approved Teacher Preparation Programs with Results of Surveys of 2006-2007 Program Completers (Milton et al., 2009).

Teachers from Florida Teacher Preparatory Programs--2010 Report on State Approved Teacher Preparation Programs with Results of Surveys of 2007-2008 Program Completers (Milton et al., 2010).

Rationale for the Study

A growing body of evidence has suggested that teachers are the most important influence on student achievement (Sanders & Horn, 1998). Yet, in a 2010 summary report prepared by a national panel of education scholars for the National Research Council, the committee concluded there was a lack of solid evidence regarding which pathway best prepares the nations' teachers (Viadero, 2010). Although the number of new paths leading to teacher certification has rapidly increased, there has been little research that suggests which of these routes contributes to the effectiveness of various teacher preparation programs (Allen, 2003; Shen, 1997; Zhao, 2005). One of the major problems in the research was that there has been no consensus on the definition of

“alternative certification.” Some states, having been permitted to define their own certification guidelines, have drawn comparisons with terms like “temporary,” “emergency,” or “provisional.” Policy makers have often responded to the teacher shortage problem by trying to increase the supply of teachers through a wide range of initiatives. Alternative certification, which encourages mid-career professionals to make the switch to education, has been a common path for as many as a third of all new teacher hired (Constantine et al., 2009).

The Florida Department of Education has streamlined the certification process and identified multiple pathways for obtaining professional teaching licensure to maximize opportunities for candidates from different backgrounds. The options include three state approved teacher preparatory programs:

- (1) The traditional state approved teacher education program provided by colleges or universities (1004.04, F.S.).
- (2) The course based alternative certification program offered by community colleges referred to as the Educator Preparatory Institutes (1004.85 F.S.).
- (3) Alternative certification programs offered by school districts for teachers who are employed and actively teaching on a temporary certificate, utilizing an online curriculum. (Florida Statutes, 2002, Section 1012.56)

Faced with a highly diverse state that has also experienced rapid growth, the Florida Department of Education has been at the forefront of the alternative certification movement. Teacher candidates with a bachelor’s degree in a subject area have been able to receive pedagogical training through competency based alternative routes and other training options. At the end of the 20th century, researchers were predicting the need for large numbers of new teachers due to two converging demographic trends: increasing student enrollments and increasing numbers of teachers reaching retirement age (National Commission on Teaching and America’s Future, 1996). According to a senior

educational program director with the Bureau of Educator Certification in the Florida Department of Education, only 21% of all new teachers employed in Florida in 2006 came from traditional certification programs while 49% came from alternative routes. A Senior Administrator in the Bureau of Certification with the Florida Department of Education (FLDOE) projected more than 17,000 teachers would be needed by 2016 in spite of the fact that the number of new teachers hired had steadily declined since 2002 (Miller, 2009). In the fall of 2008, the FLDOE New Hires survey reported a 44% decline in new hires from the previous year citing the state of the economy as a contributing factor (Miller, 2009).

Because the District Alternative Certification Program developed in Florida has been adopted by approximately 50% of Florida public school districts, and the Educator Preparatory Institutes have been implemented in 28 community colleges, a better comparative base for the various programs exists in the state than would be found nationally (Milton et al., 2009). The Educator Preparatory Institutes, differs in design and implementation from the District Alternative Certification Programs, are also required to assess prospective teachers on the Florida Educator Accomplished Practices (Milton et al., 2009).

A review of the literature revealed that although there are persuasive rationales, there was no clear empirical evidence that supported any one teacher preparatory route as superior to any other. A fruitful line of research would be to compare program completers' sense of preparedness regarding particular aspects of teachers' working knowledge, such as planning, instruction, and professionalism.

Conceptual Framework

The Influence of Constructivist Theory

The body of knowledge surrounding the constructivist theory of instruction provided the conceptual framework for this study. Based on a study of cognition, learning is viewed as the active process of constructing new ideas based on prior knowledge (Bruner, 1966). Bruner stated, “a theory of instruction was concerned with how what one wishes to teach can best be learned, with improving rather than describing learning” (p. 40). He considered his theory of instruction prescriptive in the sense that it determined rules for the most effective way of achieving knowledge and skill and normative in that the criteria was established for learning and had a high degree of generality. The four aspects of Bruner’s theory of instruction were:

- (1) Prescriptive--a theory of learning should specify the experiences that most effectively predispose an individual to learning.
- (2) Structured--a theory of instruction should specify the ways that a body of knowledge should be structured so that it is easily grasped by the learner. The merit of the structure depends on the power of simplifying the information for the purpose of generating new propositions and increasing the manipulability of the information.
- (3) Sequential--a theory of instruction should specify the most effective sequence in which to present the materials to be learned.
- (4) Rewards versus punishment--a theory of instruction should specify the nature and pacing of rewards and punishments in the process of teaching and learning such that the learner shifts from extrinsic rewards, such as teacher praise, toward the intrinsic rewards of solving a complex problem oneself. (Bruner, 2006, p. 41)

Following the 1983 publication of *A Nation at Risk*, the Carnegie Task Force on Teaching as a Profession released its report, *A Nation Prepared: Teaching for the 21st Century*, which called for the establishment of national standards for teachers. Additionally, in 1987, the National Board for Professional Teaching Standards (NBPTS)

was established to advance standards for experienced teachers. National Board Certification was voluntary and offered as a complement to state certification requirements that set the guidelines for entry level standards for beginning teachers (NBPTS, 2010). The NBPTS outlined requirements for proficient teaching in 1989 which were essentially aligned with constructivist teaching and Bruner’s theory of instruction:

Knowledge of the subjects to be taught, of the skills to be developed, and of the curricular arrangements and materials that organize and embody that content; knowledge of general and subject-specific methods for teaching and for evaluating students learning; knowledge of students and human development; skills in effectively teaching students from racially, ethnically, and socioeconomic diverse background; and of the skills, capacities and dispositions to employ such knowledge wise in the interest of the students. (National Board, 2010)

Just as Bruner recognized that a theory of instruction should be focused on “improving rather than describing learning” (p. 40), in a similar way, the NBPTS described the following five core propositions as the “architecture” of accomplished teaching:

1. Teachers are committed to students and their learning.
2. Teachers know the subjects they teach and how to teach those subjects to students.
3. Teachers are responsible for managing and monitoring student learning.
4. Teachers think systematically about their practice and learn from experience.
5. Teachers are member of learning communities. (National Board, 2010)

These parallel perspectives of what teachers should know and be able to do from the 1960s to 2010 provided the basis for the analysis of program completers’ responses as to how well their teacher preparation programs prepared them in the areas of (a) planning, (b) instruction, and (c) professionalism. Although each of the Florida teacher preparatory programs contained these components, the differences in their delivery and

emphasis on each of the components may have led program completers to differing perceptions regarding their levels of preparedness during their initial years of teaching.

Research Questions

The study was guided by the following research questions:

1. Based on completers' perceptions as expressed in the 2009 and 2010 Reports on Beginning Teachers from State Approved Teacher Preparation Programs, what factors emerged within the constructs of planning, instruction, and professionalism?
2. What differences, if any, exist in teachers' perceptions of their preparedness to teach based on the identified factors for the following program types: (a) District Alternative Certification Programs, (b) the Educator Preparatory Institutes, and (c) the Initial Teacher Preparation Programs of approved colleges and universities?

Methodology

This study utilized a quantitative methodology to determine (a) the underlying constructs associated with three major areas of teachers' working knowledge--planning, instruction, and professionalism, and (b) differences in the perceived effectiveness of three different types of teacher preparation programs in Florida. The researcher analyzed data collected by the Florida Department of Education for the 2006-2007 and 2007-2008 program completers of District Alternative Certification Programs, the Educator

Preparatory Institutes, and the Initial Teacher Preparation Programs of approved colleges and universities.

Population

The population for this study was comprised of teachers who responded to a FLDOE web survey in their first year of employment following completion of one of the three teacher preparatory programs in the state of Florida. The names and email addresses of beginning teachers were obtained by the Florida Department of Education from the three preparatory programs in the state for their respective program completers for the 2006-2007 and 2007-2008 years. Teachers who met the criterion of having completed one of the three approved teacher preparation paths for the previous year were included in the population that received a web-based survey. This included the 2006-2007 and 2007-2008 program completers of (a) the District Alternative Certification Programs, (b) the Educator Preparatory Institutes, and (c) the Initial Teacher Preparation Programs of approved colleges and universities.

Instrumentation

A web-based questionnaire designed by the Florida Department of Education (FLDOE) was administered to all completers of the three teacher preparation programs. Within the survey, respondents were asked to rate their level of preparation on 41 different items within the three areas of interest using a 4-point Likert-type response scale ranging from Highly Effective to Ineffective. The individual responses to these items were analyzed by program as an indication of completers' perceptions of preparedness.

Data Collection

Data collected from 2006-2007 and 2007-2008 FLDOE surveys for completers of the state approved teacher preparatory programs were obtained from the Florida Department of Education. The data sets of interest contained responses to the 2006-07 and 2007-08 State Approved Teacher Preparation Survey of Florida teacher preparation program completers who were employed as teachers the year following completion of the three preparatory programs, which were the focus of this study.

Data Analysis

The first portion of the analysis utilized exploratory factor analysis (EFA) to determine the underlying sub-constructs within the 41 items that collectively comprised the planning, instructional, and professional areas. For the second part of the analysis, using the factors identified from the first portion of the analysis, continuous variables were formed using the identified factors. A one-way ANOVA was run to determine differences in preparation levels between individuals who completed the three forms of preparation. These analyses permitted the researcher to determine areas of strength or weakness in preparing new teachers for the identified preparation areas in each of the program types.

Assumptions

1. It was assumed that the data obtained from the 2006-07 and 2007-08 State Approved Teacher Preparation Survey of Florida for teacher preparation

program completers were representative of the perceptions of beginning teachers' preparedness for teaching.

2. It was assumed that the items (descriptors) in the survey were appropriate for identifying factors within the constructs of planning, instruction, and professionalism.

Limitations

1. The collection of data was limited by the inability of the Florida Department of Education (FLDOE) to contact program completers directly.
Communication with prospective respondents was dependent on district professional development coordinators and alternative certification program coordinators who were asked by the FLDOE to pass the surveys on to program completers.
2. Since mass distribution of email is frequently prevented by the security filters employed in many school districts, there was no way of knowing how many surveys were forwarded to completers, rendering the calculations of response rates undeterminable.
3. The data represented only those beginning teachers who chose to complete the survey during 2006-2007 and 2007-2008

Significance of the Study

Darling-Hammond et al. (2005) determined that there was a strong relationship between teacher effectiveness and the pre-service preparation teachers received. This

study provided additional insights related to the effectiveness of three approved teacher preparation programs leading to teacher certification in Florida using program completers' aggregate perceptions of their preparedness for planning, instruction, and professionalism. Researchers have also suggested that certain program characteristics such as pedagogical training in instruction and practice in lesson planning and teaching prior to taking on teaching responsibilities are related to teacher quality (Cochran-Smith, 2005; Wilson, Floden, & Ferrini-Mundy, 2002). Findings from this study were intended to inform and assist educators, administrators, and program coordinators who are responsible for improving the quality of teachers as part of their school improvement initiatives.

Summary

In this chapter, the problem of the study and its clarifying components has been presented. A rationale has been presented for conducting further research on particular aspects of teacher preparatory programs. The purpose of the study, research questions, definitions, limitations, and significance of the study were also introduced along with an overview of the conceptual framework and the methodology used to conduct the study.

Organization of Study

The introduction and purpose of the study, along with a brief overview of the study and the methodology that was used to conduct the investigation have been presented in Chapter 1. Chapter 2 includes a review of literature and research related to the problem. Chapter 3 provides details of the methodology and procedures used to

conduct the study. The analysis of the data is reported in Chapter 4. A summary and discussion of the findings, implications, and recommendations for further research are offered in Chapter 5.

CHAPTER 2 LITERATURE REVIEW

Introduction

This chapter provides a review of literature related to the historical development of teacher education programs, including relevant education research, with a major focus on the emerging need for alternative certification programs. Addressed are: the evolution of teacher preparation including university involvement and calls for standards and certification. New initiatives for alternative pathways, the growing concern for teacher quality, and teacher education reform from the 1980s to 2010 are also reviewed. The chapter concludes with a review of the three specific teacher preparation programs in Florida and the three effectiveness constructs, which were the subject of this investigation.

Early Centers of Teacher Preparation

Little attention was paid to the education of teachers for most of the history of the United States. Most historians agree that professional teacher preparation was viewed as haphazard until the mid-20th century (Fraser, 2007). According to Fraser, an education history scholar at the Steinhardt School of Education at New York University, the first centers for teacher preparation were normal schools, but these were not the exclusive training ground for preparing teachers because most school boards did not require it. State supported normal schools prepared public school teachers and were associated with the common school movement that was envisioned by Horace Mann and established by the Commonwealth of Massachusetts in 1827. Normal schools became a dominant form

of teacher preparation by 1900, as the common schools spread across the United States and the need for teachers increased (Fraser, 2007). Early in the history of teacher education, prospective teachers that attended a normal school earned the equivalent of a high school education. Later training would increase in the equivalency to that of the first or second year of college (Angus, 2001). Common schools were the first free public schools to group all children from different backgrounds together to promote a literate and obedient society (Borrowman, 1965). In keeping with the common school ideal and practice, Su (1986) claimed that teacher education in the United States was associated with “the ideal of democracy, making possible a literate and informed citizenship”(Su, 1986, p. 7).

A number of different teacher preparation programs developed in the first two centuries of the country’s history. These included specialized teacher academies, teacher institutes that offered an abbreviated version of the normal school curriculum, and urban high schools that offered a post elementary curriculum in pedagogy to students (Borrowman, 1965; Fraser, 2007). During the 1700s and 1800s, teachers themselves were not well educated, and those that were hired by school boards were often willing to work for the low compensation that was offered.

University Involvement in Teacher Education

Prior to the 20th century, American universities were based on the European academic model of preparing those who would teach by disseminating the basis of knowledge and bestowing a degree (Rashdall, 1942). Because possession of a degree meant a license to teach, it highlighted the importance of the legal status of the university.

A teacher licensed to teach by a university could teach at that university or a comparable institution. Universities prepared teachers by a grounding of the content knowledge that was delivered without concern for pedagogy. Methods of teaching were believed to be part of the content knowledge itself (Rashdall, 1942). Such was the historical problem--to understand whether the purpose of teacher education was to teach a subject as content knowledge or to teach the pedagogy of the subject itself (Bledstein, 1976). This lack of distinction would leave colleges of educations striving for acceptance among research institutions.

It was not until early in the 19th century that American colleges expressed interest in preparing teachers. According to Fraser (2007), universities became officially involved in teacher education between 1871 and 1873, when the University of Iowa changed its normal school into a Department of Pedagogy. In 1879, The University of Michigan designated a professor in education and engaged in “exclusive college grade work” (Fraser, 2007, p. 139) for the preparation of teachers. Universities began to compete with teacher normal schools for students. “By 1892... 31 universities had at least one full time professor of pedagogy” (Fraser, 2007, p. 140).

The University of Michigan’s education program grew significantly in 1921 when the department evolved into a separate school of education under the direction of a dean and whose emphasis was on scientifically trained educators. “The undergraduate degree included 100 hours of academic work with 31 hours in psychology and 15 hours in education, including the history of education, principals of teaching, educational psychology, and student teaching” (Fraser, 2007, p. 142). Although the education department at Michigan was developing education courses such as educational

philosophy, they were at the same time encouraging other departments to offer “teacher courses” in order to prepare high school teachers to teach those disciplines. The focus became “the science of education” while the practical application of teacher education was largely ignored (Fraser, 2007). This would set the trend for university education programs that would continue well into the next century.

Both Wisconsin and Indiana Universities established education departments in 1885 followed by Johns Hopkins University in 1886 and Cornell in 1887. According to Fraser, (2007) it was Hall of Johns Hopkins University who was instrumental in developing education as a respectable academic discipline. Hall argued that psychology was the scientific foundation for education and the “professional root of schooling.” (Fraser, 2007, p. 143). After becoming President of Clark University in Worcester, Massachusetts, Hall was credited with having brought Sigmund Freud, who made significant contributions in research on education theories based in scientific psychology, to the United States (Fraser, 2007).

Columbia University Teacher’s College was instrumental in establishing university-based schools of education in the United States (Fraser, 2007). In 1882, Columbia President Frederick A. P. Barnard proposed a department dedicated solely to education. The Board of Trustees denied the proposal primarily because it would bring women into the university. Working with Butler, a doctoral student at Columbia, Barnard started a teachers’ college outside, but still affiliated with, the university. This school became known in 1887 as the New York College for Training Teachers and was renamed in 1892 as Columbia Teacher’s College (Fraser, 2007). Columbia became a prominent institution for progressive educators in the United States. In 1905, well known professor,

John Dewey, would join the Columbia Philosophy Department and often lectured across the street at Teacher's College, (Fraser, 2007).

With the rapid growth of high schools in the United States, teacher education underwent a major shift in emphasis. The population of the United States increased greatly over the 40-year period between 1890 and 1930, and student enrollment in elementary and secondary schools increased from 202,963 to 4,399,422. High schools needed academic specialists whose preparation was very different from that of elementary school teachers, and demand for university trained teachers increased. Colleges and universities expanded education programs for the preparation of secondary teachers (Fraser, 2007). Normal schools and teacher colleges continued to educate elementary teachers (Fraser, 2007).

Initially, the employment of a teacher was essentially a private negotiation between an employer and an employee not regulated by any state or government agency (Sedlak & Walch, 1981). Consequently, there were no standardized hiring practices (Fraser, 2007). After the mid 1800s, some centralization occurred when states began to authorize superintendents to hire teachers based on examinations. This eventually evolved into a way to issue licenses. Teacher licensure changed again by the 1920s when a majority of states would not accept examinations and set minimal standards of "evidence of educational attainment for certification" (Fraser, 2007, p. 190) by requiring a high school diploma or two years of college.

States began to increase employment requirements for teaching in the late 1930s, e.g., from completing the grade of the school where a student wanted to teach, to having two to three years beyond high school. (Fraser, 2007; Sedlack & Walch ,1981). From

1930 into the 1950s, the basic requirement for a teaching license increased in some states from two years of college to a four-year baccalaureate degree (Lucas, 1997). However, it would not be until 1960, that all 50 states would require teachers to have a baccalaureate degree (Fraser, 2007).

Another substantial shift occurred in teacher preparation when teacher preparation was modified from being performed by normal schools in the 1920s to 1965 when it became the exclusive responsibility of multipurpose colleges and universities (Fraser, 2007). In 1930, more than 100 universities had colleges of education in both undergraduate and graduate programs and hosted summer programs and continuing education opportunities. Teachers turned to universities as their preferred means of professional growth, thus marginalizing district-led teacher institutes (Fraser, 2007). Teacher preparation by the universities significantly increased after World War II when normal schools would all but disappear. Many state colleges became state universities, and the education of teachers was only one of many functions of modern universities. Institutions ranging from small colleges to large universities began to offer teacher education with no particular distinction between the education provided for elementary and secondary teachers. The monopoly of teacher education by universities and colleges was secured by 1950 (Clifford & Guthrie, 1985).

As universities in the late 19th century expanded their degree options by offering professional graduate programs, schools of education struggled for acceptance from other academic disciplines and also added fields of graduate study in the areas of administration, counseling, psychology, research, and curriculum development (Lucas, 1997, Powell, 1980). A divide grew between many university professors who argued for

a stronger background in the liberal arts and sciences and the professors of education who promoted pedagogical training of teachers. This limited the status of teacher preparation within the universities. Even the most prestigious universities struggled to provide quality teacher preparation because research and publishing among the academics remained the priority (Judge, 1984). Teacher preparation suffered when academic institutions merely assimilated teacher preparation within their universities as they sought to set themselves apart from teacher colleges and create new standards of quality (Goodlad, 1990).

Quality Issues: Standards and Certification

Professional organizations such as the National Education Association, the American Association of Teacher's Colleges, and the National Society of College Teachers of Education began to lobby for recommending criteria that would establish standards for teacher education. As states began adopting standards during the early 1900s, universities modified their preparatory programs accordingly to meet state criteria (Lucas, 1997). By replacing the "locally administered exams" (Lucas, 1997, p. 53) with courses in pedagogical theory and classroom methodology that were required for teaching certification, universities were practically guaranteed students. If students wanted to teach, they had to complete the required courses. The arts and sciences faculty viewed this as self-serving; however, little would be done as undergraduate education was considered the "cash cow" that generated a steady stream of tuition dollars for the universities (Lucas, 1997).

When teaching certificates were first issued in the early 1900s, they were general in nature. It was not until two decades later that certificates were issued by specific

subject areas and grade levels. By 1930, nearly all states issued certificates for elementary grades, 26 states issued junior high school certificates, and 31 states issued high school certificates (Lucas, 1997).

When expanding school populations following World War II created teacher shortages, enrollments in the universities swelled with future teachers seeking to meet both the baccalaureate degree and the certification requirements. Goodlad (1990) summarized the natural progression as follows:

Consequently, certification, when it came at last, was tied to a few common denominators in the preparation curriculum, not indicators of skills and knowledge possessed. These curricular domains enlarged and diversified over time, making it increasingly difficult for state officials to determine the range of acceptable options. Channels of communication designed to clarify the fit between certification requirements and teacher education curricula emerged naturally out of necessity. (p. 95)

Goodlad observed that the dilemma of teacher shortages was often more compelling than the need for higher quality (Goodlad, 1990). During times of teacher shortages, more temporary or emergency certificates would be issued and the focus would be on quantity. Yet, when teacher supply was high, there was little interest to improve the quality because it cost more for increased preparation.

If getting high-level credentials costs more in time and money but does not assure a higher return, why get them? Therefore, why mount a larger, more demanding teacher education program when the one next door provides the same bottom line for less? (Goodlad, p. 95)

In October 1957, the Soviets succeeded in launching the first satellite in orbit causing many to wonder if America had lost the lead in science and technology. Much of the blame was placed on public education and calls for school reform surged to national proportions. Goodlad (1990) argued that despite “successive eras of educational reform”

(p. 3), the connection between reform of schools and reform of teacher education was rarely made. He explained that in the early history of teaching, when schools and their surrounding communities had common values and expectations, it was easy to educate the young, as the students did not go beyond elementary school. However, as the country grew into a nation of immigrants, so did the complexities of society and the multitude of blended cultures. Goodlad (1990) concluded that if teachers were simply doing more of what they had already done, nothing was going to change. Although the student population had grown and diversified and the calls for reform had escalated, research was very thin on how to best prepare teachers (Goodlad, 1990).

Koerner (1963), author of the *Miseducation of America Teachers*, agreed with the critics of schools of education and saw the complete lack of data on how best to train teachers as the fundamental reason why teacher preparation programs were viewed as “intellectually weak” (p. 3). Koerner’s study included interviews and questionnaires from 827 recent graduate and visits to 63 campuses. He interviewed those who had recently graduated from teaching programs and were already teaching, as well as student teachers who had not yet graduated (Koerner, 1963). Based on his conclusions, he offered 13 recommendations for teacher preparation including: (a) shutting down remaining teacher colleges, (b) continuing five year Master of Arts in Teaching programs, (d) eliminating “majors” in education, and (e) requiring students to specialize in academic subjects (Koerner, 1963).

During the same year, Conant (1963) echoed Koerner’s (1963) concerns, but with some moderation, in *The Education of American Teachers*. As a former president of Harvard University, Conant expressed his view of the power struggle between the

professors of education and arts and sciences. He reasoned that they held joint responsibility for the perception of poor quality teacher education (Conant,1963), stating that arts and sciences professors had often complained but had not offered to assist in the preparation of teachers. Conant also agreed with critics of the professors of education that there was a lack of scientific data to support how to best prepare teachers. He not only detailed criteria he believed to be appropriate for certification such as a performance-based assessment but said that both sides should take joint responsibility for promoting teaching competence (Conant, 1963). Although Koerner's study and the Conant report were frequently referenced in the literature of the 1960s, there is no evidence that either affected change.

In his report, *Professionalism and the Public Good: A Brief History of Teacher Certification*, Angus (2001) claimed that the battle over teacher training was not new and had been a topic of fierce debate since the early 20th century. He, however, found some common ground between the conflicting demands of the professors of liberal arts and professors of education regardless of the importance assigned by either. He cited four elements in training teachers that were frequently associated with a majority of teaching licensing issued: "general academic education, subject area specialization and professional courses, followed by a student teaching or intern experience" (Angus, p. 11).

Other researchers found that university or college structured field experiences generally aligned with the methods courses teacher candidates have taken. This allowed them to integrate the theoretical aspects of formal teacher training with the practical aspects of teaching (Dodds, 1989). Even though the research on field experience was sparse, the amount of time may not be as important as how the time is allocated during

field experiences and the extent to which course assignments are directly related to field experiences (Capraro, Capraro & Helfeldt, 2010). Wilson et al., (2002) reported, “The research suggested that there is value added by teacher preparation” (p. 194), especially the clinical experiences and fieldwork provided through student teaching. While there has been great diversity in field experiences among universities and colleges, teacher candidates typically become progressively involved in working directly with students in all public school grade levels (Capraro, Capraro, Parker, Kulm, & Raulerson, 2005). According to Shanahan, (2008), research on field experiences has been sparse; however, most field experiences that link theories with personal learning experiences have resulted in positive consequences for teacher candidates (Zeicher, 1980). According to Agee (1997), the theoretically grounded understanding of novice teachers is integrated as they begin to initiate their learning in applied settings. Henke, Chen, Geis, & Kepper (2000) found that teachers who entered teaching without field experience also left the profession at twice the rate as those teachers who had practice teaching.

Teacher education remained complacent during the 1970s as demand for teachers sank to an all-time low following a decline in student enrollments. Because of the lack of jobs, enrollment in teacher education programs declined 50% between 1972 and 1980 (Weaver, 1983). Fears of a teacher shortage, low teacher salaries, and concerns over teacher quality were issues that dominated this decade. Using SAT data, it was widely reported that the least academically able students were recruited into teaching (Weaver, 1983). As the least academically able opted to enter and remain in teaching, at the same time opportunities were increasing in other careers, and the education profession lost talent and diversity in the labor pool (Schlechty & Vance, 1981).

The National Commission on Excellence in Education released its 1983 report, *A Nation at Risk* claiming that much of what was wrong with schools was connected to the quality of education. Goodlad (1990), using military terms, referred to it as an “educational call to arms” (p. 10) and viewed the importance of quality education as being as vital as national defense. Though the report was considered harsh, Goodlad insisted that teachers had heard this criticism before and were unable to connect their personal daily experiences in the classrooms to the extraordinary acts that they were called to perform. He cited the unprecedented social changes as the reason that teachers were overwhelmed by the challenges: “breakdown of the traditional family, mobility, a multitude of first languages other than English, use of drugs and alcohol among the young, and increasing violence in school” (p. 11). Teacher education had seemed unable to prepare teachers for the realities of the classroom, and a substantial amount of legislation would follow in efforts to improve teacher education.

New Initiatives for Alternative Pathways

States reacted with increased teacher certification requirements and new plans for alternative pathways to certification. “The certification process in some states has grown into a tangled thicket, the states proposing to begin alternative certification processes have broader changes in mind” (Hazlett, 1984, p. 46). Hazlett warned:

Besides pointing to inadequacies in the process of certification, the alternative plans betoken, in one degree or another, an assault on education as a field of university study. In them, subject-matter competence is held in indispensable regard, but the same cannot be said for education, instruction which is pared down, compressed, treated almost as an afterthought, and in some cases removed from the university setting. It is a painful irony that all the protestations about raising quality, attracting talent into classrooms and increasing professional

standards should be accompanied by a calculated reduction in the amount of knowledge about education to be required of teachers. (p. 46)

Though states chose to increase certification requirements and raise standards to improve the integrity of teaching, they also provided a means of entry for individuals to enter teaching without meeting the full licensure requirements. In order to generate an adequate supply of teachers, researchers found that cut scores on licensure tests were adjusted downward to include more candidates (Rudner & Eisenberg, 1990). Another path was established in alternative route teacher licensure programs that aimed to recruit more mature adults with substantial knowledge in certain fields (Feistritzer & Chester, 1990).

Although some other states had previously had some form of alternative route teaching program, Dill and Stafford (1996) credited the state of New Jersey for leading the way in 1985 with the New Jersey Provisional Teacher Program. Faced with applicants with low SAT scores and the growing number of teachers operating on emergency certificates, the state of New Jersey responded with two purposes in mind: (a) elimination of emergency certificates and (b) attraction of better and brighter college graduates from business, industry or other fields. No higher educational institution assisted in the New Jersey program design and districts were the sole providers of the training, supervision, and daily support. Teacher candidates had to have a four-year degree, pass a subject area test and a portion of the National Teacher Exam, and be hired by a principal. Teacher candidates possessed a provisional status and drew a full salary while participating in the alternative certification program (Dill & Stafford, 1996; Smith, 1991). The early reviews were mixed suggesting that the districts were under-resourced and financially strapped in

delivering the services that were needed by the candidates (Smith, 1991). Soon, other states would move to create alternative pathways outside the schools of education to fill specified teacher shortages and improve teacher quality (Feistritzer, 1991).

States faced conflicting demands of staffing every classroom with a teacher, and at the same time, ensuring the quality of the teacher with special certification requirements. As states were implementing certification rules at considerable costs, researchers such as Hawk, Coble, and Swanson (1985) investigated the difference between certified and non-certified math teachers at the middle and high school levels. Although all teachers were certified, half of the group was certified in fields outside of math. Student achievement was measured by the age appropriate Stanford Achievement Tests, and teachers' actual classroom practices were observed by trained observers using the Carolina Teacher Performance Assessment that identified 25 effective teaching practices. The results of the study suggested that student achievement in general math and algebra was greater when students were taught by teachers certified in mathematics. Researchers concluded that certification requirements would ensure qualified teachers in the classrooms since certified teachers knew their subject area and showed evidence of using more effective teaching practices (Hawk et al., 1985).

The Concern for Teacher Quality

In the 1980s, concern over teacher quality led many states to establish standards to strengthen entry into the profession, and this generated further changes in teacher certification. By 1986, all but four states required competency tests in either basic skills, subject matter knowledge, or professional knowledge. Tests were administered prior to

entry into teacher education or licensure or at both points (McCarty, 1973; Sandefur, 1986.) Along with the increased and revised testing requirements, states also began to require that teachers certify by subject area or grade level so that there was a closer connection between what the teacher was qualified to teach and the actual teaching position that the teacher held. Broad-based areas such as K-8 gave way to more specific credentials as states tried to reduce the number of teachers teaching out of field (Darling-Hammond & Berry, 1988).

In the late 1980s, new developments would follow vigorous debate after two high profile reports were released. The 1986 Carnegie Commission's Report of the Task Force on Education and the Economy, *Teaching as a Profession*, prompted renewed calls for strengthening admissions requirements for teacher education programs and increasing both the quality and quantity of clinical experience (Fraser, 2007). At approximately the same time, a separate education report was released by the Holmes Group of Education Deans, a group of 17 education deans from some of the top universities in the United States, whose mission was to reform teacher education. The Holmes report recommended the implementation of high standards and a differentiated professional organization. Fraser claimed that what distinguished these two reports was that they proposed solutions. He termed the main goal of the Holmes report as non-controversial, "to make the education of teachers more intellectually solid" (Fraser, 2007, p. 224). The Holmes findings paralleled the Carnegie report and recommended the creation of a National Board for Professional Teaching Standards to set high standards for what accomplished teachers should know and be able to do. Some of the proposals were implemented quickly. All fifty states reported some change to certification laws within two years.

Some proposals took longer, but still could be traced back to the impact of the Carnegie and the Holmes Group reports, such as the establishment of the National Boards of Professional Teaching Standards with funding provided by the Carnegie Corporation (Fraser, 2007).

Research in Education: 1960s--2000s

During the mid 1960s under the Johnson administration, the federal government became involved in driving education policy and substantial government funding became available for education research (Lagemann, 2000). Much of the research focused on the evaluation of federal programs, including Coleman's 1966 landmark study of America's schools as mandated by the Civil Rights Act (p. 193), which yielded surprising findings that equality of resources did not ensure equality in student learning gains (Lagemann, 2000). This was a concern to policy makers as public opinion had shifted from excellence in education to equity in learning opportunities. Originating in the 1970s and increasing during the 1980s, researchers were gaining powerful insights into cognitive research that was aimed toward connecting theory to practice (Lagemann, 2000). Research centers and laboratories were developed, including the National Institute of Education in 1972, which encouraged basic research in teaching and learning. In spite of knowledge gains, controversy over federal funding of research prevailed and as political attitudes changed, federal funding of educational research was diminished (Lagemann, 2000).

Research during the 1980s and 1990s moved forward the cognitive science of education that had begun in the 1960s but dropped off in the 1970s. Understanding the ways the people use, process or represent knowledge brought together many different

disciplines and forced researchers to consider previous understandings in new perspectives. Gage (1978) contended that the power struggle over teacher education was not as important as the research struggle over the knowledge of teaching and emphasized the importance of establishing a scientific basis for the art of teaching. He argued that it was in the application that took place--whether in in-service education or pre-service education, that teachers improved their ability to do their jobs (Gage, 1978). The debate would pose a challenge as to which was preferred: improving the quality of teachers hired and retained or improving the knowledge and skills of prospective teacher candidates (Labaree, 2004). According to Labaree, an education professor, when it came to issues of reforming teacher education, there were no simple solutions for solving the dilemma between the academics and the professionals.

In a high profile 1996 report of the National Commission on Teaching and America's Future, the single most important strategy identified for meeting the nation's educational aims of improving schools was "the recruitment, preparing, and retaining of good teachers" (NCATE, 1996, p. 10). Posturing against ineffective teacher education after decades of reform, the commission warned, "Most schools and teachers cannot produce the kind of learning demanded by the new reforms--not because they do not want to, but because they do not know how" (NCATE, 1996, p. 5). Major flaws in teacher preparation were cited in the report. Recommendations included getting serious about standards and reinventing teacher preparation and professional development. The report noted that a majority of current teachers were prepared years before the type of challenges they faced existed, and they did not have access to the current knowledge on teaching and student learning (NCATE, 1996). The commission recommended a "three

legged stool” of quality assurance to guide education policy so that teacher education would be focused on “a set of shared knowledge, skills, and commitments” (NCATE, 1996, p. 29). The three legged stool of quality assurance advocated that all teacher education programs should (a) be accredited by the National Council for Accreditation of Teacher Education (NCATE), (b) demonstrate teaching competency for initial licensing as measured by a set of performance standards determined by Interstate New Teacher Assessment and Support Consortium (INTASC), and (c) utilize the National Board of Professional Teaching Standards as a guide and advanced certification for accomplished teaching practice (NCATE, 1996).

Teacher Effectiveness and Student Achievement

The debate over alternative versus traditional university-based teacher education has continued. Proponents claimed that the alternative certification programs would improve teacher quality and reduce teacher shortages. Critics argued that the professional status of teaching would be diminished, and student learning would suffer (Labaree, 2004). Shen analyzed data from a 1993-1994 Schools and Staffing Survey by the National Center for Education Statistics, raising both promise and concern by comparing the characteristics of traditionally certified and alternatively certified teachers from a nationally representative sample of public school teachers (N = 14,721). Results indicated that alternative certification programs reduced teaching shortages in specific areas such as mathematics and science and increased the diversity of the teaching force. Other findings by Shen raised concerns regarding large numbers of recent college graduates who “took advantage to circumvent the traditional teacher education program. . . [and the

failure]” . . . “to recruit a significant number of experienced personnel from other occupations” (Shen, p. 276). Shen acknowledged that one of the limitations of the study was that the approach did not differentiate among the alternative certification programs as alternative certification was complex and programs not only varied from state to state but even within the states. Study of the effectiveness between alternative and traditional teachers was recommended (Shen).

In a landmark study conducted by researchers Darling-Hammond et al. (2005) the relationship between teacher education and teacher effectiveness was examined using individual student level data over multiple years on multiple measures. Using a large data set with appropriate controls, researchers compared candidates in the Teach for America Program with other similarly experienced certified teachers. Candidates for the Teach for America Program were graduates from selective universities who received a few weeks of training prior to teaching. The study focused on the link between student characteristics and achievement with teacher certification status, experience, and degree levels from 1995-2002 and evaluated how teacher education and pathways into teaching influenced teacher effectiveness. It was concluded that fourth and fifth grade teachers in Houston, who held the professional or standard certificate that Texas awarded to graduates from an approved teacher education program, were more effective than other teachers, who did not hold full certification, in increasing student achievement gains in both reading and mathematics on three different assessments over a multi-year period (Darling-Hammond et al.). This relationship held whether the teachers were recruited for Teach for America or through other alternative pathways. Those that completed the training were more effective than those who did not. Candidates for Teach for America

(TFA) were found as effective as similarly experienced certified teachers. Overall, the abilities of certified teachers to consistently produce stronger student achievement gains more than uncertified teachers appeared to depend on the level of preparation (Darling-Hammond et al.):

Although it was suggested that some bright college graduates like those than join TFA might not require professional preparation for teaching, researchers found no instance where uncertified Teach for America teachers performed as well as, standard certified teacher of comparable experience levels, teaching in similar settings. In fact, on five out of 6 tests uncertified TFA teacher showed a significant negative effect on student achievement gain relative to standard certified teachers. Over the course of a year, students taught by uncertified TFA teacher could be expected to achieve at levels, . . . one-half to 3 months lower than students taught by teachers with standard certification. . . . Students in the most impacted schools that had a steady parade of such teachers every year, would generally lose 1 to 2 years of ground in grade equivalent terms between kindergarten and 6th grade. (Darling-Hammond et al., 2005, p. 20.)

Research by Goldhaber and Brewer (2000) would suggest contradictory findings.

Utilizing a large, longitudinal student level database, they examined relationships between 12th grade student performance in mathematics and science and certain teacher characteristics. Consistent with previous research, findings suggested that students of teachers with subject specific training or certification in mathematics did better those students whose teachers were without subject matter training or certification. However, students of mathematics and science whose teachers held emergency certificates did no worse than similar students of certified teachers. Goldhaber and Brewer concluded, “Although teacher certification is pervasive, there is little rigorous evidence that it is systematically related to student achievement” (p. 141).

Given the importance of teachers, it remained an enigma to researchers that no observable measure of teacher quality could be directly linked to student performance.

Goldhaber (2002) expressed his concern regarding a lack of clear evidence of what particular characteristics would be associated with increased student achievement. He described the three teacher characteristics that had historically been measured as certification, experience, and educational level, indicating that only 3% of the differences in student achievement were relative to teacher influence.

Other surprising findings suggested that perhaps teacher importance was overstated. Economists Hanushek, Kain, O'Brien, and Rivkin (2005) found their results were consistent with prior evidence, which indicated teacher certification and experience explained few of the quality differences in teaching. They also discovered that even extended teacher education programs might not ensure teacher effectiveness. During the Texas study, panel data on teachers and students in a large school district were linked to estimate the effect of teacher quality on student achievement based on a value added method. The value added analysis offered evidence that though teachers played a role in raising student achievement in mathematics, there was little evidence that having a master's degree made any difference (Hanushek et al., 2005). Further, their results showed that beyond the second year of teaching, experience contributed no significant gains or losses in teacher effectiveness. Additional findings suggested that while good teachers were effective with students of all ability levels, there was also positive value in matching teachers and students by race. Researchers concluded measureable characteristics "such as experience, certification, advanced degrees, and even scores on standardized test explain little of the true variation in teacher effectiveness" (Hanushek et al., p. 1).

To make connections in the ways in which teacher qualifications were related to student achievement across the state, Darling-Hammond (2000) examined data from (a) a 50-state survey of policies, (b) state case study analysis, (c) the 1993-1994 Schools and Staffing Survey, and (d) the National Assessment of Educational Progress. Darling-Hammond drew the conclusion that “measures of teacher preparations and certification are the strongest correlates of student achievement in both reading and math” (p. 1). However, in considering the additional variable of subject area knowledge, another variable linked to teacher effectiveness, the findings were not as strong as expected. Results indicated that teacher’s scores on the subject area exams of the National Teacher Examinations had no consistent relationship as measured by student outcomes or supervisory ratings. This suggested that subject matter knowledge had a positive influence only up to a certain point of basic competency in the subject (Darling-Hammond).

In 2001, amendments to the *Elementary and Secondary Act of 1965* (ESEA) often referred to as the “No Child Left Behind” legislation, established national requirements calling for a “highly qualified teacher” in every classroom by 2005-2006 (U.S. Department of Education, 2009). In the Secretary’s Sixth Annual Report on Teacher Quality, it was reported that 224,015 prospective teachers completed teacher preparation programs in the academic year 2004-2005 with 85% of new teachers completing traditional four-year undergraduate college and university programs. Of the nation’s teachers who finished alternative certification programs, 75% came from five states; Texas, New York, California, New Jersey and Georgia (U.S. Department of Education, 2009). The number of completers from alternative paths was 32,804, down nearly 20%

from the previous year. State certification trends presented a higher proportion of teachers fully certified than ever before with over 300,000 teachers receiving initial teaching certification in academic year 2004-2005 (U.S. Department of Education, 2009).

The following caution was expressed however, in the report:

The national data indicate that states made progress this year toward placing certified and licensed teachers in every classroom in the nation, but many teachers are not certified in every subject they teach. America must continue to make progress toward the goal of preparing, assessing, and credentialing highly qualified teachers for all classes in all subject matter areas. (U. S. Department of Education, 2009, p. x)

With the No Child Left Behind legislation, the debate on teacher certification took on more significance. Certification requirements varied to allow more prospective teachers to enter the teaching force, and at the same time, states were raising standards to increase teacher quality. Teacher shortages conflicted with the goal of teacher quality, especially in states like Arizona where nearly one of every six teachers was uncertified. Some states responded to the problem by setting the passing scores of the basics skills certification tests at the 10th grade level so that almost anyone could pass (Olson, 2000). Presenting to the American Educational Research Association, researchers Qu and Becker (2003) discussed their findings on a Meta analysis of 24 studies comparing traditional certified teachers with a variety of other alternative certified teachers. Qu and Becker cited the concern that “no effort had been made to date to systematically synthesize the literature on alternative routes to certification” (p. 2). Results of the Meta analysis indicated “traditional teacher training was at least as effective as alternative route training and more effective than minimal trainings. However, clearly some alternative

teacher training programs are equally effective in providing quality teachers” (Qu & Becker, p. 40).

Research on alternative routes continued to yield mixed results. In a study that compared the student achievement of under-certified teachers and regularly certified teachers, three types of under qualified teachers were classified: emergency, temporary, and provisionally certified teachers (Laczko-Kerr & Berliner, 2001). A small group of the under-certified teachers were from the Teach for America (TFA) Program. TFA graduates held degrees from elite universities in subject areas other than education and were recruited for the Teacher for America program as part of an experimental national program that provided a brief training for the teachers prior to their entry into classrooms. Laczko-Kerr and Berliner found that students of TFA graduates performed no differently than did students of other under-certified teachers, and students of certified teachers outperformed students of under-certified teachers. They concluded that teachers from traditional teacher preparation programs had positive effects on student achievement and under-certified teachers were not only ineffective but “appear[ed] to be harmful” (p. 38) because policies that allow under-certified teachers to work with the most difficult children widen the achievement gap in disadvantaged student populations (Laczko-Kerr & Berliner).

Though alternative certification programs were prolific, there remained little agreement on definition, structure, and quality control. Zhao (2005) claimed that not only were the results of studies on alternative certification programs mixed or inconclusive, but the projected teacher shortage itself, was not confirmed. He argued that the issue was one of teacher distribution in specific localities and specialties. In Zhao’s report to the

National Association for Research in Science Conference, he insisted the complexities were a reflection of ideological beliefs, pedagogical implications, and political agendas. He predicted that the debate would continue for as long as education reforms remained in a state of change--with voices that were either proponents or opponents of alternative certification (Zhao). With vacancies that were hard to fill and the need to increase and diversify the teacher pool, Zhao stated that more research on the contexts and evaluations of existing programs was needed. As Zumwalt (1996) had cautioned nearly a decade earlier, an exhaustive review of teaching and learning should be conducted to meet the challenges of the 21st century given the rapid and uneven changes in society and technology and in the public teaching force and student population. Zumwalt summarized his position with the statement, "In reality. . . neither traditionally nor alternatively certified teachers are prepared to meet the challenges of teaching in our most needy schools" (p. 42).

In reviewing research on teacher preparation, Allen (2003) offered a summary of the findings of 92 studies that were chosen for their rigor from a field of over 500 studies. The goal of the report was to determine what would be of importance to policymakers: The following question was posed, "To what extent does pedagogical coursework contribute to the effectiveness of a teacher?" (p. 5). The researcher found limited support for the conclusion that pedagogy contributed to effective teaching, especially for subject specialization courses such as science or math, in addition to curriculum development, student assessment, and classroom management. The findings were less clear if such knowledge and skills were best learned through coursework, field experience or on the job. Allen (2003) cautioned that the lack of evidence regarding the effectiveness of what

pre-service teachers learned in teacher preparation programs emphasizes that there is no clear linkage between the research on pre-service preparation with pedagogical knowledge and skills learned prior to entry into teaching (p. 6). Allen concluded that this is what encouraged policymakers to consider alternative routes as an option directed toward on-the-job training even though research was inconclusive regarding what specific characteristics of alternative certification programs contributed to better teaching (Allen)

In a similar study commissioned by the Office of Educational Research and Improvement and the U.S. Department of Education, researchers were asked to summarize the research on key questions related to teacher preparation. Wilson et al. (2002) found no research that directly assessed the relationship between the pedagogical knowledge that teachers learn and student achievement. These researchers concluded that even the large scale research conducted on certification and degrees did not reflect what aspects of coursework taken for certification were important and that the problem was further compounded by the wide variation of certification guidelines among the states. Finding an absence of detailed data on a national scale regarding teacher preparatory programs, Wilson et al. concluded that, “Research could not show whether teacher quality is an effect of state policies about program approval, state mechanisms that facilitate hiring, widespread support for improving teacher quality, or some other set of factors” (p. 198). Further research was recommended to link state policies to teacher preparation variables.

Finally, powerful research conducted by Sanders with the Tennessee Value-Added Assessment System linked student outcome to educational evaluation for the first

time (Sanders & Horn, 1998). The main goal of Sander's research was to provide information as to the effectiveness of the system, school, and teacher in realizing learning gains over a three-year period. A longitudinal analysis of student achievement data for all Tennessee students in grades three through eight in five subject areas and five mathematic subjects in high schools was performed using the Sanders value added model (Sanders & Horn, 1998). Drawing from a massive database of over five million records, researchers were able to control for particular factors that influenced academic achievement (Sanders &Horn, 1998). The findings indicated that teacher effectiveness was the major determinant of student academic progress and that teacher effects were not only additive but also accumulative. "The teacher effect is highly significant in every analysis and has a larger effect size than any other factor in twenty of the thirty analyses" (Sanders & Horn, 1998, p. 252). Findings also demonstrated that:

students assigned to ineffective teachers continue to show the effects of such teachers even when these students are assigned to very effective teachers in subsequent years. . . data aggregated by student achievement level found that ineffective teachers were ineffective with all students, regardless of prior level of achievement. . . as teacher effectiveness increased, students of lowest achievement were the first to benefit, and only teachers of the highest effectiveness were generally effective with all students. Only the teacher in the fifth quintile produced adequate gains in the highest achieving students. Because of this, lower achieving students were more likely than higher achieving students to make adequate gains, year after year. The implications of this finding are that only the most effective teachers--the top 20 percent--are providing instruction that produces adequate gain in high achieving students, while students in the lower achievement levels profit from all but the least effective teachers. (Sanders & Horn, 1998, p. 254)

Sanders and Horn's (1998) research made possible the ability to isolate teachers' contributions to student achievement and demonstrated the effect of intangible attributes including teaching enthusiasm and the ability to convey knowledge. Connecting student

outcomes to teacher effects allowed for informed decision-making, but change was slow to come as politics affected policy.

Research Agenda Refined

The 2005 release of an important teacher education report, *Studying Teacher Education: The Report of the AERA Panel on Teacher Education*, brought new perspectives to the emerging research that proliferated from the mid 1980s to the early 2000s (Cochran-Smith & Fries, 2005). Cochran Smith, who co-chaired the AERA panel charged to write the report, described the panel's task as that of delivering an unbiased critical analysis on the empirical evidence of teacher education as it stands and recommending a new research agenda. She reinforced the panel's findings that a majority of teachers continued to be prepared through traditional undergraduate routes in spite of growth in alternative paths. She also stressed that the advantage of one path over any other had not been found. Cochran-Smith and Fries stated that the research did reveal,

evidence that certain program components and characteristics are related to teacher quality and pupils' achievement, such as consistent vision, strong collaboration between universities and schools, certain course work and school/community field work, and effective use of certain teacher education strategies. (p. 302).

Recommendations included: "expansion of the concept of student achievement beyond test scores that examine how teacher quality influence student learning" (p. 302). Specifically, more research was recommended to separate the impact of teacher preparation from the characteristics of teachers entering the programs. Additional

research on the various routes to teaching was also recommended. The AERA panel concluded,

There remained a lack of rigorous research in teacher education because it was difficult and expensive to do. To get from teacher education to impact on pupil's learning requires a chain of evidence with several critical links: empirical evidence demonstrating the link between teacher preparation programs and teacher candidates' learning, empirical evidence demonstrating the link between teacher candidates' learning and their practices in actual classrooms, and empirical evidence demonstrating the link between graduates' practices and what and how much their pupils learn. Individually, each of these links is complex and challenging to estimate. When they are combined, they are multiplied: There are often substantial time lags between the teacher preparation period and the eventual measures of pupils achievement or other outcomes; there are many confounding and intervening variables that influence what teachers are able to do and what their pupils learn; and the sites where the candidates complete fieldwork and eventually teach are quite different from one another in context, school culture, resources, students and communities. (Cochran-Smith & Fries, 2005, p. 303.)

The work toward outcome research has already begun. A number of studies are underway at the time of this writing: (a) the New York City Pathways' Project focusing on various entry paths into teaching, (b) the Louisiana Teacher Quality Initiative measuring student achievement relative to where and how candidates have been prepared, and (c) the Carnegie Corporation's Teachers for a New Era project where researchers from different fields are collaborating on new ways to evaluate teacher education for the purpose of program improvement (Cochran-Smith & Fries, 2005, p.303.)

Cochran-Smith (2005) made it clear that the AERA panel's report did not include any empirical evidence that supported the policies that govern teacher certification or implementation of curricular and instruction practices that are often included in teacher education programs. However, she stressed that in comparison to the manner in which professionals in fields outside of education are prepared; teacher preparation may be

leading the way. Cochran-Smith referenced a report by Neville, Sherman and Cohen (2005) comparing educational preparation with that of 6 other fields. Neville et al. (2005) compared education to law, nursing, accounting, law enforcement, architecture, and firefighting. A compelling case was made in the executive summary.

Faced with great pressure to improve student achievement, district and policymakers demand evidence that investments in professional development will pay off in better teachers and student performance. No field in this study systematically assesses the effect of its training programs on professional performance. (p. 5)

In concluding remarks of the Finance Project Report, authors commented that the current focus was on an increased demand for training to show solid evidence of effectiveness and argued that “In this sense, education is being held to a higher standard than the other fields in this analysis” (Neville et al., 2005).

State Approved Teacher Preparation Programs in Florida

The state of Florida projected a need for more than 17,000 classroom teachers each year until the year 2016, mostly in the area of elementary education and exceptional student education (McDaniel, 2008). The state’s goal was to reduce the teacher shortage by increasing the quantity and the quality of teachers through multiple pathways to professional teaching certification (Appendix A). Three options have emerged to assist individuals desiring to qualify for teaching certificates in the state of Florida. They are (a) District Alternative Certification Programs (DACP), (b) Educator Preparatory Institutes (EPI) and (c) Initial Teacher Preparation (ITP). The programs are explained in the following paragraphs.

District Alternative Certification Programs (DACP)

In addition to approved initial teacher preparation routes (ITP) offered through universities and colleges, the state mandated in 2002 each school district to create an alternative certification program (DACP) (Florida Statute, 2000, Section 1012.56). The first school year that Florida school districts were mandated to offer alternative certification programs was 2002-2003. Designed by the Florida Department of Education to meet the criteria of the “ideal-typical” model of an alternative certification program as created by the National Center for Alternative Certification, a “competency based, on-the-job professional education preparation” (Flood, P. & Milton, S. (2005). p. 2) program was developed, which was referred to as the District Alternative Certification Program (DACP). The DACP program satisfied the professional preparation and education competency requirement for a Florida professional teaching certificate equivalent to approximately 20 college credit hours. All district level alternative certification programs created were either the state developed model or a hybrid, blended model approved by the Florida Department of Education. Although districts could collaborate with colleges and universities to meet the mandate of providing an alternative route to certification, over half of the school districts chose to offer the state approved DACP program (McDaniel, 2008).

Alternative certification programs have not typically been held to the same accreditation standards as colleges and schools of education, and this has been a source of concern regarding the legitimacy and effectiveness of the alternative programs. Working with educators from around the state, the Florida Department of Education developed requirements to ensure rigor and consistency based on the Florida Educator

Accomplished Practices as well as partnered with universities to design effective assessments (Flood, P. & Milton, S., 2005). At the time of the present study, the following components were required for all district level alternative certification programs:

- Classroom management training (also known as survival skills) prior to assuming responsibilities as a teacher of record;
- Pre-assessment of entry level skills;
- Individualized training plans to address the learning needs of the individual teacher;
- Support from peer mentors and building administrators;
- Opportunities for collaborative assistance from higher education partners;
- Curriculum that targets the Florida Educator Accomplished Practices – competencies that all Florida educators must demonstrate (Assessment, Communication, Continuous Improvement, Critical Thinking, Diversity, Ethics, Human Development and Learning, Knowledge of subject Matter, Learning Environments, Planning for Instruction, Role of the Teacher, and Technology in Education);
- Reading competency
- Summative assessment that documents mastery of the Florida Educator Accomplished Practices; and
- Florida Professional Education Certification Test. (Florida Department of Education, 2005, p. 3)

During 2003-2004, the Florida Department of Education worked with evaluation experts from Florida State University and the University of South Florida to assist districts in developing valid and reliable portfolio assessments that were legally defensible (Florida Department of Education, 2005). Additionally, Florida State University has continued to assist in completing each subsequent year's annual progress report that is required by the Florida legislature. Qualitative and quantitative data were collected from program participants, mentors, principals, and program coordinators from web-based surveys as part of the evaluation process (Florida Department of Education, 2005).

Educator Preparatory Institutes

In 2005, 28 community colleges received state approval to enter the area of teacher preparation. The Florida legislature authorized the Educator Preparatory Institutes (Florida Department of Education, 2005, Section 1004.85) to be offered initially through Florida community colleges with the goal of increasing the number of highly effective teachers in Florida classrooms. Like the District Alternative Programs, The EPIs were competency-based programs with many similar characteristics: the Florida Educator Accomplished Practices provide the standards for the foundation, along with the Interstate New Teacher Assessment and Support Consortium (INTASC) standards of knowledge, disposition, and performance, and the National Educational Technology Standards (NETS). EPI programs were designed for non-education majors who held baccalaureate degrees and wished to obtain Florida teacher certification.

The EPI program of instruction for alternative certification consists of four modules with segments on topics related to the standards: (a) the instructional process, 160 hours; (b) reading fundamentals, 45 hours; (c) the teaching profession, 45 hours; and (d) diversity in the classroom, 30 hours. A total of 15 hours of field experiences was required. EPIs also incorporated competencies in reading and English for Speakers of Other Languages (Florida Department of Education, 2005).

All EPI candidates have been required to demonstrate the ability to teach the subject area in a prepared lesson before their peers in their EPI classroom setting or on videotape before advancing to a teaching demonstration in a school. The program instructor and the classroom teacher using the evaluation instrument that is used by the public, charter, or accredited private school where the lesson is taught have evaluated

these teaching demonstrations. Participants must also pass the Florida Professional Education Exam before completion of the program.

Initial Teacher Preparation Programs (ITP)

Initial Teacher Preparation (ITP) Programs provide the oldest and most traditional path to teacher certification. In 2010, a total of 142 universities and colleges in Florida offered state approved teacher preparation programs. The goal of ITP programs has been to place adequate numbers of teachers in the classrooms by providing students with the opportunity to satisfy their professional education requirements for obtaining a Florida Professional Teaching Certificate. In addition to offering traditional four-year preparation programs, universities and colleges have been authorized to prepare pre-service educators by assisting them to meet subject area requirements (Florida Statutes, Section 1004.04).

Florida's Continuous Improvement Process

Continued program approval in Florida has been based in part on the program completer's satisfaction, and also on how well district employers feel that the program completers are prepared to teach (Florida Statutes, Section 1004.04). This type of annual statewide data has permitted educational institutions to further study the criteria for program performance.

At the time of the present study, school districts were surveyed by FLDOE to determine the number of instructional positions that have been filled between July 1 and Oct 1. These data have led to the projection of the numbers of teachers still needed in specific areas (Miller, 2009). In 2009, in a FLDOE analysis for critical shortage areas

reported that there had been a 44% drop in new hires from the previous year due to the state of the economy combined with a drop in revenues, teacher layoffs, restructuring of courses within the school day, and delay of the requirements that districts meet class size targets at the classroom level (Miller, 2009). Two indications of the fields in which teacher shortages are reported include; (a) the number of new hires as a percentage of teachers in each field, and (b) the number of positions filled by teachers who lack appropriate certification (Miller, 2009).

Traditionally, the education deans and chairpersons of the Florida colleges and universities with approved initial teacher preparation programs (ITPs) exclusively prepared statistics on teacher preparation program completers. With the addition of the alternative programs in the state, the reporting process was expanded to include completers of district alternative certification programs (DACPs), and community college programs (EPI) (Miller, 2009).

In 2007, the Department of Education brought together a committee of professional educators to review and revise the annual teacher preparation survey, which had been used by ITPs to collect data for the continued approval of programs (Milton et al., 2009). The updated survey was administered to 2006-2007 completers of all three program types for the first time in 2008 with results published in 2009 (Milton et al.). The 2009 Report on Approved Teacher Preparation Programs in Florida provided additional data for longitudinal studies for all three state approved teacher preparation routes; the District Alternative Certification Programs (full immersion), the Educator Preparation Institutes (classroom observation), and the Initial Teacher Preparation Programs (internship) from approved colleges and universities (Milton, et al., 2009). The 2009

report included responses from 1,358 program completers (Milton et al., 2009). The following year, the survey was administered for a second time. The results, published in the 2010 Report on Approved Teacher Preparation Programs, included data from 2,255 program completers (Milton, et al., 2010)

The 42-item instrument (Appendix B) was designed to elicit the perceptions of program completers for the three programs offered in Florida as to the effectiveness of their preparation concerning (a) planning, (b) instruction, and (c) professionalism. It is appropriate to review the literature related to these constructs and to provide supportive background information for the instrumentation used in the study.

Planning

A constant theme throughout the literature reviewed indicated that planning for instruction was essential. Kemp, Morrison, and Ross (1994) contended that to prepare today's students, learning must be efficient and effective and argued that both the conventional structure, as well as, the delivery of learning, has not kept up with societal changes, and there was a need for an instructional design process. Referring to learning as haphazard and instruction as being planned, Kemp et al. (1994) argued that planning for instruction results in successful learning and increases student achievement. As part of an information-based economy, the nation's workforce is required to do jobs that are complex, requiring the ability to think in abstract terms and problem solve at high levels of reasoning necessitating that lessons are designed to stimulate critical thinking. In translating practical applications for teaching, the needs of the learner must also be considered in planning for instruction. According to Kemp et al., four elements are

common to nearly all planning models: characteristics of learners, learning objectives, instructional strategies, and evaluation procedures.

Gredler (1997) cited research that described planning as part of a key component of metacognition, or the “knowledge of when or where to use acquired strategies” (p. 176). This line of reasoning led to Bruner’s (1966) theory of instruction arguing that instruction is both prescriptive and normative because it must take into account not only learning but also age-appropriate lesson development. His theory of instruction was prescriptive in the sense that it described the most effective way of obtaining knowledge or skill and normative in the way that criteria were determined and the most optimal conditions were established for learning. Putting forth the four major features of his theory of instruction, Bruner suggested how planning and instruction work together: (a) specifying experiences that predispose learning most effective for the individual, (b) structuring learning in a way that is most easily attained, (c) specifying the most effective sequencing of concepts to be learned and (d) specifying how the nature and pacing of rewards and punishment work throughout the process of learning and teaching (Bruner).

Darling-Hammond and Baratz-Snowden (2005) outlined core concepts and strategies to inform initial teacher preparation programs either traditional or alternative. Research reviewed by Darling-Hammond and Baratz-Snowden was clear regarding the need for teachers to learn to plan so that effective instruction can be delivered. Citing a vast body of research that teachers should know first about how students learn, researchers maintained that common practices of effective teachers were derived from three general areas of knowledge in order to achieve success with student learning:

- knowledge of learners and how they learn and develop within social contexts
- understanding of the subject matter and skills to be taught in light of the social purposes of education
- understanding of teaching in light of the contents and learners to be taught.(Darling-Hammond & Baratz-Snowden, 2005, p. 5).

Darling-Hammond & Baratz-Snowden (2005) found that not only did teachers need to plan instruction for general development progressions but also for individual differences in development. By planning, teachers will know when students are ready to learn specific things in various ways in an effort to be supported when attempting new tasks. Darling-Hammond & Baratz-Snowden also suggested that much of teaching relies on the anticipation and preparation for student learning, requiring not only deep knowledge of content, but on the process for learning the content in concert with student understanding and performance within a given subject area. Darling-Hammond and Baratz-Snowden stated, “These are the foundations of pedagogical content knowledge: the particular knowledge teachers must have to make content accessible to students” (p. 17).

Instruction

Marzano, Pickering, & Pollack (2001) argued for explicit and systematic instruction. Although they concurred with Sanders’ (1998) research that the effectiveness of individual teachers had a lasting effect on student achievement, they took a slightly different approach. Well known with regards to classroom instruction, Marzano et al. described research-based strategies that correlated to percentile gain in student achievement and referenced research by Rosenthal (1991) and Hunter and Schmidt

(1990), all of whom refuted the conclusions of the 1966 Coleman Report that schools can only account for about 10% of the variance in student achievement. Citing serious flaws in the conclusions of the Coleman Report, they found “schools account for 10 percent of the differences in student achievement which translates into a percentile gain of about 23 points” (Marzano et al., p. 2). This meant an average student attending a “good” school would score 23 percentile points higher than an average student attending a “poor” school (Marzano et al., p. 2). Further conclusions were drawn that individual teachers could have significant effects on student achievement even if the school did not because of the variation in the quality of instruction in individual teachers (Marzano et al.).

More recently, Marzano (2003) reviewed additional research that followed the Coleman and Jenks study and concluded that schooling accounted for nearly twice the increase in achievement, approximately 20%, as originally determined by the Coleman Report. He also suggested that 67% of the effect of variance in percentile gain could be due to the effect of the individual teacher. Marzano warned against overlooking three “teacher level factors”: (a) instructional strategies, (b) classroom management, and (c) classroom curriculum design. He emphasized the powerful effect of decisions that individual teachers make and how those decisions impact student achievement.

Marzano (2003) asserted that many problems in student learning might be caused by poor classroom curriculum design. He stated that of the three teacher-level factors, the most overlooked was the classroom curriculum design where teachers make the decisions at the classroom level regarding “the sequencing and pacing of content along with the experiences that students have with that content” (Marzano, p. 106).

Professionalism

The concept of teacher professionalism is concerned with a broad range of skills as well as attitudes and beliefs. According to Whitty (2000), an education professor at the University of London, a typical profession for any field as defined by sociologists would include the use of skills based on theoretical knowledge, training and certification of those skills by examination, a code of professional conduct oriented toward the public good, and a strong professional organization (Whitty, 2000). As it relates to teaching, the occupation itself has had difficulty in realizing all aspects of characteristics of professionalism when compared to the professions of law or medicine. One reason, Whitty cited, is that education reforms propose competing versions of teacher professionalism, as opposed to one particular position that is acknowledged as the essential definition of professionalism. Sharing a similar perspective, Ravitch (2003) explained the history of teacher professionalism in a speech focused on preparing teachers at a White House Conference. She contended that while there may be agreement that good teachers are vital to the United States, there has not been agreement on how to accomplish that goal. Citing the debate on whether entry standards should be raised or unnecessary barriers lowered, she argued that education would not be granted the professional status it deserves until teacher standards clearly distinguish the bases for effective teaching, i.e., validated knowledge of how to improve and measure student learning and teaching practices that are established on solid research (Ravitch, 2003).

Fullan (1993) developed the case for professionalism in a slightly different direction, taking the stance that for teachers to be effective as professionals, they must become agents of change. He promoted teaching as a moral profession and believed that

most student teachers enter the profession to “make a difference in the lives of students”

(p. 1) Advocating for the knowledge and skills that should be possessed by every teacher,

he suggested:

- working with all students in an equitable, effective and caring manner by respecting diversity in relation to ethnicity, race, gender, and special needs of each learner;
- being active learners who continuously seek, assess, apply, and communicate knowledge as reflective practitioners throughout their career;
- developing and applying knowledge of curriculum, instruction, principles of learning, and evaluation needed to implement and monitor effective and evolving programs for all learners;
- initiating, valuing, and practicing collaboration and partnerships with students, colleagues, parents, community, government, and social and business agencies;
- appreciating and practicing the principles, ethics and legal responsibilities of teaching as a profession;
- developing a personal philosophy of teaching which is informed by and contributes to the organizational, community, societal, and global contexts of education. (Fullen, p. 8)

Angus (2001), who served as a professor of education history at the University of Michigan for 33 years, described the issues regarding professionalism of teachers as having a “surprising constancy” (Angus, p. 10) over time, which has both reflected and influenced approaches to teacher education. Angus maintained the debate regarding what specifically is the role of the professional teacher is not new, citing the common themes of issues that emerged in the early 1900s, and have been repeated during the 1980s and 1990s. For example, Angus indicated that one of the contested issues was the need to differentiate the occupation of teaching among interns, specialized teacher teams, and master teachers. Other repetitive themes included the need to create an alternative route to teacher training, the need to make teaching more relevant for the real world, and the desire to focus training on the core “competencies” (Angus, p. 36) of effective teachers.

Angus warned that in order to maintain the public trust, these timeless issues called for even greater collaboration among the diverse groups of professors of education, professors of liberal arts, and practicing K-12 teachers, as each advance a different vision for how teachers should be prepared and professionalized.

Wise and Darling-Hammond (1985) observed that in the true ideal of professionalism, teachers would not merely perform their work, but they would “plan, conduct and evaluate their work” (p. 30). Professional decision-making demands flexibility as teachers attend to the varying needs of individual students. Similarly, teachers’ various needs must be addressed. Wise and Darling-Hammond have contended that when teachers value the rewards they receive for their professional performance, they will be more likely to perceive their evaluation as credible.

Summary

The review of the literature and related research has presented a perspective of the fragmented historical development of teacher education. Beginning with the normal schools as the earliest centers of teacher preparation, soon universities and colleges would add departments of education. Following the rapid growth of traditional teacher education programs in higher education were reform movements for educator standards and certification. As states faced the challenges of increasing standards and certification during a time of teacher shortages, new initiatives gave way to alternative pathways into the teaching profession. High profile reports expressed concern for teacher quality and drew attention to the lack of research in teacher education. Research dominated the 1980s through early 2000s with a breakthrough study that connected teacher effectiveness to

student achievement. Research conducted between 1990 and 2010 has called for a new research agenda for teacher education. Florida's response to the need for high quality teachers in a fast-growing state has been the addition of two alternative programs to the traditional initial teacher preparation program. These programs have been described along with three elements (planning, instruction and professionalism) that have been addressed by the Florida Department of Education in ensuring continuous improvement of all programs.

CHAPTER 3 METHODOLOGY

Introduction

In this chapter, the methodology used to guide the study is detailed. Information related to the purpose of the study, the population, instrumentation, data collection, and analysis is also provided.

Purpose of the Study

Florida Statute, Section 1004.04(5), authorized Initial Teacher Preparation (ITP) Programs, and Florida Statute, Section 1004.85, authorized Educator Preparation Institutes (EPI). State Board of Education Rule 6A-5.066, F.A.C. prescribed implementation of an approval process for all types of teacher preparation programs. This legislation has required that continued approval of teacher preparation programs of each type be based in part on satisfaction of program completers and their school district employers with their level of preparedness for teaching provided by their programs. In compliance, the Florida Department of Education commissioned a report designed to provide information related to the effectiveness of teacher preparation programs in Florida.

This study utilized a quantitative methodology to determine both the underlying factors associated with three major constructs of teachers' working knowledge: (a) planning, (b) instruction, and (c) professionalism, as well as any differences in the perceived effectiveness of preparing teachers in three different types of preparation programs. The three programs included Initial Teacher Preparation (ITP), a traditional

teacher preparation program; District Alternative Certification Program (DACP) for individuals who have already earned a degree in another area; and Educator Preparation Institute (EPI), a program designed for individuals who have already earned a degree in another area. Humphrey and Wechsler (2007) found the role of certification on teacher quality has been complicated by variations that exist between teacher preparation programs:

Participants experience the program as implemented, not as planned. Program components espoused by program directors, course catalogs, or other media provide a general sense of the goals of and the ideal training offered by a program, but in practice may not accurately reflect the learning opportunities participants experience. (p. 22).

In this study, the differences in Florida teacher preparatory programs, based on completers' perceptions of their satisfaction with their preparedness in planning, instruction, and professionalism were explored. Prior to the initiation of the research, the research proposal was submitted to the Institutional Review Board of the University of Central Florida and was found to be exempt from review (Appendix C).

Research Questions

The study was guided by the following research questions:

1. Based on completers' perceptions as expressed in the 2008 Report on Beginning Teachers from State Approved Teacher Preparation Programs, what factors can be identified within the constructs of planning, instruction, and professionalism?
2. What differences, if any, exist in teachers' perceptions of their preparedness to teach based on the identified factors by the following program types: (a)

District Alternative Certification Programs, (b) the Educator Preparatory Institutes, and (c) the Initial Teacher Preparation Programs of approved colleges and universities?

Population

The population for the study included teachers from three teacher preparation programs in Florida. They were: (a) all teachers who completed an Initial Teacher Preparation (ITP) program in Florida in 2006-2007 and 2007-2008, (b) all teachers who completed an Educator Preparation Institute (EPI) in Florida in 2006-2007 and 2007-2008, and (c) all teachers who completed a District Alternative Certification Program (DACP) in Florida in 2006-2007 and 2007-2008. All completers of teacher preparation programs in these three groups were included in the population that received a web-based survey. The data sets of interest contained both the 2006-07 and 2007-08 responses to the surveys of Florida teacher preparation program completers.

Instrumentation

The instrument that served as the source of data for the study was the State Approved Teacher Preparation Survey of Florida Teacher Preparation Program Completers designed by the Florida Department of Education (Appendix B). The instrument was a web-based questionnaire administered to all responding completers of the three teacher preparation programs in 2006-2007 and 2007-2008. The survey was designed to gather comprehensive information from program completers including (a) demographic information, (b) their first year of teaching experience, and (c) the

effectiveness of their preparation program. It is the program effectiveness aspect of the survey that was the focus of this study.

Within the survey, program completers were asked a single question regarding preparedness: “How well did your teacher preparation program prepare you to do the following?” They were then instructed to rate 41 statements related to the following three constructs: (a) planning, 12 items; (b) instruction, 17 items; and (c) professionalism, 12 items. The rating scale for the items was 1 = Highly Effective, 2 = Effective, 3 = Not Very Effective, and 4 = Ineffective. The data of interest in this study was the individual responses to these items and the specific teacher preparation program in which each respondent participated.

Instrument Reliability and Validity

For many years, surveys on teacher education completers have been conducted by the Florida Department of Education (FLDOE) on approved teacher education programs for Florida colleges and universities. In 2008, the survey population was expanded to include district Alternative Certification Programs and Educators Preparatory Institutes (Miller, 2009, p. 8). The survey instruments were reviewed by a committee of professional educators convened by the FLDOE in October 2007 to make suggestions for improvement. Members of the committee included district certification coordinators, university faculty, FLDOE staff, and the research study that conducted the original study (Milton et al., 2009).

Data Collection

The Florida Department of Education provided the names and email addresses of potential respondents to the survey. The 2006-2007 State Approved Teacher Preparation Survey generated responses from 1,358 program completers. This included the following valid returns from the three groups of program completers: ITP, 803; DACP, 409; and EPI, 146. The following year, an identical survey was administered to 2007-2008 completers, and responses were received from 2,255 program completers, which included the following valid returns from the three groups: ITP, 1,035; DACP, 930; and EPI, 290 (FLDOE survey 2006-2007 report (Milton, et al, 2009) and FLDOE survey 2007-2008, (Milton, et al, 2010). Since the respondents were independent in each year and the surveys were identical, it is possible to combine these two data sets to provide a more powerful analysis due to increased sample size.

Data Analysis

The first portion of the analysis was performed using exploratory factor analysis (EFA) to determine the underlying sub-constructs or factors within the 41 items that collectively comprised the planning, instructional, and professional areas. Regarding the groupings of questions into these three areas, EFA was not part of the process. The 2009 report utilized EFA among these 41 items and yielded four factors. However, the nature of EFA is such that different extraction methods, as well as, different input data sets, can yield differing results. The first portion of this study involved running EFA on a combined data set encompassing the two years of data. This approach differed from prior research conducted on this survey in that (a) two years of data was used; (b) the Promax

rotation method, not the Varimax, was explored because it was believed that the extracted factors should correlate with one another, and the exploratory factors would emerge with more clarity; (c) the maximum likelihood extraction method was utilized for its ability to be generalized to other results; and (d) the extraction criteria utilized focused more on the results of a scree plot than on the eigenvalue criteria of greater than one approach.

Additionally, with this enlarged data set, the researcher had the ability to take several samples from the population and replicate this factor analysis, thus retaining the items and factors that proved to be the most consistent. Ultimately, the factor analysis results were intended to show how accurately the constructs of planning, instruction, and professionalism represented the items asked of the respondents.

In the second part of the analysis, continuous variables were formed by summing the responses from the individual items using the factors identified from the first portion of the analysis. For each of these continuous variables, a one-way ANOVA was performed to determine differences in preparation levels between individuals who completed the three forms of preparation. As a result, the researcher was able to determine areas of strength or weakness in preparing new teachers for the identified preparation areas among each of the program types.

Summary

This chapter has provided a description of the methods and procedures that were used in conducting the research. The purpose, population, and research questions have been presented. The instrumentation, data collection, and analysis procedures have been explained. Chapter 4 contains the analysis of the data. Chapter 5 contains a summary and

discussion of the findings, implications of the study, conclusions, and recommendations for future research.

CHAPTER 4 PRESENTATION AND ANALYSIS OF DATA

Introduction

The purpose of this study was to compare Florida program completers' perceptions of preparedness regarding particular aspects of teachers' working knowledge, i.e. planning, instruction, and professionalism. Specifically, the research focused on the three types of teacher preparatory programs in Florida to determine completers' perceptions regarding their preparation for (a) planning, (b) instruction, and (c) professionalism in effective classroom practice. The researcher compared data collected by the Florida Department of Education (FLDOE) for the 2006-2007 and 2007-2008 program completers of the District Alternative Certification Programs, the Educator Preparatory Institutes, and the Initial Teacher Preparation Programs of approved colleges and universities. Separate analysis on the 2006-2007 and 2007-2008 administrations of the teachers from Florida Teacher Preparation Program surveys had been previously conducted by FLDOE. Combining two years of data from these identical surveys provided a robust data set that allowed the researcher to re-analyze the data in a different fashion and advance the comparison. This was significant because the years 2006-2007 and 2007-2008 were the first years for measuring completer impact on K-12 student learning by linking teacher preparatory program completers' performance to student achievement as required by the continued program review standards based on Section 1012.56(8) Florida Statutes and State Board of Education Rule 6A-5.066. Specifically, Standard 3, Continuous Improvement required districts to review and analyze annual data as part of the ongoing improvement process for continued program approval.

The analysis of the data has been organized around the two research questions which guided the study. The first question addressed the identification of factors within the constructs of planning, instruction, and professionalism. The second question was used to investigate differences in teachers' perceptions of preparedness to teach based on the identified factors for the three programs.

Population

The data set contained a total of 3,613 observations, with 2,255 (62.4%) from 2006-07 and 1,358 (37.6%) from 2007-08. When conducting a factor analysis, however, each observation must contain a valid response for each item involved in the analysis. Therefore, if a respondent left even one item blank, it could not be included in the data set ultimately utilized for the factor analysis. Once all of the observations with missing data were removed, the final population available for use in the analysis for this research question consisted of 3,060 observations, with 1,929 (63.0%) from 2006-2007 and 1,131 (37.0%) from 2007-2008.

Samples

Instead of running a single factor analysis on one large population, the researcher drew three separate samples from this population as a way of simulating several runs of the factor analysis. With the strength of the factor analysis process using samples of approximately 1,000 or more, the necessity for using a much larger sample was not present. Therefore, the advantage of the large data set could be utilized through an ability to run multiple simulated samples and accompanying factor analyses to ensure a level of

consistency in the grouping that was not made available through the FLDOE's single runs.

Three arbitrary seeds were selected in SPSS Version 16.0--1234, 4567, and 7890--and instructions were made to select approximately 33% of the cases. The data set was consistently sorted in the same way for each run, by year and a unique sequence number, to ensure that the same simple random sample could be drawn if the program was closed and re-started during analysis. It is important to note that the "unavailable" observations (those with missing data) were still included in the sampling process to simulate the realistic likelihood that some respondents did not answer every question. Additionally, some observations appeared in more than one of the three samples; others did not appear in any sample. This decision to sample "with replacement" was, once again, due to the decision to keep the process fully random and as independent as possible.

The descriptive statistics associated with the various samples are presented in Table 1. Compared to the statistics of the population as a whole, the proportions of 2006-2007 and 2007-2008 respondents were representative in each sub-sample. Additionally, of the 3,060 eligible respondents in the population, 912 (29.8%) were not selected for any of the three samples; 1,354 (44.2%) were selected for one sample; 657 (21.5%) were selected for two samples; and 137 (4.5%) were selected for all three samples.

Table 1
Descriptive Statistics of Factor Analysis Samples

Year	Sample 1		Sample 2		Sample 3	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
2006-2007	658	62.1	598	61.0	652	62.8
2007-2008	402	37.9	382	39.0	387	37.2

Data Analysis for Research Question 1

Based on completers' perceptions as expressed in the 2009 and 2010 Reports on Beginning Teachers from State Approved Teacher Preparation Programs, what factors emerged within the constructs of planning, instruction, and professionalism?

Within the *Florida Teachers from State Approved Teacher Preparation Programs Survey*, teachers were asked to rank on a scale of 1-4 how well prepared they believed they were in (a) planning, (b) instruction, and (c) professionalism on 41 indicators of the Florida Educator Accomplished Practices (FEAP). The items were not specifically identified as components of any particular FEAP, and separate analyses on the data for 2006-2007 and 2007-2008 were conducted utilizing factor analysis (Milton et al., 2009, 2010). Considering the volatility of factor analysis when conditions change, such as sample composition, rotation methods, and extraction methods, the decision was made to re-run the factor analysis under different conditions to further solidify groupings that could be used to conduct further analysis on any perceived difference by program type. Research Question 1 sought to determine what factors would emerge that would group together among the 41 FEAP items that were listed under the constructs of Planning, Instruction, and Professionalism.

Factor Analysis: Sample 1

Prior to conducting the first factor analysis, various assumptions were checked to make sure the procedure was appropriate. Bartlett's Test of Sphericity was used to test the overall correlation matrix, resulting in a significant p -value of $< .001$ which suggested that the factor analysis was appropriate. Next, the Measure of Sampling Adequacy (MSA) was calculated for each individual variable to measure inter-correlations among variables. Values ranged from .941 to .990 which was above the minimum value of .80 recommended for superior ability to be predicted without error by other variables. Additionally, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was calculated, representing the ratio of squared correlation between variables to squared partial correlation between variables. This is a measure of the ability for a factor analysis to provide distinct factors. This value was .98 which was well beyond the value of .50 (on a range of 0 to 1) suggested for proceeding with factor analysis. All items were highly correlated at a statistically significant level of $p < .001$, suggesting the appropriateness of factor analysis.

Once the data set was deemed appropriate for factor analysis, the procedure was run. Communalities measure the percentage of the variance in a particular variable that is jointly explained by all of the factors--the proportion of common variance within a variable. It is recommended that the average communality should be over .60. The results of the factor analysis for sample 1 indicated that the average communality was over .65 which meant that Kaiser's rule (eigenvalues of one or greater) could be applied when selecting the number of factors. Additionally, no communalities were below .30. The intent was to use the scree plot instead of Kaiser's rule regarding the selection of factors.

However, due to the overwhelming amount of variability explained by the first factor, the scree plot was hard to read, and Kaiser's rule was used instead. Oblique methods such as Promax rotation should be run only when the factors are correlated, which was the case in this situation, as correlation coefficients ranged from $r = .58$ to $r = .82$. This indicated the Promax rotation method was acceptable for further analysis of this data. The factor analysis, using the maximum likelihood extraction method with Promax rotation, yielded four factors with eigenvalues greater than one. These eigenvalues were 24.14, 1.61, 1.19, and 1.12, respectively. These four factors explained approximately 69% of the variability of all of the items.

Table 2 contains the factor loadings for the rotated solution. The highest loading for each item is bolded. A total of 17 items loaded most strongly in the first factor, another 17 loaded most strongly with the second factor, four items loaded in the third factor, and three items loaded in the fourth factor. All of the strongest loading values were .27 or above which was more than sufficient for a sample of this size. Further interpretation of factors, as well as reliability, will be discussed when all three samples are compared.

Table 2
Factor Loading, First Run (N = 1,060)

Item	Factor			
	1	2	3	4
Maintain academic focus for all students through the use of various techniques that address differences in learning styles.	.92	.01	-.04	-.05
Use a variety of teaching techniques and strategies to effectively instruct all students, including students with diverse learning needs.	.90	.01	-.03	-.05
Recognize and identify developmental differences among students.	.75	.04	-.03	.06
Employ a variety of assessment strategies to determine students' performance of specified outcomes such as Sunshine State Standards.	.70	.19	-.02	-.07
Use a variety of developmentally appropriate activities to engage and motivate students.	.61	.22	.05	.02
Use questions and activities that engage students in higher order thinking.	.60	.19	.03	.05
Plan lessons with specific learning and performance outcomes that are based on the Sunshine State Standards and that meet the needs of all students.	.59	-.06	.16	.08
Modify instruction based upon assessed student performance.	.58	.30	-.03	-.01
Reflect on practice and modify instruction as needed.	.57	.04	.14	.11
Plan activities that require students to gather information and solve problems.	.57	.05	-.02	.23
Incorporate activities that promote positive communication among students.	.57	.07	.13	.08
Identify strategies that expand students' critical thinking.	.57	.13	-.01	.15
Establish classroom routines and procedures that promote a positive and safe learning environment.	.55	.13	.19	-.12
Provide opportunities for students to receive constructive feedback on individual work and behavior.	.52	.18	.06	.07
Incorporate reading strategies in instructional planning in various subject areas.	.49	.31	—	.02
Use instructional time effectively.	.46	.01	.05	—

Item	Factor			
	1	2	3	4
Apply learning theories and knowledge of human development to first and second language acquisition processes.	.45	.11	—	.23
Prepare students for taking standardized tests by using aggregated data to create and assess instruction that focuses on improving student achievement.	.07	.80	-.14	.05
Monitor student performance on core benchmarks throughout the year.	.12	.78	-.10	-.03
Use results from individual reading assessments to improve student academic performance.	.17	.77	-.16	.03
Provide meaningful feedback regarding student performance to families.	.06	.74	.13	-.06
Recognize signs of students' difficulty with the reading and use appropriate techniques to improve students' reading.	.26	.71	-.16	-.04
Implement strategies acquired through professional growth opportunities.	.06	.70	.17	-.04
Access relevant educational research.	-.03	.68	.10	.08
Demonstrate knowledge of research-based, developmentally appropriate reading strategies.	.04	.62	.13	.08
Work with colleagues to improve students' educational experiences.	.04	.56	.15	.09
Adapt communication style based on the needs of individuals and groups.	.11	.55	.26	-.04
Use assessment data to improve student achievement.	.34	.55	-.07	-.02
Use technology tools to manage and evaluate student data.	-.24	.54	-.04	.53
Demonstrate an understanding of how the subject is linked to other disciplines.	.31	.45	.03	.07
Communicate effectively with families and students from culturally diverse backgrounds.	.09	.42	.34	-.05
Use resources outside the classroom to enrich student learning experiences.	.07	.40	.01	.37
Demonstrate how knowledge can be applied to real-world settings.	.23	.35	.08	.21
Collaborate with other educators when planning lessons.	.23	.27	.04	.23

Item	Factor			
	1	2	3	4
Adhere to the Code of Ethics and Principles of Professional Conduct of the Education Profession in Florida.	-.02	-.07	.99	-.03
Adhere to ethical standards expected of an educator in the classroom and in the school community.	-.01	-.09	.99	.03
Treat students equitably by fostering acceptance of diversity in the classroom.	.22	.01	.62	.04
Make reasonable efforts to protect students from harmful conditions that interfere with their learning.	.01	.41	.43	-.01
Use technology in instructional delivery to enrich student learning experiences.	.01	.02	-.01	.87
Develop technology enriched learning activities that meets the diverse needs of students.	.07	.01	-.03	.85
Use relevant materials and technologies to promote student learning.	.25	-.12	.11	.65

Factor Analysis: Sample 2

Prior to conducting the second factor analysis, various assumptions were checked to make sure the procedure was appropriate. Bartlett's Test of Sphericity was used to test the overall correlation matrix, resulting in a significant p -value of $< .001$ which suggested that the factor analysis was appropriate. Next, the Measure of Sampling Adequacy (MSA) was calculated for each individual variable to measure inter-correlations among variables. These values ranged from .948 to .991 which was above the minimum value of .80 recommended for superior ability to be predicted without error by other variables. Kaiser-Meyer-Olkin (KMO), a measure of sampling adequacy representing the ratio of squared correlation between variables to squared partial correlation between variables, yielded a value of .98. This is a measure of the ability for a factor analysis to provide distinct factors. Because it was well beyond the value of .50 (on a range of 0 to 1), it was

acceptable to proceed with the factor analysis. All items were highly correlated at a statistically significant level of $p < .001$, suggesting the appropriateness of factor analysis.

Once the data set was deemed appropriate for factor analysis, the procedure was run. Communalities measure the percentage of the variance in a particular variable that is jointly explained by all of the factors--the proportion of common variance within a variable. It is recommended that the average communality should be over .60. The results of the factor analysis for sample 2 indicated that the average communality was over .65 which meant that Kaiser's rule (eigenvalues of one or greater) could be applied when selecting the number of factors. Additionally, no communalities were below .30. The intent was to use the scree plot instead of Kaiser's rule regarding the selection of factors. However, due to the overwhelming amount of variability explained by the first factor, the scree plot was difficult to read, and Kaiser's rule was used instead. Oblique methods such as Promax rotations should be run only when the factors are correlated, which was indeed the case with correlation coefficients ranging from $r = .61$ to $r = .83$. This indicated the Promax rotation method was acceptable for further analysis of this data. The factor analysis, using the maximum likelihood extraction method with Promax rotation, yielded four factors with eigenvalues greater than one. These eigenvalues were 23.91, 1.50, 1.30, and 1.15, respectively. These four factors explained approximately 70% of the variability of all of the items.

Table 3 contains the factor loadings for the rotated solution. The highest loading for each item is bolded. A total of 20 items loaded most strongly in the first factor, another 17 loaded most strongly with the second factor, five items loaded in the third

factor, and five items loaded in the fourth factor. All of the strongest loading values were .28 or above which was more than sufficient for a sample of this size. Further interpretation of factors, as well as reliability, will be discussed when all three samples are compared.

Factor Analysis: Sample 3

Prior to conducting the third and final factor analysis, various assumptions were checked to ensure that the procedure was appropriate. Bartlett's Test of Sphericity was used to test the overall correlation matrix. This resulted in a significant p-value of $< .001$ which suggested that the factor analysis was appropriate. Next, the Measure of Sampling Adequacy (MSA) was calculated for each individual variable to measure inter-correlations among variables. These values ranged from .948 to .991 which was above the minimum value of .80 recommended for superior ability to be predicted without error by other variables. Kaiser-Meyer-Olkin (KMO), a measure of sampling adequacy representing the ratio of squared correlation between variables to squared partial correlation between variables, yielded a value of .98. This is a measure of the ability for a factor analysis to provide distinct factors. Because .98 was well beyond the value of .50 (on a range of 0 to 1) it was acceptable to proceed with the factor analysis. All items were highly correlated at a statistically significant level of $p < .001$, suggesting the appropriateness of factor analysis.

Table 3
Factor Loading, Second Run (N = 980)

Item	Factor			
	1	2	3	4
Use a variety of teaching techniques and strategies to effectively instruct all students, including students with diverse learning needs.	.84	.09	-.02	-.08
Provide opportunities for students to receive constructive feedback on individual work and behavior.	.82	-.04	-.01	.01
Maintain academic focus for all students through the use of various techniques that address differences in learning styles.	.79	.12	-.01	-.09
Incorporate activities that promote positive communication among students.	.78	-.08	.01	.08
Plan lessons with specific learning and performance outcomes that are based on the Sunshine State Standards and that meet the needs of all students.	.68	-.08	.10	.06
Identify strategies that expand students' critical thinking.	.67	.07	-.06	.12
Plan activities that require students to gather information and solve problems.	.66	.03	-.07	.22
Recognize and identify developmental differences among students.	.66	.10	.03	.03
Use a variety of developmentally appropriate activities to engage and motivate students.	.65	.23	.02	-.02
Establish classroom routines and procedures that promote a positive and safe learning environment.	.64	.04	.09	-.09
Use questions and activities that engage students in higher order thinking.	.63	.15	.08	-.03
Reflect on practice and modify instruction as needed.	.61	.07	.14	.02
Employ a variety of assessment strategies to determine students' performance of specified outcomes such as Sunshine State Standards.	.59	.24	.01	-.06
Use instructional time effectively.	.58	.20	-.03	.06
Modify instruction based upon assessed student performance.	.52	.39	-.05	-.03
Demonstrate an understanding of how the subject is linked to other disciplines.	.45	.37	-.03	.06

Item	Factor			
	1	2	3	4
Apply learning theories and knowledge of human development to first and second language acquisition processes.	.45	.13	.09	.11
Collaborate with other educators when planning lessons.	.42	.14	.02	.17
Incorporate reading strategies in instructional planning in various subject areas.	.41	.36	—	.04
Demonstrate how knowledge can be applied to real-world settings.	.40	.26	—	.22
Use results from individual reading assessments to improve student academic performance.	.04	.92	-.13	—
Prepare students for taking standardized tests by using aggregated data to create and assess instruction that focuses on improving student achievement.	-.11	.89	-.05	.07
Recognize signs of students' difficulty with the reading and use appropriate techniques to improve students' reading.	.13	.88	-.11	-.12
Monitor student performance on core benchmarks throughout the year.	.08	.73	-.05	.08
Use assessment data to improve student achievement.	.22	.66	-.01	-.05
Demonstrate knowledge of research-based, developmentally appropriate reading strategies.	.11	.66	.14	-.04
Access relevant educational research.	.11	.56	.08	.04
Work with colleagues to improve students' educational experiences.	.14	.51	.15	.10
Provide meaningful feedback regarding student performance to families.	.18	.50	.14	.09
Implement strategies acquired through professional growth opportunities.	.24	.43	.20	.03
Adapt communication style based on the needs of individuals and groups.	.31	.32	.25	.03
Adhere to the Code of Ethics and Principles of Professional Conduct of the Education Profession in Florida.	-.06	-.10	.99	.04
Adhere to ethical standards expected of an educator in the classroom and in the school community.	.02	-.07	.99	-.04
Treat students equitably by fostering acceptance of diversity in the classroom.	.20	.01	.70	—

Item	Factor			
	1	2	3	4
Make reasonable efforts to protect students from harmful conditions that interfere with their learning.	.18	.27	.37	.02
Communicate effectively with families and students from culturally diverse backgrounds.	.27	.25	.28	.03
Develop technology enriched learning activities that meets the diverse needs of students.	.12	-.06	-.08	.88
Use technology in instructional delivery to enrich student learning experiences.	-.10	.09	.02	.88
Use relevant materials and technologies to promote student learning.	.33	-.21	.06	.67
Use technology tools to manage and evaluate student data.	-.27	.43	.07	.58
Use resources outside the classroom to enrich student learning experiences.	.28	.28	-.03	.31

Once the data set was deemed appropriate for factor analysis, this procedure was run. Communalities measure the percentage of the variance in a particular variable that is jointly explained by all of the factors--the proportion of common variance within a variable. It is recommended that the average communality is over .60. The results of the factor analysis for sample 3 indicated that the average communality was .64, which meant that Kaiser's rule (eigenvalues of one or greater) could be applied when selecting the number of factors. Additionally, no communalities were below .30. The intent was to use the scree plot instead of Kaiser's rule regarding the selection of factors. However, due to the overwhelming amount of variability explained by the first factor, the scree plot was hard to read, and Kaiser's rule was used instead. Oblique methods such as Promax rotations should be run only when the factors are correlated, which was indeed the case with correlation coefficients ranging from $r = .62$ to $r = .80$. This indicated the Promax

rotation method was acceptable for further analysis of these data. The factor analysis, using the maximum likelihood extraction method with Promax rotation, yielded four factors with eigenvalues greater than one. These eigenvalues were 23.72, 1.66, 1.19, and 1.09, respectively. These four factors explained approximately 70% of the variability of all of the items.

Table 4 contains the factor loadings for the rotated solution. The highest loading for each item is bolded. A total of 17 items loaded most strongly in the first factor, another 16 loaded most strongly with the second factor, four items loaded in the third factor, and four items loaded in the fourth factor. All of the strongest loading values were .32 or above, which was more than sufficient for a sample of this size. Further interpretation of factors, as well as reliability, will be discussed when all three samples are compared.

Table 4
Factor Loading, Third Run (N = 1,039)

Item	Factor			
	1	2	3	4
Use a variety of teaching techniques and strategies to effectively instruct all students, including students with diverse learning needs.	.84	-.05	.07	-.01
Maintain academic focus for all students through the use of various techniques that address differences in learning styles.	.73	.08	.08	-.02
Identify strategies that expand students' critical thinking.	.69	.02	-.02	.11
Use questions and activities that engage students in higher order thinking.	.65	.16	.08	-.05
Incorporate reading strategies in instructional planning in various subject areas.	.61	.17	-.03	.03
Plan activities that require students to gather information and solve problems.	.60	.06	-.05	.22
Incorporate activities that promote positive communication among students.	.59	.01	.12	.10
Reflect on practice and modify instruction as needed.	.58	—	.18	.08
Provide opportunities for students to receive constructive feedback on individual work and behavior.	.58	.05	.11	.01
Recognize and identify developmental differences among students.	.57	.14	.05	.08
Use a variety of developmentally appropriate activities to engage and motivate students.	.57	.24	.08	.02
Employ a variety of assessment strategies to determine students' performance of specified outcomes such as Sunshine State Standards.	.54	.32	.03	-.08
Modify instruction based upon assessed student performance.	.52	.37	-.05	-.01
Apply learning theories and knowledge of human development to first and second language acquisition processes.	.48	.08	.10	.11
Establish classroom routines and procedures that promote a positive and safe learning environment.	.46	.15	.23	-.14

Item	Factor			
	1	2	3	4
Plan lessons with specific learning and performance outcomes that are based on the Sunshine State Standards and that meet the needs of all students.	.44	.01	.25	.09
Use instructional time effectively.	.39	.29	.11	.04
Prepare students for taking standardized tests by using aggregated data to create and assess instruction that focuses on improving student achievement.	.09	.86	-20	-.01
Monitor student performance on core benchmarks throughout the year.	.12	.82	-.13	-.02
Provide meaningful feedback regarding student performance to families.	-.03	.72	.18	-.01
Use results from individual reading assessments to improve student academic performance.	.37	.64	-.22	.02
Work with colleagues to improve students' educational experiences.	-.05	.62	.21	.09
Access relevant educational research.	-.04	.62	.13	.12
Recognize signs of students' difficulty with the reading and use appropriate techniques to improve students' reading.	.41	.60	-.17	-.05
Use assessment data to improve student achievement.	.40	.56	.09	-.07
Demonstrate knowledge of research-based, developmentally appropriate reading strategies.	.20	.55	.11	.01
Implement strategies acquired through professional growth opportunities.	.09	.54	.25	.04
Adapt communication style based on the needs of individuals and groups.	.06	.51	.34	—
Communicate effectively with families and students from culturally diverse backgrounds.	-.03	.47	.41	—
Demonstrate an understanding of how the subject is linked to other disciplines.	.32	.44	.01	.10
Use resources outside the classroom to enrich student learning experiences.	.01	.41	.05	.39
Demonstrate how knowledge can be applied to real-world settings.	.27	.36	.10	.16
Collaborate with other educators when planning lessons.	.14	.32	.07	.23
Adhere to ethical standards expected of an educator in the classroom and in the school community.	.03	-.14	.99	—

Item	Factor			
	1	2	3	4
Adhere to the Code of Ethics and Principles of Professional Conduct of the Education Profession in Florida.	.07	-.16	.97	-.03
Treat students equitably by fostering acceptance of diversity in the classroom.	.18	.05	.69	-.01
Make reasonable efforts to protect students from harmful conditions that interfere with their learning.	.01	.35	.45	—
Develop technology enriched learning activities that meets the diverse needs of students.	.10	.03	-.03	.81
Use technology in instructional delivery to enrich student learning experiences.	.02	.13	-.06	.80
Use relevant materials and technologies to promote student learning.	.30	-.17	.02	.71
Use technology tools to manage and evaluate student data.	-.17	.45	.04	.48

Combined Factor Analysis

All three runs of the factor analysis were compared for similarities and differences to determine a final set of factors. Of the 41 items, six did not factor consistently in the same overall grouping. Therefore, a “best of three” approach, combined with management judgment, was utilized to determine the most appropriate placement for items.

Table 5 contains the final factor groupings. The first factor consistently contained items related to planning and instructional-type practices, such as “identify strategies that expand students’ critical thinking” and “use a variety of teaching techniques and strategies to effectively instruct all students, including students with diverse learning needs.” Although some of these items such as “employ a variety of assessment strategies to determine students’ performance of specified outcomes such as Sunshine State

Standards,” may have fit into other categorizations as well, these items were also instructional or planning-related and were deemed appropriate to remain. In all, 17 items were grouped in this category, officially named Planning and Instruction (Planning). A reliability analysis was run on this group of items and yielded a Cronbach’s alpha value of .96. All corrected item-total correlations, which measure correlations between each item and the total score, were .71 or above, which was strong. No item removal would raise the alpha value above its current state. Therefore, due to these exceptionally high values, this factor was deemed appropriate in terms of reliability.

The second factor consistently contained items related to issues of assessment, communication, and research, such as “access relevant educational research” and “adapt communication style based on the needs of individuals and groups.” Although some of these items such as “Use resources outside the classroom to enrich student learning,” may fit into other categorizations as well, these items all focused on assessment, dealt with communication issues in teaching, or were based in research and were deemed appropriate to remain. In all, 16 items were grouped into this category, officially named Assessment, Communication, and Research (Assessment). A reliability analysis was run on this group of items and yielded a Cronbach’s alpha value of .96. All corrected item-total correlations, which measure correlations between each item and the total score, were .65 or above which was strong. No item removal would raise the alpha value above its current state. Therefore, due to these exceptionally high values, this factor was deemed appropriate in terms of reliability.

The third factor consistently contained items directly related to actions of professionalism or ethics, such as “adhere to ethical standards expected of an educator in

the classroom and in the school community” and “treat students equitably by fostering acceptance of diversity in the classroom.” In all, four items were grouped into this category officially named Professional Responsibility and Ethical Conduct (Ethics). A reliability analysis was run on this group of items and yielded a Cronbach’s alpha value of .90. All corrected item-total correlations, which measure correlations between each item and the total score, were .66 or above, which is strong. Removal of the item, “make reasonable efforts to protect students from harmful conditions that interfere with their learning,” would have raised the alpha coefficient to .92; however, the gain would have been negligible, and the item still fit into the concept of professionalism. Therefore, due to these exceptionally high values, this factor was deemed appropriate in terms of reliability.

The final factor contained all practices related to the use of technology in the classroom such as “use technology tools to manage and evaluate data” and “develop technology enriched learning activities that meets the diverse needs of students.” In all, four items were grouped into this category officially named Use of Technology (Technology). A reliability analysis was run on this group of items and yielded a Cronbach’s alpha value of .89. All corrected item-total correlations, which measure correlations between each item and the total score, were .70 or above which was strong. No item removal would raise the alpha value above its current state. Therefore, due to these exceptionally high values, this factor was deemed appropriate in terms of reliability.

Table 5
Final Factor Groupings

Item	Run 1	Run 2	Run 3	Final
Identify strategies that expand students' critical thinking.	1	1	1	1
Plan activities that require students to gather information and solve problems.	1	1	1	1
Incorporate activities that promote positive communication among students.	1	1	1	1
Provide opportunities for students to receive constructive feedback on individual work and behavior.	1	1	1	1
Apply learning theories and knowledge of human development to first and second language acquisition processes.	1	1	1	1
Plan lessons with specific learning and performance outcomes that are based on the Sunshine State Standards and that meet the needs of all students.	1	1	1	1
Reflect on practice and modify instruction as needed.	1	1	1	1
Recognize and identify developmental differences among students.	1	1	1	1
Incorporate reading strategies in instructional planning in various subject areas.	1	1	1	1
Establish classroom routines and procedures that promote a positive and safe learning environment.	1	1	1	1
Employ a variety of assessment strategies to determine students' performance of specified outcomes such as Sunshine State Standards.	1	1	1	1
Maintain academic focus for all students through the use of various techniques that address differences in learning styles.	1	1	1	1
Use a variety of teaching techniques and strategies to effectively instruct all students, including students with diverse learning needs.	1	1	1	1
Use instructional time effectively.	1	1	1	1
Modify instruction based upon assessed student performance.	1	1	1	1

Item	Run 1	Run 2	Run 3	Final
Use questions and activities that engage students in higher order thinking.	1	1	1	1
Use a variety of developmentally appropriate activities to engage and motivate students.	1	1	1	1
Collaborate with other educators when planning lessons.	2	1	2	2
Demonstrate how knowledge can be applied to real-world settings.	2	1	2	2
Demonstrate an understanding of how the subject is linked to other disciplines.	2	1	2	2
Use assessment data to improve student achievement.	2	2	2	2
Use results from individual reading assessments to improve student academic performance.	2	2	2	2
Recognize signs of students' difficulty with the reading and use appropriate techniques to improve students' reading.	2	2	2	2
Prepare students for taking standardized tests by using aggregated data to create and assess instruction that focuses on improving student achievement.	2	2	2	2
Monitor student performance on core benchmarks throughout the year.	2	2	2	2
Adapt communication style based on the needs of individuals and groups.	2	2	2	2
Access relevant educational research.	2	2	2	2
Implement strategies acquired through professional growth opportunities.	2	2	2	2
Provide meaningful feedback regarding student performance to families.	2	2	2	2
Work with colleagues to improve students' educational experiences.	2	2	2	2
Demonstrate knowledge of research-based, developmentally appropriate reading strategies.	2	2	2	2
Communicate effectively with families and students from culturally diverse backgrounds.	2	3	2	2
Use resources outside the classroom to enrich student learning experiences.	2	4	2	2

Item	Run 1	Run 2	Run 3	Final
Make reasonable efforts to protect students from harmful conditions that interfere with their learning.	3	3	3	3
Adhere to ethical standards expected of an educator in the classroom and in the school community.	3	3	3	3
Adhere to the Code of Ethics and Principles of Professional Conduct of the Education Profession in Florida.	3	3	3	3
Treat students equitably by fostering acceptance of diversity in the classroom.	3	3	3	3
Use technology tools to manage and evaluate student data.	2	4	4	4
Use relevant materials and technologies to promote student learning.	4	4	4	4
Develop technology enriched learning activities that meets the diverse needs of students.	4	4	4	4
Use technology in instructional delivery to enrich student learning experiences.	4	4	4	4

Comparison to Florida Department of Education Factor Analysis

Despite the utilization of a different rotation method and sub-samples from two years of results, the results of the factor analysis in the current study yielded comparable results to those which emerged in the analysis run by the FLDOE on the 2006-07 data set. Table 6 lists each item with its original survey grouping, the FLDOE-assigned factor name, and the factor assigned by the current study. In the FLDOE analysis, some items were not grouped and have been denoted by an “N/A” in the FLDOE Factor column.

Of the 32 items (of 41) that the FLDOE chose to use in its factor analysis, 30 items matched with the analysis in the current study into the similarly-named groupings. All 14 items matched within Planning and Instruction, all eight items matched within

Assessment, four of six items matched within Ethics, and all four items matched within Technology. It is noted, with a great degree of confidence, that the groupings that were reached as a result of the present study should maintain consistent meaning for future implementations of this survey. These factors included (a) Planning and Instruction; (b) Assessment, Communication, and Research; (c) Professional Responsibility and Ethical Conduct; and (d) Use of Technology. For the purpose of conciseness, the four respective factors have been referred to as Planning and Instruction, Assessment, Ethics, and Technology in Table 6.

Table 6
Factor Groupings Compared to Original (DOE) Study Groups

Item	Survey Group	DOE Factor	New Factor*
Identify strategies that expand students' critical thinking.	Planning	Instructional Strategies	Planning
Plan activities that require students to gather information and solve problems.	Planning	Instructional Strategies	Planning
Incorporate activities that promote positive communication among students.	Planning	Instructional Strategies	Planning
Provide opportunities for students to receive constructive feedback on individual work and behavior.	Planning	Instructional Strategies	Planning
Apply learning theories and knowledge of human development to first and second language acquisition processes.	Planning	N/A	Planning
Plan lessons with specific learning and performance outcomes that are based on the Sunshine State Standards and that meet the needs of all students.	Planning	Instructional Strategies	Planning
Reflect on practice and modify instruction as needed.	Planning	Instructional Strategies	Planning
Recognize and identify developmental differences among students.	Planning	Instructional Strategies	Planning
Incorporate reading strategies in instructional planning in various subject areas.	Planning	Instructional Strategies	Planning
Establish classroom routines and procedures that promote a positive and safe learning environment.	Instruction	N/A	Planning
Employ a variety of assessment strategies to determine students' performance of specified outcomes such as Sunshine State Standards.	Instruction	Instructional Strategies	Planning
Maintain academic focus for all students through the use of various techniques that address differences in learning styles.	Instruction	Instructional Strategies	Planning

Item	Survey Group	DOE Factor	New Factor
Use a variety of teaching techniques and strategies to effectively instruct all students, including students with diverse learning needs.	Instruction	Instructional Strategies	Planning
Use instructional time effectively.	Instruction	N/A	Planning
Modify instruction based upon assessed student performance.	Instruction	Instructional Strategies	Planning
Use questions and activities that engage students in higher order thinking.	Instruction	Instructional Strategies	Planning
Use a variety of developmentally appropriate activities to engage and motivate students.	Instruction	Instructional Strategies	Planning
Collaborate with other educators when planning lessons.	Planning	N/A	Assessment
Demonstrate how knowledge can be applied to real-world settings.	Instruction	N/A	Assessment
Demonstrate an understanding of how the subject is linked to other disciplines.	Instruction	N/A	Assessment
Use assessment data to improve student achievement.	Instruction	Research & Assessment	Assessment
Use results from individual reading assessments to improve student academic performance.	Instruction	Research & Assessment	Assessment
Recognize signs of students' difficulty with the reading and use appropriate techniques to improve students' reading.	Instruction	Research & Assessment	Assessment
Prepare students for taking standardized tests by using aggregated data to create and assess instruction that focuses on improving student achievement.	Instruction	Research & Assessment	Assessment
Monitor student performance on core benchmarks throughout the year.	Instruction	Research & Assessment	Assessment
Adapt communication style based on the needs of individuals and groups.	Professionalism	Ethics	Assessment

Item	Survey Group	DOE Factor	New Factor
Access relevant educational research.	Professionalism	Research & Assessment	Assessment
Implement strategies acquired through professional growth opportunities.	Professionalism	N/A	Assessment
Provide meaningful feedback regarding student performance to families.	Professionalism	Research & Assessment	Assessment
Work with colleagues to improve students' educational experiences.	Professionalism	N/A	Assessment
Demonstrate knowledge of research-based, developmentally appropriate reading strategies.	Professionalism	Research & Assessment	Assessment
Communicate effectively with families and students from culturally diverse backgrounds.	Professionalism	Ethics	Assessment
Use resources outside the classroom to enrich student learning experiences.	Instruction	N/A	Assessment
Make reasonable efforts to protect students from harmful conditions that interfere with their learning.	Professionalism	Ethics	Ethics
Adhere to ethical standards expected of an educator in the classroom and in the school community.	Professionalism	Ethics	Ethics
Adhere to the Code of Ethics and Principles of Professional Conduct of the Education Profession in Florida.	Professionalism	Ethics	Ethics
Treat students equitably by fostering acceptance of diversity in the classroom.	Professionalism	Ethics	Ethics
Use technology tools to manage and evaluate student data.	Professionalism	Technology	Technology
Use relevant materials and technologies to promote student learning.	Planning	Technology	Technology
Develop technology enriched learning activities that meet diverse needs.	Planning	Technology	Technology
Use technology in instructional delivery to enrich student learning experiences.	Instruction	Technology	Technology

Note. Planning = Planning and Instruction, Assessment = Assessment, Communication and Research, Ethics = Professional Responsibilities and Ethical Conduct, Technology = Use of Technology.

Research Question 2

What differences, if any, exist in teachers' perceptions of their preparedness to teach based on the identified factors for the following program types: (a) District Alternative Certification Programs, (b) the Educator Preparatory Institutes, and (c) the Initial Teacher Preparation Programs of approved colleges and universities?

Data Preparation

In order to answer this research question, the full survey data set for 2006-07 and 2007-08 was utilized without sampling. The first research question identified four distinct factors within all items regarding teacher preparedness.

The four factors served as dependent variables for the one-way ANOVA analyses. These variables were formed by summing all of the Likert-scaled responses to the items corresponding with each factor, where the minimum value of 1 represented a response of "highly effective (most positive response)" and the maximum value of 4 represented a response of "ineffective" (most negative response). In order to maximize the amount of comparability between the different dependent variables, despite the unequal number of items comprising each factor, these summed values were divided by the number of items in the factor. Thus, each dependent variable would ultimately hold a value ranging from 1 to 4, maintaining the same interpretation of meaning as the individual items from which they were formed. The independent variable to be used consistently throughout each of these analyses was certification type. These values included District Alternative Certification Program (DACP), Educator Preparatory Institutes (EPI), and Initial Teacher Preparation (ITP).

Although the entire data set of 3,613 observations was considered when running each of the four analyses, data integrity was important to maintain. Therefore, if a respondent was missing an answer to at least one item contributing to the formation of a particular factor, that specific dependent variable would receive a missing value and would not be included in that specific analysis. The respondent could still receive valid values for the other dependent variables, as long as there were no missing items. The purpose of this practice was to ensure that all of the identified components of a factor contributed to the ultimately formed dependent variable.

Planning & Instruction

Prior to conducting the one-way ANOVA, necessary assumptions were checked including the presence of normality and homogeneity of variance. Normality was checked via the Kolmogorov-Smirnov test for the residual generated by the ANOVA. The value for this test, $D = 0.10$, $p < .001$, suggested a possible violation of normality. Furthermore, the results of Levene's test, which checks for homogeneity of variances, suggested a violation of that assumption, $F(2, 3,410) = 8.18$, $p < .001$. The decision was made as a result of these violated assumptions to use an equivalent nonparametric test, Kruskal-Wallis, to determine differences in the Planning and Instruction variable between teacher preparation groups. The Kruskal-Wallis test does not require such distributional assumptions to be met and was therefore applicable to this situation.

A total of 3,413 observations were applicable for the analysis regarding the Planning variable. The Kruskal-Wallis test, $\chi^2(2) = 33.60$, $p < .001$, indicated that there was a significant difference in the mean ranks between the three teacher preparation

groups. Since there was a significant difference overall, it was necessary to run pairwise post-hoc testing (DACP vs. EPI, DACP vs. ITP, and EPI vs. ITP) to determine which specific pairs of preparation groups differed significantly from one another with respect to the Planning and Instruction variable.

Multiple Mann-Whitney tests were run to compare two of the independent groups at a time. Because multiple comparisons were being made on the same “family” of statistical inferences, it was necessary to apply the Bonferroni correction to the .05 alpha level that was previously set for this analysis. With three comparisons, the alpha level became a more conservative .017 for each test.

Results of the post-hoc comparisons are displayed in Table 7. The ITP group displayed the lowest mean rank ($M_r = 1,611.82$), indicating that this group of teachers believed that they were better prepared in Planning and Instruction than did either of the other two groups. According to the post-hoc tests, the ITP group mean rank was significantly different than that of both the EPI ($M_r = 1,792.77$) and DACP ($M_r = 1,810.58$) groups. Although the EPI group indicated a greater feeling of preparedness than the DACP group, the difference between these two groups was not significant.

Table 7

Mann-Whitney Post-Hoc Comparisons for Planning & Instruction Variable (N = 3,413)

Comparison	M_r (A)	M_r (B)	Z	p
DACP (A) vs. EPI (B)	1,810.58	1,792.77	-0.40	.69
DACP (A) vs. ITP (B)	1,810.58	1,611.82	-5.45	< .001*
EPI (A) vs. ITP (B)	1,792.77	1,611.82	-3.42	.001*

Note. District Alternative Certification Program (DACP) n = 1,262; Educator Preparatory Institute (EPI) n = 409; Initial Teacher Preparation (ITP) n = 1,742.

*p < .017 (Bonferroni-corrected $\alpha = .05/3$ for multiple comparisons).

Assessment, Communication, and Research

Prior to conducting the one-way ANOVA, necessary assumptions were checked, including the presence of normality and homogeneity of variance. Normality was checked via the Kolmogorov-Smirnov test for the residual generated by the ANOVA. The value for this test, $D = 0.09$, $p < .001$, suggests a possible violation of normality. Furthermore, the results of Levene's test, which checks for homogeneity of variances, suggested a violation of that assumption, $F(2, 3,295) = 6.50$, $p = .002$. The decision was made as a result of these violated assumptions to use an equivalent nonparametric test, Kruskal-Wallis, to determine differences in the Assessment, Communication, and Research variable between teacher preparation groups. The Kruskal-Wallis test does not require distributional assumptions to be met and was, therefore, applicable to this situation.

A total of 3,298 observations were applicable for the analysis regarding the Assessment variable. The Kruskal-Wallis test, $\chi^2(2) = 31.65$, $p < .001$, indicated that there was a significant difference in the mean ranks between the three teacher preparation

groups. Since there was a significant difference overall, it was necessary to run pairwise post-hoc testing (DACP vs. EPI, DACP vs. ITP, and EPI vs. ITP) to determine which specific pairs of preparation groups differed significantly from one another with respect to the Assessment, Communication, and Research variable.

Multiple Mann-Whitney tests were run to compare two of the independent groups at a time. Because multiple comparisons were being made on the same “family” of statistical inferences, it was necessary to apply the Bonferroni correction to the .05 alpha level that was previously set for this analysis. With three comparisons, the alpha level became a more conservative .017 for each test.

Results of the post-hoc comparisons are displayed in Table 8. The ITP group displayed the lowest mean rank ($M_r = 1,560.68$), indicating that this group of teachers believed they were better prepared in Assessment, Communication and Research than did either of the other two groups. According to the post-hoc tests, the ITP group mean rank was significantly different than both the DACP ($M_r = 1,722.26$) and EPI ($M_r = 1,797.17$) groups. Although the DACP group indicated a greater feeling of preparedness than did the EPI group, the difference between these two groups was not significant.

Table 8

Mann-Whitney Post-Hoc Comparisons for Assessment, Communication, & Research Variable (N = 3,298)

Comparison	M_r (A)	M_r (B)	Z	p
DACP (A) vs. EPI (B)	1,722.26	1,797.17	-1.30	.19
DACP (A) vs. ITP (B)	1,722.26	1,560.68	-4.50	< .001*
EPI (A) vs. ITP (B)	1,797.17	1,560.68	-4.55	< .001*

Note. District Alternative Certification Program (DACP) n = 1,223; Educator Preparatory Institute (EPI) n = 403; Initial Teacher Preparation (ITP) n = 1,672.

*p < .017 (Bonferroni-corrected $\alpha = .05/3$ for multiple comparisons).

Professional Responsibility and Ethical Conduct

Prior to conducting the one-way ANOVA, necessary assumptions were checked, including the presence of normality and homogeneity of variance. Normality was checked via the Kolmogorov-Smirnov test for the residual generated by the ANOVA. The value for this test, $D = 0.22$, $p < .001$, suggested a possible violation of normality. Furthermore, the results of Levene's test, which checks for homogeneity of variances, suggested a violation of that assumption, $F(2, 3,492) = 16.90$, $p < .001$. The decision was made as a result of these violated assumptions to use an equivalent nonparametric test, Kruskal-Wallis, to determine differences in the Ethics variable between teacher preparation groups. The Kruskal-Wallis test does not require such distributional assumptions to be met and was therefore applicable to this situation.

A total of 3,495 observations were applicable for the analysis regarding the Ethics variable. The Kruskal-Wallis test, $\chi^2(2) = 27.20$, $p < .001$, indicated that there was a significant difference in the mean ranks between the three teacher preparation groups. Since there was a significant difference overall, it was necessary to run pairwise post-hoc

testing (DACP vs. EPI, DACP vs. ITP, and EPI vs. ITP) to determine which specific pairs of preparation groups differed significantly from one another with respect to Professional Responsibility and Ethical Conduct variable.

Multiple Mann-Whitney tests were run to compare two of the independent groups at a time. Because multiple comparisons were being made on the same “family” of statistical inferences, it was necessary to apply the Bonferroni correction to the .05 alpha level that was previously set for this analysis. With three comparisons, the alpha level became a more conservative .017 for each test.

Results of the post-hoc comparisons are displayed in Table 9. The ITP group displayed the lowest mean rank ($M_r = 1,665.20$), indicating that this group of teachers believed that they were better prepared in Professional Responsibility and Ethical Conduct than did either of the other two groups. According to the post-hoc tests, the ITP group mean rank was significantly different than both the EPI ($M_r = 1,831.65$) and DACP ($M_r = 1,835.21$) groups. Although the EPI group indicated a greater feeling of preparedness than the DACP group, the difference between these two groups was not significant.

Table 9

Mann-Whitney Post-Hoc Comparisons for Professional Responsibility & Ethical Conduct Variable (N = 3,495)

Comparison	M_r (A)	M_r (B)	Z	p
DACP (A) vs. EPI (B)	1,835.21	1,831.65	-0.16	.87
DACP (A) vs. ITP (B)	1,835.21	1,665.20	-4.83	< .001*
EPI (A) vs. ITP (B)	1,831.65	1,665.20	-3.29	.001*

Note. District Alternative Certification Program (DACP) n = 1,289; Educator Preparatory Institute (EPI) n = 422; Initial Teacher Preparation (ITP) n = 1,784.

*p < .017 (Bonferroni-corrected $\alpha = .05/3$ for multiple comparisons).

Use of Technology

Prior to conducting the one-way ANOVA, necessary assumptions were checked, including the presence of normality and homogeneity of variance. Normality was checked via the Kolmogorov-Smirnov test for the residual generated by the ANOVA. The value for this test, $D = 0.13$, $p < .001$, suggests a possible violation of normality. Furthermore, the results of Levene's test, which checks for homogeneity of variances, suggested a violation of that assumption, $F(2, 3,490) = 6.98$, $p = .001$. The decision was made as a result of these violated assumptions to use an equivalent nonparametric test, Kruskal-Wallis, to determine differences in the Use of Technology variable between teacher preparation groups. The Kruskal-Wallis test does not require such distributional assumptions to be met and was therefore applicable to this situation.

A total of 3,493 observations were applicable for the analysis regarding the Technology variable. The Kruskal-Wallis test, $\chi^2(2) = 12.16$, $p = .002$, indicated that there was a significant difference in the mean ranks between the three teacher preparation groups. Since there was a significant difference overall, it was necessary to run pairwise

post-hoc testing (DACP vs. EPI, DACP vs. ITP, and EPI vs. ITP) to determine which specific pairs of preparation groups differed significantly from one another with respect to the Use of Technology variable.

Multiple Mann-Whitney tests were run to compare two of the independent groups at a time. Because multiple comparisons were being made on the same “family” of statistical inferences, it was necessary to apply the Bonferroni correction to the .05 alpha level that was previously set for this analysis. With three comparisons, the alpha level became a more conservative .017 for each test.

Results of the post-hoc comparisons are displayed in Table 10. The ITP group displayed the lowest mean rank ($M_r = 1,695.82$), indicating that this group of teachers believed they were better prepared in the Use of Technology than did either of the other two groups. According to the post-hoc tests, the ITP group mean rank was significantly different than the DACP group ($M_r = 1,821.82$), but not the EPI group ($M_r = 1,735.40$). Additionally, although the EPI group indicated a greater feeling of preparedness than the DACP group, the difference between these two groups was not significant.

Table 10
Mann-Whitney Post-Hoc Comparisons for Use of Technology Variable (N = 3,493)

Comparison	M_r (A)	M_r (B)	Z	p
DACP (A) vs. EPI (B)	1,821.82	1,735.40	-1.51	.13
DACP (A) vs. ITP (B)	1,821.82	1,695.82	-3.49	< .001*
EPI (A) vs. ITP (B)	1,735.40	1,695.82	-0.71	.48

Note. District Alternative Certification Program (DACP) n = 1,286; Educator Preparatory Institute (EPI) n = 423; Initial Teacher Preparation (ITP) n = 1,784.

*p < .017 (Bonferroni-corrected $\alpha = .05/3$ for multiple comparisons).

Preparedness Across Variables

Although the nonparametric analyses of the individual variables provided inferential information regarding the relationships within each respective variable between preparation groups, the results did not provide information regarding the general trends of preparedness on the 1-to-4 scale. Table 11 provides means, standard deviations, and counts for each variable and preparation group. The patterns presented in the table are consistent with the results of the nonparametric analyses. The means between EPI and DACP groups were close to one another, but the ITP group indicated the lowest means across all variables. The fact that all means were between 1.5 and 2 indicated that, on average, teachers in all groups believed their preparation was somewhere between “effective” and “highly effective” but was closer to the “effective” rating. Overall, the lowest means, indicating feelings of being most prepared, were within the Professional Responsibility and Ethical Conduct variable. The highest means, indicating feelings of being the least prepared, were in the Assessment, Communication, and Research category and the Use of Technology category with the Planning and Instruction in the mid range.

Table 11
Descriptive Statistics for Teacher Preparation Variables by Preparation Group

Variable	DACP			EPI			ITP		
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>
Planning	1.67	0.53	1,262	1.65	0.49	409	1.56	0.47	1,742
Assessment	1.75	0.57	1,223	1.79	0.53	403	1.64	0.51	1,672
Ethics	1.51	0.53	1,289	1.48	0.49	422	1.41	0.48	1,784
Technology	1.76	0.64	1,286	1.71	0.63	423	1.67	0.57	1,784

Note. Planning = Planning and Instruction, Assessment = Assessment, Communication and Research, Ethics = Professional Responsibilities and Ethical Conduct, Technology = Use of Technology.

CHAPTER 5 SUMMARY AND CONCLUSIONS

Introduction

This chapter has been organized to provide a brief restatement of the purpose of the study and a summary and discussion of the findings for each of the two research questions that guided this study. Implications of the results are also discussed, and recommendations for future research are offered.

Purpose of the Study

This study focused on the three types of teacher preparatory programs in Florida to determine completers' perceptions regarding their preparation for (a) planning, (b) instruction, and (c) professionalism in effective classroom practice. The researcher compared data collected by the Florida Department of Education (FLDOE) for the 2006-2007 and 2007-2008 program completers of the District Alternative Certification Programs, the Educator Preparatory Institutes, and the Initial Teacher Preparation Programs of approved colleges and universities. Separate analyses on the implementation of the Beginning Teachers from Florida Teacher Preparation Program Surveys for 2006-2007 and 2007-2008 had been previously conducted by FLDOE. Combining two years of data from these identical surveys provided a robust data set that allowed the researcher to re-analyze the data in a different fashion and extend the comparison. This was significant because the years 2006-2007 and 2007-2008 were the first years for measuring completer impact on K-12 student learning by linking teacher preparatory program completers' performance to student achievement as required by the continued program review

standards based on Section 1012.56(8) Florida Statutes and State Board of Education Rule 6A-5.066. Specifically, Standard 3, Continuous Improvement required districts to review and analyze annual data as part of the ongoing improvement process for continued program approval.

Summary and Discussion of the Findings

Teacher preparation programs are vitally important because of the quality of the teachers they produce. A review of the literature has shown that effective teachers have a significant positive impact on student achievement but there has been little research conducted as to which preparatory path best prepares teachers for the challenges of the classroom.

At the same time, teachers have been required to adjust to the new complexities of diverse classrooms and technology changes, accountability for student achievement has increased and with it the pressure on America's teachers to fully meet the many challenges. The 1999 National Center for Education Statistics report on teacher quality characterized two broad elements that defined teacher quality as (a) teacher preparation and qualifications and (b) teacher practices. Referring to the first element, the report stated that excellent teacher preparation should lead to exemplary teaching behaviors and practice (National Center for Education Statistics, 1999). Teachers' professional preparation was identified as fundamental to improving elementary and secondary education (National Commission on Teaching and America's Future, 1996). Understanding what factors most closely supported completers' perceptions of Florida

teacher preparation programs regarding successful preparation for the classroom and how differences were perceived by program types formed the basis of this study.

Research Question 1

Based on completers' perceptions as expressed in the 2009 and 2010 Reports on Beginning Teachers from State Approved Teacher Preparation Programs, what factors emerged within the constructs of planning, instruction, and professionalism?

In order to identify factors within the constructs of planning, instruction, and professionalism, three separate runs of factor analysis of the survey data from the 2006-2007 and 2007-2008 program completers were performed. A final set of four factors that statistically grouped together were identified using the 41 items within the three constructs. A total of 17 items that were instructional or planning related emerged within the first factor, "Planning and Instruction." An additional 16 items were related to and formed the second factor, "Assessment, Communication and Research." Four items were related and grouped together to form the third factor, "Professional Responsibility and Ethical Conduct." Four items related to the use of technology in the classroom grouped together to form the fourth factor, "Use of Technology."

The results of the factor analyses in this study yielded similar results to the analysis run by the FLDOE on the 2006-2007 data set despite utilizing a different rotation method and subsamples from two years of data. Of the 32 items from the survey that the DOE chose to use in its factor analysis, 30 items fell into similarly named groupings in the current study: 14 items matched within Planning and Instruction, all eight items matched within Assessment, Communication and Research; all four items matched

within Professional Responsibility and Ethical Conduct, and all four items matched within Use of Technology. The groupings of the factors in the present study were reached with a high degree of confidence and were expected to maintain consistent meaning for future research purposes.

These findings were supported by Bruner's theory of instruction that planning and instruction work together in determining what learning experiences best predispose learning most effectively and in a way that the learning is most easily attained (Bruner, 1966). Through purposeful planning, teachers sharpen their focus on student outcomes, which results in a more efficient use of assessment as a tool to measure student learning. Teachers' professional knowledge and responsibilities make an important difference in student learning (Brophy & Good, 1995). Over time, teachers use their professional knowledge to develop a repertoire of various strategies that improves student learning (Schon, 1983). The evidence suggests that the "strongest guarantee of teacher effectiveness is a combination of all these elements" (Darling-Hammond & Sykes, 2003). While there may be wide agreement on some teacher attributes that contribute to student learning, the preponderance of evidence suggests that teacher preparation is associated with teacher effectiveness. "Studies using national and state data sets have shown significant links between teacher education and licensure measures and student achievement" (Darling-Hammond & Sykes, p.10). Other research has reinforced these findings regarding the effect of teacher preparation on student achievement (Goldhaber & Brewer, 2000; Hawk et al., 1985; Monk, 1994).

Research Question 2

What differences, if any, exist in teachers' perceptions of their preparedness to teach based on the identified factors for the following program types: (a) District Alternative Certification Programs, (b) the Educator Preparatory Institutes, and (c) the Initial Teacher Preparation Programs of approved colleges and universities?

In any teacher preparation program, the key issue is the quality of teacher it produces. The concern for teacher quality has increased as the evidence of the teachers' impact on student learning has accumulated. Well prepared teachers experience less frustration when they can meet the challenges of the classroom and have a tendency to stay longer in the profession. Analyzing the data based on teachers' perceptions of how well prepared they felt for classroom instruction is an important part of the cycle for the continuous improvement of Florida teacher preparatory programs. Teachers who completed teacher preparatory programs provided valuable insight in understanding how preparatory routes prepare the most effective teachers. The findings of this study validated the previous findings of the Florida Department of Education, concurring with specific identified indicators of the Florida Accomplished Practices in support of teachers' working knowledge within the variables of (a) Planning and Instruction; (b) Assessment, Communication and Research; (c) Professional Responsibility and Ethical Conduct; and (d) Use of Technology.

The second research question sought to determine if there were any perceived differences of the 2006-2007 and 2007-2008 completers by program types, based on the identified factors. Findings were related to the Initial Teacher Preparation Programs (ITP) of approved colleges and universities, District Alternative Certification Programs (DACP) and Educator Preparatory Institutes (EPI). The findings indicated that in

comparing the four identified factors across the three teacher preparatory groups, the ITP group believed that they were significantly more prepared than did the DACP and the EPI groups. This finding was not included in either the 2009 or 2010 FLDOE Report of Florida Teacher Preparation Programs. Although the teachers in all groups believed that their preparation was somewhere between effective or highly effective, the scores of the ITP group reflected significantly higher mean scores and ratings closer to highly effective than the DACP and the EPI groups. As indicated by slightly lower mean scores, the latter two groups indicated beliefs that their preparation was closer to effective than highly effective.

Because these findings came from a more robust data set combining two years of data, the premise posed by colleges and universities that traditional teacher preparation has been more effective than alternative programs in preparing teachers for the classroom was supported to some extent. Results of this study supported the premise consistent with prior research indicating that teacher educators provide the most appropriate preparation for future teachers who are able to connect their university or college learning to the knowledge and skills required to become effective teachers (Capraro et al., 2010; Darling-Hammond, 1998; Feimer-Newman, 2001). Researchers Ferguson and Womack (1993) found that education coursework was a stronger predictor of teaching effectiveness than teacher's grade point averages in their college majors or their test scores on content knowledge.

Implications for Practice and Policy

Knowing which aspects of teacher preparation enable teachers to be more effective in student learning helps to focus on those components that are most important in teacher preparation programs. Universities, colleges, and school districts that offer one of the three preparatory routes (ITP, DACP, or EPI) in this study should review their teacher preparation programs for improvement in content and clarity for each of the four areas: (a) Planning and Instruction; (b) Assessment, Communication and Research; (c) Professional Responsibility and Ethical Conduct; and (d) Use of Technology.

The findings of this study suggested that ITP program completers were significantly more satisfied with the level of preparedness that they received during their teacher education programs. This level of satisfaction indicated that ITP programs were meeting their goal of producing teachers who believe they are prepared for the classroom. It also provided support for the positive effects of comprehensive programs of teacher education from approved colleges and universities. Deans of Florida colleges of education should maintain their efforts to provide education coursework based on the Florida Educator Accomplished Practices (FEAPS) with an emphasis on pedagogy combined with a field experience.

Given the level of satisfaction with ITP programs, directors or coordinators of DACP and EPI programs may wish to review their program components and investigate ways in which they can expand their relationships with colleges and universities by emulating, collaborating or partnering with these institutions. One of the biggest differences between the teacher preparation program types has been in the amount of exposure that teacher candidates have prior to assuming the duties of a classroom teacher.

ITP program completers typically have had much more supervised exposure to classrooms than have completers of the other two programs. The implications for both the DACP and the EPI programs is to consider increasing the amount of time and exposure to the classroom prior to assuming the responsibilities of teaching to ensure a minimal level of competency on the FEAPS.

During the initial “survival” training of the DACP program, teacher candidates are required to complete a self assessment of their perceived strengths and weaknesses on the FEAPS. Those administering all three of these programs may well wish to consider adding a post self assessment to measure growth and determine the level of proficiency in FEAPS as part of the exit process from the programs. The benefit would be two-fold in that (a) immediate feedback would be available from program completers regarding their perceived levels of preparedness by program type, and this, in turn would provide valuable information useful in program improvement; and (b) FEAPs that are identified as needing further development on the post self assessment could be required to be part of newly employed teachers’ annual Individual Professional Development Plans. This would ensure that the teacher induction process would be directed toward areas of identified teacher need.

This type of information, gained from a post self assessment, could also be helpful to supervising and mentor teachers during early classroom, field work, and internship experiences. Mentor teachers for new teachers have received the mandatory state clinical educator training and have been recommended by their principals based on years of experience. This does not, however, guarantee deep understanding of the differences in needs of novice teachers by program type. Reviewing the FEAPS self

assessment of the teacher, and possibly receiving specific training by program type to meet the needs of all teachers, may improve the quality of counsel provided by mentor teachers to their mentees.

Conclusions

Teacher education has been inconsistent over time and across the nation (Fraser, 2007). This was evident throughout the research that teacher education was driven by supply and demand, increasing the opportunities for various types of alternative certification programs. Alternative certification programs were difficult to define as each state determined the criteria for licensure and certification. A broader comparative base existed in Florida with three teacher preparatory programs all based on the Florida Educator Accomplished Practices: the traditional teacher preparatory programs (ITP), the school district programs (DACP), and the community college programs (EPI). The factors that most closely supported completers' perceptions of Florida teacher preparation programs regarding successful preparation for the classroom were: Planning and Instruction; Assessment, Communication and Research; Professional Responsibility and Ethical Conduct; and Use of Technology. Differences perceived by program types indicated that completers of the traditional program, initial teacher preparation (ITP), were significantly more satisfied with their preparedness to face the challenges of the classroom than were completers of school district programs (DACP) and community college programs (EPI).

Recommendations for Future Research

Previously unexplored areas of teacher preparatory programs have been investigated in this study. Because of the uniqueness of the Florida program types, there was little literature that could be used to lend further or less credence to the findings of the study. There is potential to follow-up and expand this study of Florida program types in the future. Likewise, the study could be extended to include comparable programs in other states so as to extend the body of knowledge regarding the various teacher preparatory programs being used to prepare the nation's teachers in the 21st century.

Independent studies of Florida teacher preparatory programs should continue on a systematic basis as the state moves toward the value added model for teacher evaluation based on student achievement.

Because the collection of data linking student achievement to teacher performance and program type has just begun, more measureable research should be conducted to determine the effectiveness of teacher preparatory programs.

An area for future study calls for analyzing student achievement by teacher preparatory program type. Teachers' levels of preparedness for assuming classroom responsibilities have been confirmed, but assessing the impact on student achievement would extend the analysis.

Additional research is necessary to compare which types of field experiences included in teacher preparation programs are the most effective. Capraro et al., (2010) reported even though research on field experience was sparse, there was value added by teacher preparation through the clinical experiences and fieldwork in student teaching. Further study regarding the amount of time and how the time is allocated during field

experiences, as well as, the extent to which course assignments are directly related to field experiences should be conducted. Even though university or college structured field experiences generally align with the methods courses allowing them to integrate the theory of formal teacher training with the application of teaching there was still great diversity in field experiences. Further study is also recommended for the connection between the length of time with student teaching and retention. Henke et al., (2000) found that teachers who entered teaching without field experience also left the profession at twice the rate as those teachers who had practice teaching. Additionally, more needs to be understood regarding other conditions associated with field experience, such as supervising teacher/mentor support.

APPENDIX A
PATHWAYS TO FULL STATE CERTIFICATION IN FLORIDA

PROFESSIONAL CERTIFICATES IN FLORIDA

- Valid Standard Certificate Issued by Another State
- Valid Certificate Issued by the National Board for Professional Teaching Standards
- Teacher Education Degree Program and Passing Florida Certification Examinations
Renewable--Valid 5 School Years

TEMPORARY CERTIFICATES IN FLORIDA

- Bachelor's Degree with a Major in the Content Area
- Bachelor's Degree with Required Courses and 2.5 GPA in the Content Area
- Bachelor's Degree with a Passing Score on the Florida Subject Area Examination
- Bachelor's Degree with a Valid Certificate Issued by the American Board for Certification of Teacher Excellence (ABCTE)

Nonrenewable--Valid 3 School Years

OPTIONS FOR MOVING

FROM THE TEMPORARY CERTIFICATE TO THE PROFESSIONAL CERTIFICATE

- Professional Preparation College courses, Teaching Experience, Demonstration of Professional Education Competence in the Classroom, and Florida Certification Examinations
- District Alternative Certification Program and Florida Certification Examinations
- Educator Preparation Institute Program and Florida Certification Examinations
- Valid ABCTE Certificate and Demonstration of Professional Education Competence in the Classroom
- Approved College Professional Training Option for a Content Major, Teaching Experience, Demonstration of Professional Education Competence in the Classroom, and Florida Certification Examinations
- Two semesters of successful full-time college teaching experience and passing the Florida Subject Certification Examination

Adapted from A Report on State Approved Teacher Preparation Programs with Results of Surveys of 2007-2008 Program Completers, Appendix E

APPENDIX B
STATE APPROVED TEACHER PREPARATION SURVEY OF FLORIDA TEACHER
PREPARATION PROGRAM COMPLETERS

STATE APPROVED TEACHER PREPARATION SURVEY
OF FLORIDA TEACHER PREPARATION PROGRAM COMPLETERS

Rating Scale for each of the following items:
1 = Highly effective, 2 = Effective, 3 = Not very effective, 4 = Ineffective

Planning

How well did your teacher preparation program prepare you to do the following?

1. Identify strategies that expand students' critical thinking.
2. Plan activities that require students to gather information and solve problems.
3. Incorporate activities that promote positive communication among students.
4. Provide opportunities for students to receive constructive feedback on individual work and behavior.
5. Use relevant materials and technologies to promote student learning.
6. Apply learning theories and knowledge of human development to first and second language acquisition processes.
7. Plan lessons with specific learning and performance outcomes that are based on the Sunshine State Standards and that meet the needs of all students.
8. Collaborate with other educators when planning lessons.
9. Develop technology enriched learning activities that meets the diverse needs of students.
10. Reflect on practice and modify instruction as needed.
11. Recognize and identify developmental differences among students.
12. Incorporate reading strategies in instructional planning in various subject areas.

Instruction:

How well did your teacher preparation program prepare you to do the following?

1. Establish classroom routines and procedures that promote a positive and safe learning environment.
2. Employ a variety of assessment strategies to determine students' performance of specified outcomes such as Sunshine State Standards.
3. Maintain academic focus for all students through the use of various techniques that address differences in learning styles.
4. Use a variety of teaching techniques and strategies to effectively instruct all students, including students with diverse learning needs.
5. Use instructional time effectively.
6. Modify instruction based upon assessed student performance.
7. Use technology in instructional delivery to enrich student learning experiences.
8. Use resources outside the classroom to enrich student learning experiences.
9. Demonstrate how knowledge can be applied to real-world settings.
10. Use assessment data to improve student achievement.
11. Use questions and activities that engage students in higher order thinking.
12. Use a variety of developmentally appropriate activities to engage and motivate students.
13. Demonstrate an understanding of how the subject is linked to other disciplines.
14. Use results from individual reading assessments to improve student academic performance.
15. Recognize signs of students' difficulty with the reading and use appropriate techniques to improve students' reading.
16. Prepare students for taking standardized tests by using aggregated data to create and assess instruction that focuses on improving student achievement.
17. Monitor student performance on core benchmarks throughout the year.

Professionalism:

How well did your teacher preparation program prepare you to do the following?

1. Use technology tools to manage and evaluate student data.
2. Make reasonable efforts to protect students from harmful conditions that interfere with their learning.
3. Adhere to ethical standards expected of an educator in the classroom and in the school community.
4. Adhere to the Code of Ethics and Principles of Professional Conduct of the Education Profession in Florida.
5. Treat students equitably by fostering acceptance of diversity in the classroom.
6. Communicate effectively with families and students from culturally diverse backgrounds.
7. Adapt communication style based on the needs of individuals and groups.
8. Access relevant educational research.
9. Implement strategies acquired through professional growth opportunities.
10. Provide meaningful feedback regarding student performance to families.
11. Work with colleagues to improve students' educational experiences.
12. Demonstrate knowledge of research-based, developmentally appropriate reading strategies.

APPENDIX C
INSTITUTIONAL REVIEW BOARD EXEMPT STATUS STATEMENT



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

From : **UCF Institutional Review Board #1
 FWA00000351, IRB00001138**
 To : **Lucile Heald-Oldham**
 Date : **August 27, 2010**

Dear Researcher:

On 8/27/2010, the IRB determined that the following proposed activity is not human research as defined by DHHS regulations at 45 CFR 46 or FDA regulations at 21 CFR 50/56:

Type of Review:	Not Human Research Determination
Project Title:	Program Completers' Perceptions of Teacher Preparedness in Planning, Instruction, and Professionalism in Florida: A Comparison of District Alternative Programs, Traditional Programs, and Educator Preparatory Institutes
Investigator:	Lucile Heald-Oldham
IRB ID:	SBE-10-07090
Funding Agency:	
Grant Title:	
Research ID:	N/A

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

On behalf of the IRB Chair, Joseph Bielitzki, DVM, this letter is signed by:

Signature applied by Joanne Muratori on 08/27/2010 03:45:31 PM EDT

IRB Coordinator

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