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DISSERTATION

HIGH-STAKES TEACHER TESTING IN COLORADO: THE PREDICTIVE VALIDITY OF THE PROFESSIONAL KNOWLEDGE PLACE EXAMINATION

Submitted by

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In partial fulfillment of the requirements

for the Degree of Doctor of Philosophy

Colorado State University

Fort Collins, Colorado

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COLORADO STATE UNIVERSITY

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WE HEREBY RECOMMEND THAT THE DISSERTATION PREPARED UNDER OUR SUPERVISION BY DAWN M. MALLETTE ENTITLED HIGH-STAKES TEACHER TESTING IN COLORADO: THE PREDICTIVE VALIDITY OF THE PROFESSIONAL KNOWLEDGE PLACE EXAMINATION BE ACCEPTED AS FULFILLING IN PART REQUIREMENTS FOR THE DEGREE OF DOCTORATE OF PHILOSOPHY.

Committee on Graduate Work

Advisor

Department Head/Director

ABSTRACT OF DISSERTATION

HIGH-STAKES TEACHER TESTING IN COLORADO: THE PREDICTIVE VALIDITY OF THE PROFESSIONAL KNOWLEDGE PLACE EXAMINATION

The purpose of this descriptive survey research was to determine the predictive validity of the Colorado Professional Knowledge PLACE exam, an examination required for teacher licensing. Survey instruments were mailed to 84 novice teachers who completed the teacher licensure program at Colorado State University during the fall 1997 through spring 1999 semesters, fulfilled the requirements for licensing in the state, were employed in secondary schools in Colorado, and could be located.

The research questions guiding this study attempted to determine if novice teachers' scores on the Professional Knowledge PLACE examination predicted success in their first or second year of teaching. If a score on this examination is not a predictor, the study sought to determine what additional factors might account for any significant amount of variance in self-rated scores as compared to the scores received on the licensing exam.

No significant relationships were found between the self-perceptions of performance and novice teachers' scaled and sub-scores on the Professional Knowledge exam. In addition, when filtered for select levels of several demographic variables, none of them revealed statistically significant relationships between the survey responses and the respondents' examination scores.

This research provided results which reveal, to some degree, the lack of any relationship between high-stakes teacher testing and performance in the classroom. The results of this research should be considered by local, state, and national policy makers who formulate policy related to teacher licensing. In addition, the survey instrument used in this study could be utilized by those examining teaching competencies of novice teachers.

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CHAPTER I

Introduction to the Study

Public education has long been the target of criticism and questions by the media, policy makers, and taxpayers whose confidence in the educational system has faltered. Nationally the public has questioned the competence of our school children, particularly graduating seniors, to enter the world of work or post secondary education. More recently, emphasis has been on dissatisfaction with the competence and preparation of those teachers who educate children and the institutions that prepare them. Ingersoll (1999) stated:

> Concern with the quality and qualifications of teachers is neither unique nor surprising. Elementary and secondary schooling are mandatory in the U.S., and it is into the custody of teachers that children are legally placed for a significant portion of their lives. The quality of teachers and teaching is undoubtedly one of the most important factors shaping the learning and growth of students. (p. 26)

Teaching is a more complex occupation than is perceived by individuals outside the profession. High-quality teaching requires expertise and skill with a combination of art, craft, and science. It requires expertise in at least three areas: knowledge of the subject (what to teach), skill in teaching (how to teach), and pedagogical content knowledge (knowing which methods to use for particular topics, with particular students, in particular settings) (Ingersoll, 1999). Moreover, a teacher needs to actually contribute to the learning progress of his or her students in a more multifaceted, knowledge-based, and multicultural society. Jacobowitz (1994) stated:

> These expectations for teachers include the belief that effective teachers understand the moral dimensions of teaching, are committed to the enculturation of the young into a social and political democracy, can think critically, have literacy abilities, and possess pedagogical skills and content knowledge. (p. 46)

Because it is such a complex profession, those in education need to continually examine and evaluate current practice and make changes to best practice for the betterment of those children who move through the educational system.

Numerous reform movements have focused not only on improving the performance of students in America's schools but also on the improvement of those teachers who educate them. The National Commission on Excellence in Education's *A Nation at Risk,* the Carnegie Forum's *A Nation Prepared: Teachers for the 21st Century,* the Holmes Group's *Tomorrow's Teachers and Tomorrow's Schools,* and *Tomorrow's Schools of Education,* as well as John Goodlad's Center for Educational Renewal and Teacher Education's *Teacher Education in a Democracy* are only a few of the reports that have suggested dramatic changes in education across the United States (Harris, 1997). Instrumental in the push for reform in teacher education were the Carnegie Task Force (1986) and the Holmes Group (1986, 1990) which in several reports advocated for professionalizing the teaching profession. Members of the Holmes Group, nearly 100 university research institutions, proposed their support and commitment to "making programs of teacher preparation more rigorous and connected—to liberal arts education, to research on learning and teaching, and to wise practice in the schools" (p. vii). In turn they believed that by improving the preparation of teaching professionals, the quality of schools would be enhanced.

The Carnegie Task Force (1986) supported a similar movement. The Task Force proposed changes in education policy to build a profession that could redefine the

standards of excellence in our schools. Several changes included establishing high standards for teachers, providing a professional environment with competitive salaries and opportunities, and requiring at least a bachelor's degree in the arts and sciences as a prerequisite for the professional study of teaching.

The profession gained additional support for the increased rigor in teacher preparation through the development of The National Council for Accreditation of Teacher Education (NCATE), an accrediting organization. NCATE is the only professional accrediting organization recognized by the U.S. Department of Education for teacher education in the United States. NCATE, like the organizations mentioned above, supports standards that assure that teachers who are entering our schools are of high quality. From the first standard-setting efforts in the 1980s, NCATE has continued to revise its standards for teacher preparation programs in order to incorporate new knowledge and practice. Accredited institutions are held accountable to high standards in the preparation of future teachers. Students exiting accredited programs are expected to have a strong foundation in their subject matter and in liberal arts and a solid base of research and best practice. In addition, the institutions are required to evaluate student performance using multiple sources of performance-oriented data, provide clinical experiences for students in partnership with the public schools, provide access to and expect the use of technology, and expect future teachers to be prepared to teach all children. Arthur Wise (1997), president of NCATE stated that, "high standards for teacher education translate to well-prepared teachers in America's classrooms" (p.12).

NCATE, along with The National Board for Professional Teaching Standards (The National Board) and the Interstate New Teacher Assessment and Support

Consortium (INTASC), joined forces to develop a continuum of teacher development for educational preparation, entry into the profession, and ongoing practice of those in the teaching profession (Darling-Hammond, 1996; Wise & Leibbrand, 1996). Similar to the standards set for other professions (e.g., doctors, lawyers, architects), the teaching profession is benefiting from the development of standards that integrate accreditation and licensing.

The degree to which all the educational reform efforts over the last two decades have made an impact varies greatly. Whether it is the education of children, the quality of the teachers in the classrooms, or the rigor with which those teachers are prepared, there continue to be school-to-school, institution-to-institution, as well as state-to-state discrepancies. Despite these discrepancies, positive developments are encouraging. As of 1999, 501 university teacher licensure programs were accredited through NCATE (NCATE, 1999), the majority of states had made progress towards more specific standards (Wise, 1994), 44 states required some type of test for initial licensure (Educational Trust, 1999), and 41 states had National Board Certified teachers.

Teacher Competency Testing

One of the main thrusts of improving the accountability and credibility of those individuals receiving a teaching license, as well as those institutions that prepared them, appears to be the requirement that teacher candidates pass some type of test or battery of tests. Teacher competency testing appears to offer solutions to quality control, teacher selection, and public relations (Flippo, 1986). Some argue that testing would result in more competent teachers as well as make university programs and professors more accountable (Goodison, 1986; Hodgkins & McKenna, 1982; Jones, 1988; Moore & Markham, 1983; Vlaanderen 1982).

On the other side, numerous researchers question whether a test is a valuable measure of individual teacher effectiveness (Dybdahl, Shaw, & Edwards, 1997; Flippo, 1986; Goodison, 1986; Hilliard, 1986; Hood & Parker, 1989; Jacobowitz, 1994; Schaeffer, 1996; Shechtman & Godfried, 1993). Additional questions have been raised about the levels of knowledge, skills, and competencies that the state licensure exams cover, suggesting that the tests do not hold teachers to the breadth and depth of knowledge they need to teach students to high standards (Darling-Hammond, 1996; The Education Trust, 1999; Wise, 1994) or that allowing multiple opportunities to pass a test may result in passing incompetent candidates (false positives) (Millman, 1989).

Furthermore, the question of test bias, primarily against gender and ethnic groups, is a theme running through teacher competency testing research (Cobb, Shaw, Bomotti, Millard & Whaley, 1998; Elliot, 1988; Flippo, 1986; Gillis, 1990-1991; Haney, Madaus, & Kreitzer, 1997; Schaeffer, 1996). With the classroom composition changing rapidly, the exclusion of a minority teaching force has a potential of causing a significant negative impact on the educational system.

Throughout the history of the teaching profession competency testing has been a part of the certification process. In the 1800s the requirement for certification was the passing of an annual oral examination emphasizing knowledge of what was to be taught and the moral and social suitability as a teacher candidate. In the first half of the century a written examination was established and was all that was required to be certified in most states. Although the test for initial licensing was rather widespread, many criticized the level of knowledge needed and the small amount of theory and practice needed to teach. For this reason, in the first third of the century came the realization that there were

real advantages to teacher training and that preservice preparation needed to be improved. For several decades, even though there were several teacher examinations available, the teaching profession relied heavily on the educational preparation and less on the importance of a test for certification (Haney et al., 1987).

In 1940, the standardized National Teacher Examination (NTE) was developed to assist school administrators in selecting from the surplus of teacher candidates. The NTE exam, from its adoption met with numerous challenges and several revisions to become the most widely-used teacher competency test. Several states began the push to emphasize not only the professional "education" knowledge of candidates but their basic skills of reading, writing, and math as well. Thus, by the late 1980's over half of the states with a testing program required the NTE which had evolved into what was called the Core Battery and a Pre-Professional Skills Test (Haney et al, 1987).

Throughout the past decade teacher testing has continued to evolve. The Holmes Group and the Carnegie Forum, in their efforts to professionalize teaching, proposed a movement to more of a medical or legal model with the expectation of higher standards linked to accreditation and/or licensing. States have seen an increase in laws around standards setting, both for the students and those individuals who teach them. Included in that legislation was a teacher competency-testing requirement. Typically the expectation is that a teacher will have met standards in and have passed one or more exams covering several distinct and important domains. These domains include basic skills (reading, writing, mathematics); liberal arts and sciences (physical science, history and social science, arts and humanities, and communication); content knowledge and pedagogy (knowledge of what is to be taught and how to teach it in various settings to various

students); and professional knowledge (pedagogy). The testing of basic skills appears to be the most popular teacher licensing assessment followed by content and professional knowledge emphases. With the reform movements mentioned above and their emphasis on a strong grounding in the liberal arts and sciences, the passing of a test examining knowledge in liberal arts has become very important in many states as well.

In 1999, the test for initial licensure required by the largest number of states, approximately 30, was the Praxis Series: Professional Assessments for Beginning Teachers developed by Educational Testing Services (ETS). Four states accepted passing scores on either the Praxis Series or an examination developed specifically for that state (California, Nevada, New York, and Oregon). In eight states prospective teachers were required to pass a test or series of tests developed specifically for that state (Arizona, Colorado, Florida, Illinois, Massachusetts, Michigan, Oklahoma, and Texas), and in seven states there was no testing requirement (Idaho, Iowa, North Dakota, South Dakota, Utah, Vermont, and Washington) (The Education Trust, 1999).

Colorado Teacher Competency Testing

In 1991, the requirements for teacher licensing in the state of Colorado went through some significant changes. The Colorado General Assembly approved significant policy for educational reform through the passage of the Educator Licensing Act. It was through this Act that the standards for licensing educational personnel were revised and the testing requirement changed. The assessment program changed from the California Achievement Test to the PLACE (Program for Licensing Assessments for Colorado Educators) battery of exams. National Evaluation Systems, Inc. (NES) developed the PLACE exams specifically for Colorado. Under the provisions of the Educator Licensing

Act, all candidates applying for a provisional license were required to pass one or more of the examinations. The battery of tests included a Basic Skills, Liberal Arts and Sciences, Professional Knowledge, and Content Area examination. Whether the candidate was prepared in Colorado or in another state, he or she was required to take and pass one or more of the exams, complete the required coursework in an approved educator licensing program, and fulfill field/clinical experience requirements (National Evaluation Systems, 1995).

Policy Issues and Competency Testing Development

While the main focus in teacher competency testing seems to be assuring that those individuals receiving licenses have the knowledge and skills necessary to be competent teachers, that is not the only use of teacher testing. Teacher licensing exams are commonly related to a variety of policy issues. Almost as common as testing for entry into the profession is testing to enter into an educational preparation program. Test scores can assist in the screening of candidates before they are admitted into teacher licensure programs.

An additional use of test score data may be to hold teacher education programs accountable for the achievement of those completing their programs as well as for cross-institution comparisons. Such uses can result in positive outcomes such as teacher education programs taking a closer look at their preparation course work and current practices. But, use of the data may cause negative consequences as well, such as developing competition rather than cooperation between state teacher preparation programs and the state department.

School districts, in turn, may use the test score data for a couple of reasons. The most common use of the data appears to be for hiring information and reciprocity (special

privileges, increase in pay, reward, etc.). Some states require those teachers already in the profession who wish to advance or maintain their license to pass a paper-pencil basic skills test. In turn, public policy makers may use the outcomes of such tests as an insurance policy for educational/teacher effectiveness (Poggio, Glasnapp, Green & Tollefson, 1997).

High-stakes tests have long-term consequences on the lives and futures of those taking the exam(s), so for what ever reason the outcomes of such tests are being utilized, one needs to be assured that the instruments are valid. In the development of these exams, testing companies go through the typical content validation process asking educators to review test items, focusing on validity and standard-setting criteria. While this is necessary and a step in the right direction, research indicates that the teaching profession has begun to question the sole reliance on content validity evidence (Madaus & Pullin, 1987; Messick, 1989; Poggio et al., 1997). When determining the appropriateness and trustworthiness of making decisions based on these high-stakes tests, more than just content validity evidence is needed.

Poggio et al. (1997) completed a series of comprehensive and empirical investigations of four potential teacher licensure exams (pencil-paper) using the standard content validation methodology as well as three separate empirical validation studies. Findings indicated that the content validation methodology provided decisions not at all consistent with the empirical validation studies. Therefore, the researchers indicated that to rely solely on content validation would be ill-advised. It was their recommendation that evidence of both content-related and empirical validity be present before test interpretations are made.

The exam that is of particular interest for this study is the Colorado Program for Licensing Assessments for Colorado Educators (PLACE) Professional Knowledge (Pedagogy) exam. This exam attempts to assess the knowledge of those applying for a provisional license on classroom practice, including pedagogical and management skills. The content focuses specifically on the knowledge of the learner, instructional planning and assessment, instructional delivery, and the professional environment. Cobb, Shaw, Bomotti, Millard, and Whaley (1998) examined the validity of the PLACE examinations by collecting and analyzing examinee data (i.e., age, gender, ethnicity, student major, standardized college entrance scores, graduate/undergraduate/ licensure only status, and grade point average) and correlating the information with available PLACE data. The researchers found that the battery of PLACE exams had problems with relevance and value implications. In addition, there was some concern about lower test scores across the batteries for certain gender and ethnic groups. The Cobb et al. (1998) study dealt with concurrent validity, not predictive validity. A study of the predictive validity of the Colorado PLACE exam would add to the empirical evidence for this exam and could provide additional information for the substantiation of interpretations made from these exams.

It should be noted that in May, 2000, Senate Bill 00-195 was introduced and passed in the Colorado State Senate with the purposes of eliminating three of the four required PLACE exams for teachers. With the passage of the bill, the Colorado testing requirements now include only the content exam. Other methods of assessing potential teachers basic skills, liberal arts and sciences, and professional knowledge and skills for licensing are in the process of being developed. Although the teacher licensing exam

utilized for this study is no longer a part of the licensing process in Colorado, many other states continue to require pedagogy tests and could benefit from information regarding predictive validity of these high-stakes exams.

Statement of the Problem

The issue of validity has been the focus of a large amount of research surrounding high-stakes testing, although the greatest amount has centered on content validity. This research addressed the predictive validity of the Colorado Professional Knowledge PLACE exam. This was done by examining the extent to which this exam exhibited predictive validity by comparing self-ratings of novice teachers on their pedagogical skills and knowledge within their first and/or second year of teaching to available PLACE data. In addition, it examined how well each of the sub-domain scores (i.e., Knowledge of the Learner, Instructional Planning and Assessment, Instructional Delivery, and Professional Environment) correlated with self-rated skills within those domains.

To date, the only validation activities completed on the Colorado PLACE tests have been the content validation and scoring processes preformed by NES in the development and validation of the exams, and Cobb et al. (1998) in their examination of the concurrent validity of the battery of exams. This study will contribute to the body of knowledge dealing with high-stakes teacher testing as well as the predictive validity of the PLACE Professional Knowledge exam by determining whether the scores received on the test predicts perceived success in teachers' first and/or second year of teaching.

Over the past two decades there has been increased pressure to make teachers, teacher educators, and education in general more accountable for the quality of education of our youth. As a result, several initiatives have emerged in an effort to bring about

change. One of particular interest to this study is the increased emphasis placed on high-stakes teacher testing, more specifically the Colorado PLACE Professional Knowledge exam. Since high-stakes tests such as this have a significant impact on the lives and futures of those taking them, the validation of such instruments is imperative. As Poggio et al. states (1997), "evidence must be gathered that demonstrates that the instrument(s) used to make these individual high-stakes decisions which are presumed, in turn, to drive school reform are valid" (p. 1).

Research Questions

The research questions guiding this study focused on the validity of the PLACE exam as a predictor of first- or second-year teacher's self-perceptions of their own success.

1. How well do first- or second-year teachers' overall self-ratings of their performance of pedagogical skills and knowledge correlate with their scaled score on the Professional Knowledge PLACE exam?

2. How well do each of the sub-domain scores (i.e., Knowledge of the Learner, Instructional Planning and Assessment, Instructional Delivery, and Professional Environment) correlate with self-rated skills within those domains?

3. What demographic characteristics might account for any significant amount of variance in the self-rated scores as compared to scores received on the Professional Knowledge PLACE exam?

Delimitations of the Study

The study utilized first- and second-year teachers from school districts across the state of Colorado. The first- and second-year teachers surveyed were those who

completed their teacher preparation at Colorado State University, passed the battery of PLACE exams, and received their probationary license. Teachers on emergency licenses or ones hired into Colorado public schools from other states were not surveyed. Any groups to whom this study may be generalized must be characteristic of the first- and/or second-year teachers as determined by the demographic data obtained through this study.

Limitations of the Study

There are several potential limitations. The sample was limited to those novice teachers graduating from Colorado State University in the semesters indicated who could be located, agreed to participate, and whose Professional Knowledge PLACE scores could be obtained. In addition, only those who passed the exam were utilized in this study. The researcher examined the possibility of surveying all novice teachers in Colorado, but attempts to access the names of those teachers from the State Department or from several school districts were unsuccessful. It was determined that through the Colorado State University Teacher Licensure office records and access to teachers educators who might be able to assist in locating recent graduates, the population of CSU teacher licensure graduates would be the accessible population.

The data collected from novice teachers was self-reported, causing those weaknesses inherent with self-reported data. The researcher examined the possibility of surveying the principals of those novice teachers to compare the results from their perceptions of the new teachers performance to those of the participants to determine if any significant differences existed. However, the researcher felt that if the participants knew that their principal was being asked to rate their performance, more would have

chosen not to participate. Because the sample size was rather small to begin with, the researcher chose not to survey the principals.

The teacher licensure program at Colorado State University was undergoing a change in structure to the Professional Development School model during the four semesters utilized in this study; thus, programs for students at this time varied greatly. In addition, a number of factors could have impacted the preparation of the participants of this study (e.g., instructors, endorsement areas, etc.).

The survey was mailed to participants late in the spring semester. This is a very busy time for teachers, and the timing may have impacted the return rate and/or the time each participant spent to provide the most honest and accurate account of their own performance. Finally, the study was subject to those weaknesses inherent with the nature of the research design.

Assumptions

The study was conducted under the following assumptions:

1. The samples utilized in this study are representative of the populations.
2. The pedagogical skills and competencies utilized on the survey are understandable and valid.
3. The participants responded to the survey truthfully.
4. The person to whom the survey was sent answered the survey.

Definition of Terms

The following definitions were used to clarify terms throughout this study:

1. Beginning or Novice teacher: a professionally trained teacher completing their teacher preparation program at Colorado State University who is employed as a secondary teacher in a Colorado public school for the first time.

2. High-stakes tests: tests whose outcomes have long-term consequences on the lives and futures of those taking the exams (Poggio et al., 1997).

3. Induction: an act or process of inducting; experiences that should continue throughout ones entire life. In the teaching profession it incorporates all components beginning with the preparation, continuing through orientation, and can last beyond the first year of practice (Lewis, Parsad, Carey, Gartfai, Farris, & Smerdon, 1999).

4. Pedagogical content knowledge: knowing which methods to use for particular topics, with particular students, in particular settings (Ingersoll, 1999).

5. Teacher competencies: all the knowledge, skills, abilities, and attitudes a teacher must possess to perform the job of teaching (Medley, 1984).

6. Teacher testing: examinations or standardized tests, authorized by some authority external to particular institutions of higher education and school districts – currently this tends to be state departments. These tests are used to control entry into teacher preparation programs, certify successful completion of teacher preparation, control initial certification or licensure, and inform decisions regarding recertification or promotion of experienced teachers (Haney, et al., 1987).

7. Validity: an integrative evaluative judgment of the degree to which empirical evidence and theoretical rationales support the adequacy and appropriateness of inferences and actions based on test scores or other modes of assessment (Messick, 1989, p. 6).

Significance of the Study

As public and higher education continue to meet with scrutiny about the preparation of youth, for many it appears that the quickest way to improve student learning is to improve the teachers who educate them (Goodison, 1986). As a result,

most states make it mandatory to pass a test or series of tests to "prove" that prospective teachers have the basic competencies needed to teach. The premise is good but is a pencil-paper, multiple-choice test the best way to show evidence of competence? Does the passing of these tests prove that you will be a good teacher?

In 1991, Colorado redefined the standards that must be demonstrated by teachers, administrators, and support personnel. Along with the updating of the standards was the change in the assessment requirement for certification from the California Achievement Test (CAT) to the battery of tests created specifically for Colorado educators, the PLACE exams, developed by NES. Up until May 2000, prospective teachers in Colorado were required to pass four exams for provisional licensing.

One of the main issues surrounding any type of assessment is the concern of validity. Messick's (1989) interpretations of test validity have caused those concerned with the interpretations of test results to reexamine the way test data are used. He emphasizes "evidential and theoretical rationales" that support interpretations of test results (p. 6). The bulk of the research around the validity of such high-stakes tests has primarily focused on content validity. In the development of the Colorado battery of tests, NES went through the typical content validation process to ascertain test validity. The only other validation done on the PLACE exam has been Cobb et al. (1998) in their examination of the correlation of examinee data and available PLACE data.

If states are going to continue to require the passing of these high-stakes tests for provisional licensing, proof that supports the interpretation of the results would be beneficial. As Goodison (1986) states:

> To the citizens whose confidence in public education has faltered in the last decade, teachers competency testing offers a promising way to begin rebuilding public confidence, but we must be on guard that the superficial attractiveness of competency testing does not lead to misuse or misrepresentation of the tests. (p. 4)

This research study addresses a small but important piece of high-stakes teacher testing discussion, the predictive validity of the Colorado Professional Knowledge PLACE exam.

CHAPTER II

Review of the Related Literature

Teachers are the most basic educational resource communities provide for their children. It is essential that well-qualified, dedicated, and committed teachers be placed in every classroom (U.S. Department of Education, 1998). This will only be possible if the goal is to provide the training and support that those preparing to be teachers and those already in the teaching profession need to be successful. Recently, teacher licensing and licensure programs have come under close scrutiny as to the significant roles they play in the continuum of educational reform. Teacher education in general, and more specifically teacher education programs, have worked hard to make significant changes over the course of the past several years to improve the preparation of teachers. While some changes have made a distinct impact on the quality of teachers, there is still work to be done to assure quality in every classroom. This review of literature examines the issues related to teacher education reform, the context of teacher licensing, statewide licensure programs, the licensing process with specific attention to teacher competency testing, educational assessment, and issues surrounding the validity of high-stakes testing.

The literature reviewed reflects some agreement concerning the preparation of teachers, preservice teacher development, and teacher competency testing. This knowledge base is important to teacher educators, researchers, professional associations, policy makers, and practitioners alike. It is through knowledge such as this that educators can build and improve the practice in the fields of teaching and policy.

The Context

An examination of literature surrounding the context of teacher preparation highlights the changes that have occurred in teacher training and teacher licensing over the years. More specifically, teacher education reform, demographic trends impacting teacher preparation, and support for quality teachers and teaching standards are discussed.

Teacher Education Reform

Looking back to the original declaration from Horace Mann in 1839 about the need for special preparation for teachers, the debate has continued over the decades about what training is needed to enhance teacher performance and student achievement. In the early 19th century no formal educational preparation was required either in liberal arts or in the content the individual would be teaching. In fact, many of those becoming teachers had barely finished elementary school. Instead, the training for teachers consisted of an apprenticeship which placed individuals with master teachers to learn the profession and practice the craft until it was deemed that they had mastered the art of teaching (Hopkins, 1995).

Later in the 1800s, the normal school emerged as the method of teacher preparation primarily for women becoming elementary teachers; high school teachers were predominantly men prepared in colleges and universities. At this time, graduation from high school was sufficient for entry into a normal school. The normal school preparation consisted of a course of study that included little more than pedagogy and content, dealing primarily with the management and routines of the classroom. The preparation took two years followed by a field experience. The field experience took

place in model schools that were associated specifically with the normal school. Much like the apprenticeship of earlier days and the professional development school model of the present day, the students were allowed the time to observe, study, and practice the skills and knowledge of the teaching profession (Hopkins, 1995).

As early as 1869, teacher educators were concerned with standards. Edelfelt & Raths (1998) reported that the concerns and assumptions around standards for teachers in the late 19th century appeared to be similar to the recommendations being made today. Through their research and review of historical evidence, they suggest that as far back as the late 1800's the belief was that through scientific findings and practical experiences, teacher educators should be able to define "best practice." In addition, it was believed that some approaches to teaching and teacher education were deemed to be better than others. And finally, through the setting of standards the profession could encourage "best practice" and eliminate those teachers who proved to be the weaker ones (p. 1).

At the turn of the century, the preparation through the normal school emerged to become laboratory schools. The laboratory schools were placed on university campuses to provide easy access to the preservice teachers. While the convenience of access was desirable, the lab schools brought about a couple problems as well. First, because the lab schools were attended by primarily the children of the university community, the student population was not representative of the local schools. Therefore, teacher candidates were lacking in training dealing with the diverse population they would most likely encounter in the schools where they would eventually be hired. Second, because of limited classrooms and teachers at the lab schools, several teacher candidates where

placed with one teacher, causing their individual teaching experiences and interactions with the students to be limited.

In the 1920's, a critical analysis of teacher education took place in an attempt to address the problems of professional teacher education. The Commonwealth Teacher Training Study was conducted to determine what practitioners had to know and be to perform effectively. Teachers were asked to judge a series of activities and traits of teaching by three criteria: importance, difficulty of learning, and value of preservice training. In addition, they were asked to indicate the frequency of use of these teaching activities and teacher traits. After confirmation from other professionals (e.g., superintendents, principals, professors of education, supervisors, and other experts) about the teachers' judgement, the importance of teacher behaviors and performance in the classroom was reinforced. Study results showed that, even at this early stage of discussion around teacher education pedagogy, the importance of adapting teaching methodology to the content being taught as well as the consideration of the needs of the individual students were deemed as important activities and desirable traits of effective teachers. The conclusion was that either teachers with those traits were to be selected or that those traits needed to be developed through teacher training and continual mentoring in the first years of teaching (Edelfelt & Raths, 1998). Before this time, the methods of rote teaching and learning provided what was demanded of the economy of the time, a reliable labor force that could perform the routine assembly line jobs of the industrial era (U.S. Department of Education, 1998). Through these discussions and recommendations, it appeared that this type of teaching and learning would no longer be sufficiant.

At this point in history, although teacher testing was available, certification of teachers relied more heavily on educational preparation rather than a score they received on an exam. The use of standardized teacher tests in a great percentage of states was not required nor believed to be a significant indicator of teaching competence (Haney et al., 1987). It was not until years later that high-stakes teacher testing would enter into a greater number of discussions and recommendations about measuring potential teachers' competencies.

Throughout the postwar years and into the late 1940s, time devoted to addressing the issues and concerns of teacher education was spent primarily on experimentation, demonstration, and implementation of existing research rather than the promotion of further inquiry (Edelfelt & Raths, 1998). Although much of societies attention was placed on the events of the times (e.g., The Great Depression – 1930s; World War II – late 1940s), the concerns about the improvement of teacher education continued to surface. Teacher education experienced the end of the normal school and the beginning of the changes within teacher education from teachers' colleges to state colleges to regional state universities.

The Commission on Teacher Education, created by the American Council on Education, suggested that the improvement of teacher education was of the greatest importance. The commission examined the full scope of teacher education, including personnel services, selection and recruitment, placement and follow-up, curriculum, general education, subject-matter preparation, professional education, student teaching, five-year programs, inservice education for teachers, and preparation and inservice growth of college teachers. Throughout their work, the commission focused on the

democratic philosophy and the importance of the alignment of teaching and teacher education with basic social needs (Edelfelt & Raths, 1998).

Also taking place in the late 1940s was the reexamination of the standards around students teaching which had not been addressed since the late 20s. A subcommittee of the Committee on Standards and Surveys of the American Association of Teachers Colleges was formed to suggest new standards for the laboratory experience. Through their examination of suggested principles, responses to a questionnaire, and personal reactions to issues and problems of student teaching, they confirmed that it was time that professional education apply what is known about the way learning takes place. They also emphasized the importance of the connection between theory and practice and direct work in the classroom throughout teacher preparation. They split the direct learning into two categories: laboratory experience and student teaching. The subcommittee placed emphasis on the importance of a laboratory experience throughout the preparation program, a student teaching experience that was full-time, meaningful and thoughtful placement of each student teacher, and shared supervision of the experience (Edelfelt & Raths, 1998).

Testing again entered the picture when school administrators were attempting to choose the most competent teachers from a surplus of candidates. At this time the National Teacher Examination (NTE) was developed. Although it took a while for this teacher competency test to be accepted by several states, it was a mechanism that allowed them to look at more than just the candidate's professional education preparation. The NTE exam allowed them to examine teacher candidates' basic skill knowledge as well (Haney et al, 1987).

As a result of the recommendations from the Commission on Teacher Education, by the 1950s, teacher preparation programs were being encouraged to start the initial field experience at the beginning of the teacher preparation program. Institutions focused on the total number of hours spent in field experiences because time spent in these school settings appeared to equate to more success. Therefore, the focus became how to best use the time in the actual classroom. Student teachers, as well as the cooperating teachers they were placed with, were expected to inquire, communicate, and reflect on their own practice. Additionally, there was an emphasis on increased classroom participation as well as experimentation on the implementation of best practice (Hopkins, 1995).

The National Council for Accreditation of Teacher Education (NCATE) was established in 1952. NCATE was formed by combining stakeholders from organizations such as the National Commission on Teacher Education and Professional Standard (TEPS Commission), American Association of Teachers Colleges, the National Association of State Directors of Teacher Education and Certification, and the Council of Chief State School Officers. Like their predecessors, their charge was to carry on the continuing examination of the components of teacher preparation programs to assure the advancements of the profession. NCATE did not make a significant impact immediately. It wasn't until years later that it became an integral part of the improvement of teacher education (Edelfelt & Raths, 1998, p. 5).

The 1960s was a time when those involved in education raised questions themselves about the status of teaching and teachers education rather than questioning practice as a reaction to the criticism and recommendations from outside sources. In 1961 the TEPS commission, along with other agencies, recommended several standards

for teacher education through their New Horizons in Teacher Education and Professional Standards project. Included in their recommendations for teacher education programs were the staffing of fully-prepared educators who performed with excellence, teacher education programs characterized by a broad liberal education, and internships as well as student teaching and laboratory experiences as integral parts of preparation. Additionally, teacher education programs emphasized both qualitative and quantitative means to evaluate student progress (Edelfelt & Raths, 1998).

The 1970s gave way to an examination of teaching as a profession. The Commission on Education for the Profession of Teaching brought forward a report that examined the characteristics of professions and the extent to which teaching met the criteria. As a result, the Commission suggested recommendations and standards for education and teacher education. In several places throughout the report, the Commission questioned the quality of a good percentage of the teachers indicating that they were far from adequate. Although, they did suggest that as a profession teaching was one of the most complex and demanding. This internal examination of teacher preparation was a continuation of the movements in the 60s to look for ways to attain academic distinction (Edelfelt & Raths, 1998).

Throughout the 1980s and 1990s a number of reform movements once again drew attention to the importance of teachers and teaching. Included in this list are the National Commission on Excellence in Education's *A Nation at Risk*, the Carnegie Forum's *A Nation Prepared: Teachers for the 21st Century*, the Holmes Group's *Tomorrow's Teachers and Tomorrow's Schools*, and *Tomorrow's Schools of Education*, as well as John Goodlad's Center for Educational Renewal and Teacher Education's *Teacher*

Education in a Democracy. These and other initiatives have resulted in the stimulation of dozens of pieces of federal and state legislation, the publishing of over 1500 national and international articles and editorials in addition to numerous state and local improvement programs to enhance teacher practice (Darling-Hammond, 1997).

The Carnegie Forum on Education and Economy (1986) placed great emphasis on the important role classroom teachers play in the ability of the United States to prosper in an era of global competition. The Carnegie Forum placed emphasis on teacher education and posed recommendations for its reinvention in the report, *A Nation Prepared: Teachers for the 21st Century.* Included in its mandates were teacher education as a graduate enterprise, mastery of basic skills by those admitted into licensure programs, recruitment and/or incentives for students with exceptional academic ability or minority candidates, and the creation of the National Board for Professional Teaching Standards (NBPTS) which would issue certificates to teachers meeting established standards (Carnegie Forum, 1986). Several movements in teaching and teacher education resulted from the Carnegie Forum's mandates. One was the creation and funding of the NBPTS. Through the evaluation of extensive documentation of a teacher's performance, educators from across the United States have received national certification as recognition for their teaching excellence. In addition, there has been significant research and development around teacher evaluation such as performance testing, and setting of "cut scores" (Edelfelt & Raths, 1998).

The Holmes Group (1986) issued *Preparing Tomorrow's Teachers* in which they addressed the need to bring teacher education institutions and public schools together to address the differing knowledge, skills, and commitments of teachers. It was suggested

that the preparation of teacher candidates would greatly improve if they had the close connection with practicing teachers (Holmes Group, 1990). Also significant in the late 1980s was the fact that a large number of states required some type of teacher assessment for licensing. Over half of the states with testing programs required the Core Battery (formally the NTE) and a Pre-Professional Skills Test (Haney et.al, 1987). Evident was the perception that testing teachers as they do in other professions such as law, medicine, or architecture would add to the credibility of teaching as a profession.

In 1991, the Association of Teacher Educator's Commission on the Education of Teachers into the 21st Century developed and published a number of recommendations for teaching and teacher education that would advance the profession into the 21st century. Expressed was the dissatisfaction with the number of attempts that had been made to advance the profession, none of which brought about significant results. In addition, the report emphasized the importance of teachers who were not culture bound and who could deal effectively with the diverse population of students filling their classrooms. In order that their recommendations not be added to the long list of previous attempts that had little effect, they included specific actions for all the key players in the reform efforts (i.e., teacher educators, schools, state agencies, and national, state, and local professional organizations) (Edelfelt & Raths, 1998).

Additional themes that impacted teacher preparation in the 1990s were collaboration or partnerships (Association of Teacher Education, 1991; Clark, 1999; Clarke, Dwyer, Glesne, Kostin, Leo, Meyers, and Prue, 1997; Darling-Hammond, 1994; Goodlad, 1995; Gould, Mantle-Bromley, Whaley, McWhorter, 1999; Holmes Group, 1986; Myers, 1996; NCATE, 1999) and five- or six-year licensing programs (Carnegie

Forum, 1986; Darling-Hammond, 1997; Goodlad, 1990; Holmes Group, 1986). Both initiatives were instituted and recommended with the intent of providing more adequately prepared future teachers. Both movements are discussed in more detail later.

Teacher testing continued to play a significant role in teacher preparation and teacher licensing. The Holmes Group and the Carnegie Forum were proponents of professionalizing teaching by assuring that teachers accepted into teacher licensure programs as well as those applying for their teaching license show that they met high standards for the teaching profession. One of the ways to document that they met high standards was through teacher competency testing. Although test requirements vary from state to state, the assessment of teachers is used for a variety of purposes. In a large number of states tests of basic skills are used as gatekeepers into professional preparation programs. A liberal arts and sciences exam is used to assure that candidates have gained an adequate level of knowledge through their general studies program in physical science, history and social sciences, arts and humanities, and communication. In addition, in order to receive a license in many states, teacher candidates are required to pass a content knowledge exam plus an exam testing their professional (pedagogy) knowledge.

Teacher education has gone through a multitude of recommendations and changes over the course of the past 200 years. The Carnegie Forum on Education in the *Taskforce on Teaching as a Profession* report (1986) stated:

> Much has been accomplished. Course requirements have been stiffened, teachers' salaries raised, and new standards put in place in most states. Partnerships have been formed between the schools and other major institutions in our society which, if they stand the test of time, should strengthen the capacity of the schools and improve the chances of their graduates. Teacher educators have taken the initiative in reexamining the quality of teacher education and are taking steps to

> improve it. These and many other changes have not come without controversy, and have often been accomplished only by virtue of courageous, determined leadership. (p. 11)

While some movements over the years have had more significant impacts than others, it is apparent that a significant amount of time, energy, and resources have been expended to improve teacher preparation, resulting in better teachers for our nations schools.

Demographic Trends Impacting Teacher Preparation

In the early 1900s, a college-level education was required of approximately 10% of the jobs in the United States. With the industrial revolution, society required schools to prepare individuals who could master the routine assembly line jobs the labor force required of the time (U.S. Department of Education, 1998). Discipline, reliability, and the ability to comprehend and accept instructions were qualities the American mass education system was expected to instill in students who would most likely become factory workers (Reich, 1990).

In contrast, the educational preparation for jobs at the turn of the 21st century has greatly increased. It is estimated that approximately 50% of the jobs will require some college preparation, while over 70% will require technological literacy. A U. S. Department of Education (1998) report suggested that solid basic skills, critical thinking, lifelong learning, and technological literacy have become the new keys to productivity in our knowledge-based society. In the new century, almost every adult will need to attend college or participate in specialized training throughout his or her lifetime in order to navigate rapidly changing economic conditions. Other qualities individuals entering the workforce will need include thinking for themselves, acting independently or with others,

and having a knowledge base that is wide-ranging. The Carnegie Forum (1986) agreed stating:

> If our standard of living is to be maintained, if the growth of a permanent underclass is to be averted, if democracy is to function effectively in the next century, our schools must graduate the vast majority of their students with achievement levels long thought possible for only the privileged few. (p. 37)

As a result of the U.S. Department of Education report (1998) the need for increased standards for students in our schools was reinforced. The authors suggested that schools needed to focus on learning rather than teaching and on active application of ideas to problems rather than passive acquisition of facts and routines.

The numbers of students in America's schools has dramatically changed as well. The National Center for Education Statistics Projections of Education Statistics to 2007 (cited in Darling-Hammond, 1997) estimated that by the year 2007, America's public and private schools will educate approximately 54 million youngsters, an increase of over three million since 1998. It is projected that approximately 90% of those students will be educated through the public school system (Darling-Hammond, 1997; U.S. Department of Education, 1998).

Besides an increase in volume, the make-up of the student population has significantly changed as well. In the years to come it is estimated that approximately one-third of the average classrooms will be made up of students with racially-, culturally-, and linguistically-diverse backgrounds. A large number of students with disabilities will continue to be served in the regular classroom--approximately 75% of the total numbers of students identified as disabled. Also increasing will be the numbers of students living in diverse family structures, those who live in families that have

experienced divorce, absence or death of a parent, those who live in poverty or in crisis (Darling- Hammond, 1997; U.S. Department of Education, 1998).

With increased numbers of students in the educational system and the face of the average classroom changing, it looks to be a rather daunting task to teach. So who will shape the lives of our future workforce? What will the teaching needs be for tomorrow's classrooms? It is projected that the size of the teaching force will exceed 3.3 million by 2007. Additionally, over the next decade more than 2 million teachers will need to be hired to match the enrollment trends and fill vacancies caused by teacher attrition, especially in urban elementary and secondary schools. Projections also suggest that secondary teachers will increase at a faster rate than the number of elementary teachers and that over 50% of those hired to fill the need will be first-time teachers (Darling-Hammond,1997; U.S. Department of Education, 1998).

Teacher attrition plays a significant role in the demand for additional teachers, especially in urban districts. While teachers leave the profession for a variety of reasons (i.e., inadequate preparation, challenging assignments, lack of support or mentoring) the most frequently reported reason for leaving is retirement. With the aging population of teachers, the nation's teaching force will be significantly impacted. The U.S. Department of Education report (1998) suggested that the issue of filling the need will not be one of quantity but one of quality and diversity. One of the issues is that while the student population in America's schools is approximately one-third minority, a significantly smaller number (13%) of the teachers leading those classrooms are drawn from those same ethnic backgrounds. The second issue is the increase in licensing alternatives such as emergency permits and waivers. School districts can usually find individuals for the

front of the classroom, but those teachers hired through alternative routes frequently aren't prepared to help students meet increased standards and raise them to the level expected of our schools.

Support For Quality Teachers & Teaching Standards

Increased technology, improved school facilities, improved curricula and assessment, safer schools, and higher standards for students will do little to improve our schools without quality teachers (Darling-Hammond, 2000; Spagnolo, 1997; U.S. Department of Education, 1998; U.S. Department of Education, 1999). Spagnolo (1997) stated: "With the changing characteristics of school and students – the most critical variable in determining whether the schools will be able to succeed in meeting these demands and challenges will be the competencies and commitments of their teachers" (p. 7).

Ferguson (1991) completed an analysis of 900 Texas school districts to determine the impact teacher quality had on student learning. Through the research he found that, more than any other single factor, scores teachers received on licensing exams, having a master's degree, and years of teaching experience accounted for about 40% of the measured variance in first through eleventh grade students' reading and mathematics achievement. When the researcher controlled for socioeconomic status and the disparities in achievement between black and white students, the variation was almost entirely accounted for by differences in the qualifications of the teachers. One of his conclusions was that every dollar spent on more highly-qualified teachers correlated to student achievement more than school resources used on things that weren't instructionally focused.

Sanders & Rivers (1996) did a study to determine the cumulative and residual effect teachers can have on student's future academic success. They found that students who had been placed with ineffective teachers consecutively had significantly lower achievement and gains than those who were assigned to several highly effective teachers in sequence. This finding is rather significant considering that many parents, or the students themselves, do little to determine and make changes concerning the classes and teachers to which they are assigned.

Darling-Hammond (1997) reinforced the need for quality teaching in her report *Doing What Matters Most: Investing in Quality Teaching*. After reviewing more than two hundred studies, she confirmed that teacher knowledge of subject matter, student learning and development, and teaching methods are all-important elements in teacher effectiveness. She stated, "the research contradicts the long-standing myths that 'anyone can teach' and that 'teachers are born and not made.' The research also makes it clear that teachers need to know much more than the subject matter they teach" (p. 10). She found that in a broad range of fields, teachers who were prepared and certified in their discipline and in education, as well as those that had training in teaching pedagogy (i.e., learning, methods, curriculum) were more successful and effective. In addition, in her *Teacher Quality and Student Achievement* report (Darling-Hammond, 2000), she indicated that the variables of teacher competence that appear to have some relationship to student learning are a teacher's academic ability, years of education, years of teaching experience, subject matter and teaching knowledge, certification status, and teaching behaviors in the classroom (pp. 2-3).

Over the course of the last several years, emphasis has been placed on increased standards for teachers that are linked to the standards that have been developed for students (Carnegie Forum, 1986; Darling-Hammond, 1997; Scannell & Wain, 1996; Shanker, 1996; Spagnolo, 1997; U.S. Department of Education, 1998). Within the last five years, a combined effort between the National Council for Accreditation of Teacher Education (NCATE), the Interstate New Teacher Assessment and Support Consortium (INTASC), and the National Board for Professional Teaching Standards (The National Board) resulted in standards for the development of teachers throughout their careers. These standards address the preparation, initial licensure, and continued practice of teachers. Shanker (1996) stated:

> When high standards are important at every point in a teacher's career, when those high standards are not suspended in the face of teacher shortages, and when being an accomplished teacher is recognized and adequately rewarded, then we will have teacher quality assurance and vastly greater confidence of providing a quality education for all students. (p. 224)

The National Commission on Teaching and America's Future (1996) completed a study in which they looked at seven teacher education programs which had proved to produce teachers who were successful at teaching to diverse learners and who were successful at teaching the challenging material needed to meet the subject matter standards using methods that brought about higher level performance and understanding. Their examination supported the important role teacher education institutions play in the preparation of competent teachers. The strengths and similarities of the teacher education programs studied were:

- a common, clear vision of good teaching that was apparent throughout the program;

- a curriculum grounded in substantial knowledge of child and adolescent development, learning theory, cognition, motivation, and subject matter pedagogy taught in context;
- extended clinical experiences;
- well-defined standards of practice and performance that would guide in evaluation;
- strong relationships, common knowledge, and shared beliefs among school and university-based faculty; and,
- use of teaching and assessment methodologies that ensured that learning was applied to real practice.

As a result, the Commission brought forward several recommendations to promote the importance of high-quality preparation for teachers in every state. Their recommendations included developing standards boards, insisting on professional accreditation of schools of education, licensing teachers based on demonstrated performance of ability to teach to the new standards (including tests to measure content knowledge and teaching knowledge and skills), and benchmarking accomplished teaching using the NBPTS (Darling-Hammond, 1997).

One cannot deny the importance of high standards and expectations for all schools of education. Whether the schools of education focus on early childhood education, elementary education, secondary education, special education, or a combination, schools and classrooms at all levels will benefit from increased accountability. Recruitment of well-qualified teachers, continued examination and redesign of teacher preparation programs, increased investment in quality training, and the creation of coherent systems of teacher development need to continue to be addressed if we are to increase the quantity and quality of teachers (Darling-Hammond, 1997).

The Program

An examination of literature surrounding ways in which students progress through teacher education programs highlights the variety of ways prospective teachers are prepared as well as components of programs that have the potential to increase teacher candidates' success and effectiveness. More specifically, the types of schools, courses of study, and timing of coursework in teacher licensure programs, contextual teaching and learning, and teacher licensure program initiatives are discussed.

Types of Courses, Content, and Timing

Approximately 1,100 secondary, elementary, and special education teachers are prepared in a variety of institutions nationwide (U. S. Department of Education, 1998). Undergraduate, graduate, and postbachelor teacher preparation programs are administered by schools, departments, and colleges of education. These programs can be found in regional and national, public and private universities, and public and private liberal arts colleges.

A large portion of the nation's teachers are prepared in liberal arts colleges. The original popularity of the liberal arts colleges came from their claim that they offered a strong liberal arts education, an intellectual core of required subjects, and a scholarly faculty that could lend credibility to the preparation of teachers. Factors that appear to make liberal arts colleges favorable as a preparation program follow: 1) the considerable thought that often goes into determining coursework requirements because of the lack of flexibility to provide electives, 2) the concern for moral and character development, 3) central mission and commitment to teaching, 4) substantial support for undergraduate education, and 5) coursework in a teacher's content as well as education taken

simultaneously within four years. Many of these factors are more easily accomplished in small liberal arts colleges than in larger ones (Goodlad, 1990).

There continues to be a few private regional universities that have the single purpose of preparing teachers. Similar to medicine and law schools, students generally go to these institutions for the sole purpose of becoming teachers. Although the most popular private teacher colleges have reacted to educational reform issues over the years, they are faced with uncertain times and much examination about where they are headed (Goodlad, 1990).

The U.S. Department of Education report (1998) determined several characteristics of promising teacher education programs. The first characteristic was an emphasis on quality through rigorous accreditation. The second was recruiting teachers from diverse backgrounds. The third was the coherent sequential offering and emphasis of content and pedagogical knowledge. Close links between campuses and public schools was the fourth characteristic, and the final one was a continuous assessment process that reveals future teacher's knowledge of subject matter as well as how it should be taught to students.

Coursework in undergraduate licensure programs typically consists of some type of liberal arts/general studies preparation, content knowledge preparation, and preparation in a professional studies or pedagogy curriculum. NCATE standards (1999) suggest that the general studies program include courses and experiences in the liberal arts and sciences including the arts, communication, history, literature, mathematics, philosophy, the sciences, and the social sciences which incorporate multicultural and global perspectives.

Standards also require that prospective teachers attain academic competence in the content they plan on teaching. Academic competence is described as one's knowledge of the structure, skills, core concepts, ideas, values, facts, methods of inquiry, and uses of technology in the content to be taught. Teacher licensure programs often require a series of content coursework which provide candidates with the knowledge base needed to teach the content to others.

Finally, under the professional studies and pedagogy portion of a licensure program teacher preparation students are required to acquire and learn to apply professional and pedagogical knowledge and skills to work with all students. The content includes the foundations of education, impact of technology, human development and learning, inquiry and research, school law and educational policy, professional ethics, responsibilities, structure, and activities of the profession. Field and clinical laboratory experiences are included and are most beneficial when they are consistent, well-planned and sequenced, of high quality, and found throughout the education sequence.

Generally, students take more than 120 semester hours to complete an undergraduate degree. The liberal arts colleges appear to hold the closest to four-year programs. College of arts and sciences and professional schools often require prerequisites for entering programs which allows them to stay within the credit limits but have the expectation that additional coursework will be completed prior to licensure (Goodlad, 1990).

In general, the greatest portion of general studies coursework is taken during the freshman and sophomore years. Coursework in the content is taken throughout the

sophomore, junior, and senior year. The professional studies program generally begins in the junior year and continues through student teaching in the final semesters of the program. If students are doing their licensure programs as post-bachelor or graduate work the course work and timing will vary depending on each individual's program and/or experiences.

Contextual Teaching and Learning

In the report *Educating a Globally Productive Citizenry: The Role of Higher Education in the Integration of Learning and Work* (1999) Hutcheson defined contextual learning as a strategy emphasizing the context within which an individual applies the skills or knowledge derived from instruction which supports the learning theory of learning-by-doing. An individual's competence level and qualities are dependent upon situations and contexts. Wiggins (1993) indicated that through the current testing structure, we are not preparing students for the real, "messy" uses of knowledge in context – "doing" of the subject (p. 202). Ultimately students should be able to adapt knowledge to varying situations.

With the K-12 education reform initiative of workforce preparation, work-based learning, and school-to-career, it is necessary to prepare future teachers to not only understand but take a proactive role in building a coordinated path for lifelong learning for those students they teach. Educators should also feel the responsibility for preparing students for success in education, careers, and in productive citizenry (Hutcheson, 1999; Wiggins, 1993). Wiggins (1993) stated: "We can begin by keeping in mind that the aim of education is to help the individual become a competent intellectual performer, not a passive 'selector' of orthodox and prefabricated answers" (p. 202). The university

system has to become a critical partner in the contextual teaching and learning movement and provide teacher candidates and all university students alike, with this method of preparation. It should be an environment that articulates and supports integrating learning and work, uses academically-approved work experiences, develops faculty support for integration, supports institutional change, and creates local partnerships that help support learning and work relationships (Hutcheson, 1999).

The field-based components of licensure programs are the experiences that provide prospective teachers with the strongest contextual learning experiences. McIntyre, Byrd, and Foxx (1996) concluded that the field experience placement of preservice teachers is very influential on professional development and that the evaluation of field experiences should reflect the complex world of teaching (cited in Association of Teacher Educators, 1999). As often as possible, the opportunity for students, whether they are K-12, university, or teacher licensure students, to apply what is being learned more authentically prepares them for the multiple roles they will face in the future.

Teacher Licensure Program Initiatives

During the 1980's several reports, (Boyer, 1983; Carnegie Forum, 1986; Darling-Hammond, 1997; Goodlad, 1990; Holmes Group, 1986) recommended the reform of teacher education programs to include extending the program to include a fifth year with the intent of more adequately preparing future teachers. While getting a degree in a disciplinary field, teacher candidates complete an intensive study of teaching at the graduate level, sometimes including a year-long, school-based internship/apprenticeship connected to their education coursework taking place during a fifth year. It appears that

this type of program would have a significant impact on the preparation of teachers; therefore, a large percentage of universities would move in this direction. However, the fact is that few institutions have gone the way of the fifth or sixth year and teacher training remains primarily an undergraduate endeavor. Goodlad (1990) did visits to 34 teacher education institutions across the United States and found that only five of them offered fifth-year programs leading to certification.

Collaboration is a theme that entered discussions of teacher education reform in the late 1980's and 1990's (Association of Teacher Education, 1991; Clark, 1999; Clarke, Dwyer, Glesne, Kostin, Leo, Meyers, and Prue, 1997; Darling-Hammond, 1994; Goodlad, 1995; Gould, Mantle-Bromley, Whaley, McWhorter, 1999; Holmes Group, 1986; Myers, 1996; NCATE, 1999). These partnerships included schools of education, public schools, and business and industry. Through the research and scholarship of the higher education faculty, the expertise of the public school personnel, and the support and resources of community partners, the preparation of teachers for today's schools can be greatly enhanced. The Holmes Group (1990) supported these partnerships through what they called Professional Development Schools (PDS). Goodlad (1993), the director of the National Network for Educational Renewal, was an advocate for the development of "partner schools." He felt that school and university personnel should be joined in all aspects of designing and renewing each other's professional development and share in the responsibility of preparing teachers. He described these partnerships as resulting in "simultaneous renewal." The notion is that teacher education staff, practicing teachers, and student teachers alike inquire into best practice simultaneously and become renewed as they work closely together for the same goal, better-prepared teachers. In addition,

the professional development concept allows all those involved to connect theory and practice and provides the opportunity to conduct inquiry to advance the knowledge of schooling (Clark, 1999).

Gould, Mantle-Bromley, Whaley and McWhorter (1999) did a study to compare graduates' employment and satisfaction patterns from three different teacher education models (traditional undergraduate, fifth-year graduate, and Professional Development Schools). They found that the cohesive cohort group and closely supervised field experiences prior to student teaching as well as the closely linked faculty who team-teach within the PDS were components that had a positive impact on student's perceptions of their educational preparation.

Teacher licensing programs are administered through a variety of institutions nationally and internationally. If these programs are going to do the best job possible in preparing teachers for our nation's classrooms, initiatives such as contextual teaching and learning, five-year programs, and Professional Development Schools need to be examined to determine the impact they can potentially make on teacher training.

The Licensing Process

The licensing process section of this literature review will provide an overview of the history of teacher licensing with an emphasis on the public and policy makers fascination with high-stakes teacher testing as a way of adding quality to our nation's teaching force. In addition, high-stakes testing issues, the types of tests used, when they are taken nationwide and in Colorado, and the issue of validity and reliability surrounding teacher testing are discussed. Finally, alternative methods of assessing teacher competence are examined.

History of High-Stakes Teacher Testing

A state function, licensing is aimed at protecting the public. The granting of a license is the state's way of assuring the public that the individual holding the license has the minimal amount of competency necessary to ensure public health, safety, and welfare. The licensing of teachers has gone through many changes over the course of the past several decades.

In the 1800s, with the growth of public education, teacher certification and examination increased. At this point in history, those earning a certificate to teach were expected to pass an oral exam assessing the candidate's knowledge of what was to be taught and their moral and social suitability for teaching. School districts had local control of the exam, often administered by the superintendent. Teachers were expected to pass the oral exam annually for recertification. Throughout the nineteenth-century the control of this oral teacher testing moved from local control, to county control, to joint control by the state and county. Finally, in 1895, full control was given to the state (Haney et al., 1987).

Issues such as the growth in public schooling and teacher training schools, and the invention of the standardized test impacted teacher licensing in the early part of the 1900s. In the first half of the century a written examination was the primary mechanism in most states to certify teachers. Although tests for initial licensing were rather widespread, many criticized the level of knowledge needed and the little theory and practice required to teach. Out of this criticism came the realization that there were real advantages to teacher training and that preservice preparation needed to be improved. Therefore, while there was the availability of several exams for licensing, the emphasis

at this time was placed heavily on the educational preparation of teachers (Haney et al., 1987).

With the 1940s development of a national exam, the National Teacher Examination (NTE), emphasis was once again placed on testing to help in the selection of teacher candidates. At this point in history there was a surplus of teachers, and the NTE exam was a tool school administrators could use to narrow the pool of applicants. Over the course of the next 40 years, the NTE, the most-widely used teacher competency test, would go through many revisions as a result of financial distress, response to external pressures, close scrutiny, and challenges about its misuse and potential bias against minorities. Several states began to examine the importance of not only the professional "education" knowledge of candidates but their basic skills (reading, writing, and math) knowledge as well. As a result, by the late 1980's, the NTE evolved into two exams. The first exam was the Core Battery which measured the level of professional education knowledge. The second was the Pre-Professional Skills Test which measured reading, writing, and math knowledge (Haney et al., 1987).

Much of the emphasis in teacher licensing was still placed on the number of credits taken by teacher candidates in required subject matter or what were called "seat diplomas." In many states, once an individual received a license, it was good for life (Shanker, 1996). Although teacher testing was a part of licensing, the weight placed on passing one or more exams was not as significant as it would be in years to come.

Teacher licensing has changed in several ways over the course of the last decade. The most significant changes have been an increased emphasis in teacher testing as well as credit counting, the development of a multi-tiered licensing system (initial license,

full or standard license, advanced license), and the requirement for license renewal (Shanker, 1996; U.S. Department of Education, 1999). While few states actually have three-stages of licensure in place, some are moving in that direction. The fact remains the licensing requirements vary widely from state to state. In 37 states an individual can qualify for the initial certificate or license by earning either a bachelor's degree in education or in a content area. Thirty-five states specify course requirements in the field of education for the initial certificate or license, with eleven states prescribing specific course requirements above and beyond general program and degree requirements (i.e., courses on the U.S. Constitution, the history of the state, reading, cultural diversity). The period in which the initial certificate or license is valid varies from 1-8 years with the largest number of states (29) allowing five years. Forty-one states require some type of assessment for initial licensure with two states using performance assessments. Forty-five states have some type of waiver or emergency licensing process (U.S. Department of Education, 1999).

More specifically, Colorado accepts a degree in either education or a subject area. There are no additional credit hours or course requirements besides evidence of oral English proficiency, and the initial license is valid for three years. In addition, up until May, 2000, individuals applying for a license in Colorado were required to pass one or more competency exams. Recently the exam requirement changed to the passing of only a content exam. Once received, a Provisional License may be renewed once for an additional three years if the holder has been unable to complete an approved induction program for reasons other than incompetence. An induction program is a school/district program set up to induct the probationary teacher into the profession. After holding a

Provisional License for 3-6 years the teacher may apply for a Professional License. The applicant must document the completion of a minimum of six semester or nine quarter hours of credit or the equivalent in activities or coursework that relate to one or more of the Colorado Professional Education Standards (Colorado Department of Education, 2000).

Teacher Licensing Issues

Even though the licensing of teachers has improved greatly over time, there are still issues that warrant consideration and a bit of discussion. Unlike other professions, such as law and architecture, individuals can practice the profession of teaching without being licensed (National Research Council, 2000). Individuals can substitute teach without a teaching license, teach in independent schools without a license, and teach in public schools with temporary "emergency" permits, credentials, licenses, or waivers. Data indicate that schools in high poverty areas have a higher incidence of teachers with "emergency" licenses or waivers (U.S. Department of Education, 2000).

Another issue with licensing is that teachers are being hired to teach out of their fields. Darling-Hammond (1997) described out-of-field teaching as a serious concern nationwide. She reported that approximately 21 percent of the public school teachers in 1997 lacked a minor in their main assignment field. Teaching out-of-field proves to be problematic since studies show lower levels of achievement in students who have teachers not prepared or certified in their subject area.

An issue surrounding teacher licensing directly related to teacher testing is establishing passing scores or the "cut-off" point at which a candidate either passes or fails the examination. The level of the standard can be changed simply by raising or

lowering the cut score. Since passing scores are established state by state, the score needed to pass an exam in one state could be lower or higher for the same test in another state. In examining the passing rates on exams of various states, Mitchell & Barth (1999) found that in some states candidates could pass a subject matter exam by correctly answering as few as half the test items. While these tests are being used to determine teacher competence, it is difficult to know by a passing score whether teacher candidates were good test takers, barely passed, or whether they know enough to teach effectively. In addition, failing the test seems to send a clear signal that the candidate is unsuited for teaching. But what is to say that the candidate that barely passed the exam will be a better teacher than the one that barely failed the exam?

An additional issue surrounding teacher testing is the level of knowledge the examination tests. Some would suggest that the level of knowledge required to pass the exams is low (Darling-Hammond, 1996; Mitchell & Barth, 1999). Some claim that the exam of basic knowledge and skills tests only at about the tenth grade level and that very few content exams measure knowledge at the baccalaureate level. Mitchell & Barth (1999) recommended that states require both essay-rich assessments as well as multiple choice content exams so both breadth and depth are measured. Darling-Hammond (1990) did a content analysis of a sample professional knowledge exam and determined that only 10 percent of the more than one hundred questions required knowledge of theory, research, or facts pertaining to teaching and learning, with the greatest percentage only requiring knowledge of a single fact.

The fact that teacher candidates can take the teacher competency exams multiple times until they pass is an additional issue surrounding teacher testing, raising questions

concerning the merit that can be placed on a candidate's test results. Some feel that when candidates are allowed multiple opportunities to pass a licensing exam the results aren't a true measure of their competence; false positives (passing incompetent candidates) are more likely to occur. Millman (1989) recommended that adjustments be made to raise the cutscore for repeated test takers or to only allow candidates to count their best one or two test scores. The hope would be that by raising the standard for multiple test takers, candidates' competence levels would need to improve in order to pass.

A final issue facing teacher testing is the question of test bias. Researchers (Cobb, et al., 1998; Elliot, 1988; Flippo, 1986; Gillis, 1990-91; Haney et al., 1987; Schaeffer, 1996) have examined the tendency of licensing exams to discriminate on the basis of gender or ethnicity. Any propensity of a licensing exam to discriminate is undesirable. With the changing composition of the classroom, the exclusion of a minority teaching force has a potential to cause a significant impact on the educational system. Bias in testing is an issue that test makers and state agencies need to continue to examine to assure that exams measure level of competence rather than whether or not you know the traditional culture.

Types of Examinations Nationwide and in Colorado

Only one component in the process for licensing, teacher testing, continues to surface as a method to determine teacher candidates' competence. Haney et al. (1987) suggests that testing to determine competence reflects America's historical faith in testing and skepticism about other methods of determining quality. The Holmes Group and the Carnegie Forum, in their attempts to professionalize teaching, advocated for increased standards linked to accreditation and/or licensing. The evidence used in most

states to determine if those seeking teaching licenses met the minimum standards and qualifications include: 1) coursework in state approved teacher licensure programs at the undergraduate or graduate level, 2) a major or minor in the intended teaching field, and 3) student teaching experience (National Research Council, 2000). In addition, a high percentage of states require the passing of one or more exams as proof of teacher competence.

Like specific licensure requirements, testing requirements vary from state to state as well. The exams, that teacher candidates must often pass, fall primarily into four domains. The first domain is a test that measures a teacher candidate's level of competence in basic skills (reading, writing, and mathematics). A test for basic skills appears to be the most commonly offered exam for licensing (36 states) and is frequently required for initial acceptance into a licensure program (U.S. Department of Education, 1999). The Praxis I exam developed by the Educational Testing Service (ETS) is the basic skills licensing exam most widely used by states (24) for initial licensure. Offered in either written or computer-based modes, this test measures whether individuals possess the basic competencies deemed necessary to perform satisfactorily as teacher candidates or beginning teachers. Of the remaining states that require a basic skills test, a number use assessments developed and administered by National Evaluation Systems (NES) which are tailored to the state's individual needs. While NES administers each basic skill exam, the state determines its own "cut score" or minimum passing rate for their test takers. Several other states use tests that are state developed.

The second testing domain is a test that measures the level of competency the candidates possess in the subject matter or content they will be teaching. The content exam is the second most common exam required by states for licensing. Approximately 30 states offer an exam to determine candidates' knowledge of what is to be taught and how to teach it in various settings to various students (content pedagogy) (U.S. Department of Education, 1999). The number of specific content-area assessments varies state-by-state and are administered either by ETS or NES. At the current time, Colorado provides 42 different content-area exams produced by NES. Mitchell & Barth (1999) in examining the content exams of English/language arts, mathematics, and science found that more emphasis was placed on pedagogical knowledge than on the content knowledge itself. In addition, they found that on the content tests, the essay questions tended to cover more sophisticated content than the multiple choice portion of the exams, but they found that far fewer states required essay questions than lower-level, multiple-choice versions. Licensing agencies have found it difficult to come up with a method other than an exam to measure a candidate's knowledge of content. Therefore, the content exam will most likely continue to be one of the most frequently required licensing exams.

The third testing domain is a test that measures a candidate's proficiency in professional knowledge. This exam is intended to assess teacher candidates' levels of knowledge in a broad range of teaching concepts such as educational psychology, pedagogy, child development, administration, and educational policy. In many states individuals can choose to take a professional knowledge exam that matches the level they will be teaching (elementary, middle school, secondary). Approximately 28 states

require candidates to take a Professional Knowledge of Teaching exam. Twenty-four states provide an exam at the elementary level, 26 at the middle-school level, and 26 at the secondary level (U.S. Department of Education, 1999). Several states, including Colorado, are examining performance assessment methods to more authentically measure candidates' competence in pedagogy.

The final exam that teacher candidates may be required to pass is one that deals with liberal arts and sciences. The exam that states require least frequently for licensing, the liberal arts and sciences test, examines teacher candidate competence in disciplines such as physical science, history and social science, arts and humanities, and communication. Assessing candidates in this area is, in part, an outcome of the educational movements of the 1980-90s which placed emphasis on the training of teachers with a strong grounding in the liberal arts and sciences.

Some states are now examining the practice of testing all individuals completing their sophomore year of college to determine their levels of competence in basic skills and liberal arts. While the logistics of administration of the exam (i.e., financial support, human support, etc.) as well as the decisions that will be made as a result of a student's scores (i.e., remediation for low performing students, cross institutional comparisons, etc.) are still being examined, in the future we may see a test such as this replace the basic skills and liberal arts exam requirements in some states.

Timing and Administration of Licensing Examinations

Tests are used for more than just licensure and are taken at different times during a teacher preparation program. Some states use the basic skills test for admittance into a teacher preparation program while others use it at the time of exiting the program. Some

states require that the professional knowledge exam be taken at the completion of a preparation program while in many states individuals can take the exam as early as their sophomore year. It would seem to make sense for an individual to take the content exam after completing the greatest percentage of their subject matter courses, but in most states individuals can take the content exam at any time during their programs. Exams are generally administered several times a year to allow individuals to fulfill the testing requirements more conveniently. The administration of the Colorado PLACE exams occurs four times a year (October, January, May, and July) with two sessions per assessment day (a morning and afternoon session). The scaled score and sub-scores are generally reported to the test taker approximately six weeks after the test administration. In addition, reports regarding whether individuals passed as well as their scaled scores and sub-scores are reported to the institutions to which the test taker requests their scores be sent.

Validity and Reliability of Teacher Competency Examinations

In the development of these high-stakes, pencil-paper tests, test developers are expected to provide evidence that the instruments being used are reliable and valid. In other words, do they measure what they say they measure and do so consistently. A reliable test is one that measures and yields comparable scores each time it is administered. There are several types of reliability to consider when determining the stability of the results of an instrument. The stability over time, over item samples, of items, over scores, and as a standard error of measurement should all be considered if a test is to be reliable (Best & Kahn, 1986).

There are several types of validity. The use of the results and the exams themselves help determine the type of validity necessary. Most of the validity evidence currently available on high-stakes teacher testing is based on content validity. Best and Kahn (1986) defined content validity as the degree to which the test actually measures or is specifically related to the traits for which it was designed. In other words, is what's being tested what a beginning teacher needs to know and is the test likely to assess the knowledge and skills it is intended to measure? Testing companies go through the typical content validation process asking educators to review developed test items, focusing on validity and standards alignment. As a result of content validation, policy makers, teacher candidates, and the public can be assured that those passing are likely to possess the knowledge and skills considered necessary to teach.

Construct validity refers to the degree to which scores on a given test are accounted for by the explanatory constructs of a sound theory (Best & Kahn, 1986, p. 156). Elliot (1988) reported that the Uniform Guidelines on Employee Selection Procedures from the Equal Employment Opportunity Commission suggested that construct validity consists of data that shows that the procedure being used measures whether the candidates have identifiable characteristics which are determined to be important for performance in the job for which the candidate is being evaluated. For the use of this study, the construct would be novice teachers' achievement or quality in teaching. If a teacher licensing exam had construct validity, it would systematically measure the judgements made by observations of behavior identified as effective (achievement or quality) in teaching. For personality and aptitude tests, construct validity is particularly important.

There are two types of criterion-related validity. The first is predictive validity; the second, concurrent validity. Predictive validity refers to the usefulness of a test at predicting some future performance (Best & Kahn, 1986, p. 156). Not particularly easy to assess, predictive validity relies on criteria that can be accurately measured and described. Concurrent validity examines the test being used and its close and useful relationship with other measures such as grades, ratings, or scores on other exams (Best & Kahn, 1986).

Research would suggest that the sole reliance on content validation evidence in high-stakes teacher testing is not enough (Cobb et al., 1998; Flippo, 1986; Goodison, 1986; Guyton & Farokhi, 1987; Madaus & Pullin, 1987; Messick, 1989; Poggio et al., 1997). Because the passing of these tests has a significant impact on the lives of those who take them (e.g., acceptance into a teacher licensure program, denial of a license, etc.), determining the appropriateness and trustworthiness of making decisions based on these tests requires more than just content validity evidence. Madaus & Pullin (1987) suggest:

> The kinds of inferences and decisions that are being made from scores on teacher tests require not only content-related evidence, but also criterion-and construct-related evidence. Criterion-related evidence needs to be collected because, if a test has no connection to minimal success as a teacher, why give it? Moreover, since decisions made on the basis of these test scores are ultimately justified on the basis of the test-takers potential "competence" to perform successfully at some minimal level in the classroom, construct-related evidence must also be collected. In other words, does the test actually measure an aspect of competence related to classroom performance? (p. 32)

Poggie et al. (1997) performed a series of comprehensive and detailed empirical investigations using the typical content validation method and three distinct and independent empirical validation studies to evaluate four different tests used for teacher

certification. Findings indicated that the recommendations that resulted from the content validation were different than those that emerged from the empirical studies. Therefore, reliance on only content validation would be unwise. The researchers recommended that before interpretations from high-stakes tests are made, evidence of content and empirical validity should be present.

Individuals who are effective teachers must possess a number of qualities that are difficult to measure by a pencil-paper test. Teachers must be able to teach their content in such a way that different students can understand; in their efforts to help children they must be compassionate, resourceful, dedicated, truthful, and determined (National Research Council, 2000). Therefore, passing of a pencil-paper exam will not insure that a teacher will be successful in the classroom. Currently there is little evidence about the relationship between a candidates' scores on a licensing exam and their performance on the job (Goodison, 1986, Guyton & Farokhi, 1987; Madaus & Pullen, 1987, McPhee & Kerr, 1985; National Research Council, 2000; Wiggins, 1993).

As a tool in the decision-making process to determine whether an individual should or should not be permitted to enter the teaching profession, it should be assured that these decisions are based on teacher tests that are valid. The procedure for validation should be a continuous process to assure the reliability of decisions based on their results (Elliot, 1988). Alternative testing should be investigated to determine the most effective methods of examining whether prospective candidates meet the standards for becoming effective teachers.

Alternative Methods of Testing Teachers

Only a few states have adopted methods of assessment that are performance based. Probably the most significant reasons are that they are more time-consuming and more expensive to administer. Schalock, et al. (2000) indicated that performance-based assessment, more specifically teacher work samples, cause teachers to go beyond being just teachers to professionals nurturing the profession. Performance assessments not only reveal what an individual knows and can do but go beyond to measure teacher accomplishments. Schalock, Schalock and Myton (2000) emphasized going beyond knowledge based testing to include methods that support the progress of the students that they teach. They stated:

> What and how much one knows as a teacher, and however skillful one may be as a teacher, are important as enablers of effectiveness. But knowledge and skill do not assure effectiveness, and when progress in student learning is what counts in a school a quality assurance system for teacher licensure needs to adopt performance criteria and standards that reflect what counts. (p. 1.3)

Competency/performance check-lists are an important component in assessment, but proof of teacher effectiveness is lacking without the evidence that the knowledge, skills and competencies a teacher uses make a difference with students.

The Interstate New Teacher Assessment and Support Consortium has worked to create more standards based assessments for teachers, linked closely to the standards and performance assessments that have been adopted by the National Board for Professional Teaching Standards. As described previously, the National Board is a rigorous process in which teaching performance measures are examined and evaluated to determine master teaching status. The INTASC assessments are structured to provide evidence from real-life teaching situations with evidence to include an assessment of student learning and

commentary across several lessons. Thus far, the only area that these principles have been translated into are model licensing standards for mathematics, with progress being made in the areas of English/language arts and science (Schalock, et al., 2000).

One of the most recent initiatives around performance assessments is Teacher Work Sampling. This performance method is used by all the teacher education institutions in Oregon. The goals and outcomes of these work samples are that student teachers 1) learn how to identify and sequence learning goals for a classroom of students which reflect state standards for learning; 2) align instruction and assessment with learning goals to be accomplished; 3) monitor the progress each student is making toward these goal(s); 4) adapt instruction to accommodate where each student stands in his or her journey toward accomplishment; and 5) meaningfully summarize and report the progress made by each child in this regard. The work samples provide an organizational framework for the curriculum and instruction in Oregon's teacher preparation programs (Schalock, et al., 2000, p. 1.5).

When the knowledge of the teacher is the primary method used in assessment, little is known about the impact they have on the students within their classrooms. Performance based assessment methods provide a broader look at teachers' potential influence on student. Teacher Work Samples appear to be one of the more forward-thinking examples of performance-based assessment. Over the next decade, it is likely that a greater percentage of states will examine and potentially adopt methods to assess prospective teachers that will be more contextual, authentic, and valid.

Predictive Validity of High-Stakes Teacher Tests

The literature surrounding predictive validity defines and speaks to the typical format for predictive validity studies and the utility of perception measures for predictive validity. While the literature contains numerous works which deal with the planning, development, and evaluation of proficiency in teacher licensing testing, empirical studies of factors which may influence performance on licensing exams and their impact on teaching effectiveness are a small part of the available literature (Flippo, 1986; Goodison, 1986; Guyton & Farokhi, 1987; Madaus & Pullin, 1987; McPhee & Kerr, 1985; Schaeffer, 1996, Wiggins, 1993).

Schaeffer (1996) suggested that there is no evidence whatsoever that any test created for testing teachers can identify who is going to be a bad teacher. Don Medley (1984), a senior research scientist for Educational Testing Service (ETS), admitted that no scores on any of the subject matter exams are related to teacher effectiveness. National Testing Service psychometricians agreed, indicating that the intent of the exams is not to determine who will and will not be an effective teacher. The purpose for the tests are to determine minimal competence.

The studies of predictive validity provide varying results. A study of Tennessee Tech graduates by Ayers (1988) looked at the relationship between the National Teacher Exam and principals' ratings of teachers in the classroom. None of the findings were significant. High scores did not necessarily produce good ratings and low scores did not necessarily produce low ratings. The score that each individual received on the NTE proved to have no connection to how he/she performed in the classroom. The only significant relationship was between the scores on the NTE and scores on other exams.

Guyton & Farokhi (1987) investigated the relationships among academic performance, basic skills, subject matter knowledge, and teaching skills of teacher education graduates. They set out to test further the long-standing assumptions that better academic qualifications make better teachers and that there is a strong relationship between academic quality and good teaching. The researchers examined Georgia State University graduates over a three-year period to determine whether basic skills and academic performance were related to subject matter knowledge and teaching performance and if subject matter knowledge was related to teaching performance. Academic quality was measured by scores on two statewide tests (Regents' Test – basic skills, and Teacher Certification Test – subject matter), and academic performance was measured by grade point average at the sophomore and senior years. What they found was that basic skills ability was a predictor of subject matter knowledge because scores on the two tests were correlated. However, basic skills did not appear to be related to on-the-job performance as measured by a lack of correlation between the test score and the competencies passed on the TPAI (Teacher Performance Assessment Instrument). The results raise the question of the worth of testing for basic skills for entry into a teacher licensure program. Both GPAs correlated significantly to the scores on the TCT or the TPAI exams. The research also supports the notion of requiring a certain GPA for entry into the teaching profession. It is important to note that the study found a greater correlation between the upper level GPA and teaching performance than the GPA at entry into the program (sophomore level). The researchers suggested the possibility of requiring a higher GPA to exit a licensing program than to enter it. Since the bulk of the courses taken in the junior and senior years are education courses, the findings suggest

that grades in education courses are much better predictors of teaching success than grades in general knowledge courses.

McPhee & Kerr (1985) examined the relationship between scholastic aptitude and achievement of student teachers. The study compared the participants ACT and Sequential Test of Educational Progress scores to scholastic aptitude as measured by cumulative grade-point-average and grade-point-average in content and professional education. The general findings of the study suggest that GPA and ACT scores are significant and meaningful predictors of performance on the curriculum proficiency examination. The researchers concluded that there was some evidence for the criterion-related validity of the competency scores as demonstrated by the relationships among competency and achievement variables independent of scholastic aptitude. They noted the apparent lack of a predictive relationship among scholastic aptitude and competency test sub-scores in similar content areas. They suggested that the lack of logical predictive relationships among the subject areas of scholastic aptitude variable and the competency subtests provide the strongest indication of the need for closer examination of the validity of the competency tests (p. 190).

Darling-Hammond (2000) examined several studies to determine the relationship between teaching quality and student achievement. The bulk of the research reviewed suggested a strong positive relationship between education course work and teacher effectiveness. Several of the studies compared the impact of course work on teaching quality, with findings revealing that education course work provided a stronger positive effect than did subject matter course work. In addition, findings of several other studies revealed that the amount of education course work completed by teachers explained more

of the variance in teaching performance, and in some cases students achievement, than did subject matter test scores, GPA in content, or basic skills test scores.

The judgements that are made by the scores individuals receive on teacher licensing exams are often treated as predictive, but the type of evidence needed to make these inferences is often not present. Research that provides a link between performance on a test and performance as a teacher would be beneficial. Evidence of predictive validity of high-stakes teacher licensing exams is needed to support their use for career impacting decisions.

The Beginning Teacher

The literature dealing with the beginning teacher will focus on what is done or should be done to support and induct highly-qualified and effective beginning teachers into the profession. Research indicates that it is difficult to predict what will make beginning teachers successful in the classroom and that the attrition rate of new teachers within their first five years continues to be high. It is important to examine ways to retain the best and brightest teachers.

Gratch (1998) completed a study to learn how beginning teachers in North Carolina were being inducted into the profession and how the induction process could be enhanced to decrease the rate of teacher attrition. Ten beginning teachers were interviewed along with their mentors. All were interviewed during five different periods throughout the school year. Findings revealed a prevalence of comments and concerns surrounding issues of classroom management and discipline, time management, getting sufficient materials, organizing the classroom, dealing with parents, daily scheduling and planning, paperwork, meeting the needs of individual students, motivating students

to learn, collaboration, and isolation. Of the ten beginning teachers, two were more effective in their work than the other eight. Both successful teachers had preparation programs where they spent significant time in schools early on. In addition, they described the positive impact of peer support groups and close relationships with cooperating teachers on their feelings of success. Results of the study appeared to reveal the importance of positive collegial relations and the on-going nature of teacher development in feelings of confidence in the teaching profession.

A longitudinal study completed by Pigge and Marso (1997) examined whether or not selected academic ability indices and personal characteristics of 117 teachers were associated with changes in their attitudes toward teaching. The researchers measured attitude at the commencement of training, the end of student teaching, and the completion of the fifth year of teaching. What they found was that preservice teachers' attitudes remained rather constant during their preparation but were less positive near the end of their fifth year of teaching. Results also indicated that higher ACT scores were associated with higher levels of attitude toward teaching. In addition, the assurance about teaching, locus of control orientation, secondary-elementary school major, and the Myers-Briggs preference classifications were found to be related to novice teachers' attitudes toward teaching as a career. Greater diversity in attitude toward teaching was found at the end of the fifth year of teaching. The researchers suggested that the results "may reflect the challenge and demands of a profession characterized by stress, burnout, and high attrition rates" (p. 8). Also of interest was the fact that those candidates who were more internally controlled (feel more responsible for pupils, have higher achieving pupils) reported more significant declines in positiveness of attitude from the end of

preparation to their fifth year than did their counterparts. Researchers felt this suggested that the teachers who are more desirable are the ones who suffer most from the transition and consequently are more apt to leave the profession.

Shanker (1996) did a study that examined high-achieving school systems in other countries to determine any distinct teacher preparation program characteristics that impacted the success of the teachers from these programs. The characteristics that appeared to impact the teachers success in their first years of teaching were solid background in liberal arts, deep expertise in a subject area, some background in pedagogy, and a systematic program to induct individuals into the profession. One of the most significant characteristics appeared to be that the beginning years include a close connection with more-experienced colleagues who assist until the developing teacher gains experience and takes on more responsibilities in the classroom.

The U.S. Department of Education (1997) completed a study that looked at how the United States compares to several other countries (Australia, Japan, and New Zealand) in the induction of new teachers. These countries have been relatively successful at creating ways to help new teachers through their very tough first years. Some of the characteristics that appeared to make an impact are: 1) New teachers are viewed as professionals on a continuum, with increasing levels of responsibilities as their experience increases along with significant support from experienced teachers. 2) New teachers are nurtured with maximum interaction with other teachers. 3) Teacher induction is a purposive and valued activity. 4) All or most of the school staff contribute, support, and take responsibility for the nurturing of new professionals.

5) The assessment of new teachers focuses on how to help them become better, rather than simply assessing their work. Although the induction process wasn't perfect at any of the sites examined and there was variability within schools and communities, the U.S. Department of Education suggests that American schools can learn a lot about how to support beginning teachers from the induction programs taking place in other countries.

Gregory (1998) describes successful induction programs as having three main objectives: 1) to help new employees settle into the environment, 2) to help understand their responsibilities, and 3) to ensure that the organization receives the benefits of a well-trained and highly-motivated employee as quickly as possible. Our nation deals with not only how to recruit the best and brightest but also how to retain successful teachers in the teaching profession. Whether it is through the improvement of preparation, the criteria for licensing, or the mentoring of novice teachers in their first years, we need to work at developing in candidates the characteristics that will increase their success and longevity as teachers.

Summary

The review of the literature identified the various components to consider when examining high-stakes teacher testing and predictive validity. Specifically; the context (teacher education reform, demographic trends, support for quality teaching and standards), the program (types of courses/content/timing, contextual teaching and learning, teacher licensure program initiatives), and the licensing process (history of high-stakes teacher testing, teacher licensing issues, types of examinations, timing and administration, validity and reliability of teacher competency examinations, alternative methods of testing, predictive validity of high-stakes teacher tests, the beginning

teacher) were examined. The research would suggest that all of these components play an important and interrelated role.

CHAPTER III

Methodology

This chapter delineates the methodology for conducting the study. This study attempts to determine the predictive validity of the Professional Knowledge PLACE exam by ascertaining if any significant relationships exist between novice teachers' perceptions of personal success at performing pedagogical skills and knowledge in their first or second year of teaching and the scores they received on the Professional Knowledge PLACE exam. The survey instrument used for this study was developed by compiling several questionnaires from previous studies dealing with quality indicators of teaching competence. The methodology for the study is presented under the following headings: a) population, sample, and sampling procedure; b) variables to be measured; c) instrumentation; d) data collection procedures; and e) data analysis treatment.

Research Questions

The research questions guiding this study focus on the validity of the Professional Knowledge PLACE exam as a predictor of first or second year teacher success.

1. How well does a first or second year teachers' overall self-rating of performance of pedagogical skills and knowledge correlate with theirs scaled score on the Professional Knowledge PLACE exam?

2. How well do each of the sub-domains (i.e., Knowledge of the Learner, Instructional Planning and Assessment, Instructional Delivery, and Professional Environment) correlate with self-rated skills within those domains?

3. What demographic characteristics might account for any significant amount of variance in the self-rated scores as compared to scores received on the Professional Knowledge PLACE exam?

Population, Sample, and Sample Design

The theoretical population of novice teachers to which this study was generalized are all novice teachers in the United States fulfilling the requirement of passing high-stakes exams for initial teacher licensure. The teachers who responded to the study survey should be characteristic of the theoretical population of novice teachers.

The target population were novice teachers who completed their teacher licensure programs at Colorado State University, fulfilled the requirements for licensing in the state, and have been teaching in a secondary public school in Colorado for one or two years. The accessible population for the study were individuals who completed the teacher licensure program at CSU within the fall 1997, spring 1998, fall 1998, and spring 1999 semesters who were currently employed in secondary schools in Colorado and who could be located. University student teaching supervisors, education faculty, and content advisors were provided with a roster of students who did their student teaching in the previously mentioned semesters. They were asked to identify past students and the school at which they were currently employed as a first- or second-year teacher. Once the schools at which each of the past program completers were determined, a phone call was made to confirm their location and get their verbal willingness to participate in the study (see Appendix A for phone script). A follow-up letter was sent asking them to confirm their willingness to participate, requesting their addresses, and requesting the method by which they would allow the researcher to access their Professional Knowledge

PLACE scores (see Appendix B for follow-up letter). A self-addressed, stamped envelope was included for the return of their signature and additional information. Once follow-up letters were returned, a questionnaire was sent directly to the school at which each of the first- and second-year teachers who were determined to meet the criteria for the study were teaching.

Definition of Variables

Independent Variables

The independent variables in the study are demographic attribute variables. These variables related to the sample of novice teachers are: (a) gender, (b) years of teaching, (c) current teaching status, (d) community setting, (e) percentage of teaching load in the content the individual is licensed in, (f) overall GPA at completion of licensure, (g) GPA in education courses, and (h) class status at the time the individual first took the Professional Knowledge exam. Additional independent variables were the scaled score each participant received on the Professional Knowledge exam (interval data ranging from 220-300) and the sub-domain ratings they received.

Dependent Variables

The dependent variables in the study were the level of perceived success at performing the teaching tasks in the teacher's first or second year of teaching associated with knowledge of the learner, instructional planning and assessment, instructional delivery, and the professional environment. The levels within the dependent measure are interval data and were measured on a scale of 1 (poor) to 5 (excellent).

Instrumentation

Instrument Design

There were two specific instruments utilized within this study. One, the survey instrument, the researcher had control over the development. The second instrument, the Professional Knowledge PLACE exam, was created and administered by National Evaluation System. Specifics regarding the development of the survey instrument, as well as the scoring of the PLACE exam, are described below.

Multiple surveys from previous studies dealing with quality indicators of teaching competence as well as professional development and professional program teaching standards data were compiled and reviewed. Through the review of the existing instruments, it was determined that the construction of a new instrument was necessary to more accurately align with Colorado's Professional Knowledge PLACE examination objectives.

For the use in this study, four of the most relevant resources were determined. Those sources determined to be relevant were, 1) University of Colorado at Denver Initial Teacher Education Program Survey (Rhodes & Goodwin, 1999), 2) Massachusetts Consortium for Initial Teacher Professional Development Survey (Fonseca, 1998), 3) Rutgers University Program Evaluation Survey of Teacher Education Graduates (Simcoe & Young, 1999) , and 4) 2260.5-R-5.00-Standards for the Approved Program of Professional Education and Professional Development of Teachers and Special Service Personnel (Colorado Department of Education, 1991). Copies of each of the four sources were merged and a list of quality indicators of teacher competence were provided to three teacher education experts. The teacher educators were selected because of their

involvement, interest, and expertise in Colorado teacher preparation. All taught in the public schools at some point in their careers. One taught for three years, another for five years and the third taught for ten years. One of the experts was a principal in a public school for eight years. The three experts were all currently teaching in the teacher licensure program. One expert had been training teachers for the past thirty years, another for the past sixteen years and the final one for the past six years. One expert was currently in an administrative position in the School of Education along with training teachers. Two of the experts were supervising student teachers and working directly with the public schools in teacher training.

Individually, each of the experts, along with the researcher, coded the compiled list to determine how each item from the four sources aligned with the four sub-domains of the Professional Knowledge PLACE exam and the specific content objectives that were established for each. Once the experts had coded the data the researcher merged all the items into one document that aligned the coded quality indicators with the four sub-domains and the corresponding content objectives. Because the list was rather extensive, the researcher condensed it by determining the questions/standards that proved to be most consistently coded by the experts. The researcher and one of the teacher educators further limited and refined the questions/standards that appeared to represent the most accurate alignment with the Professional Knowledge sub-domain objectives. After final editing, 60 item statements were selected for the pilot test. In addition, qualitative questions were added to the final section of the questionnaire because it was determined that qualitative data might add to the interpretation of the quantitative data to be collected. Finally, with the review of the demographics pages from several survey

instruments, a demographics page was developed. Two of the teacher educators provided input on the relevancy of the demographic information being requested and final editing and revisions were made.

Also included on the questionnaire was a request for the last four digits of participant's social security number as well as a signature line which, when signed and returned, indicated participant's informed consent. In addition, a reminder to include a copy of PLACE score data was included. The social security number was used to confirm the accuracy of the match between the survey results and PLACE score data. Once an accurate match was made, the social security number was replaced with a unique code used for follow-up purposes only. The final database was free from any identifying information.

The Professional Knowledge PLACE exam developed by National Evaluation System was also utilized in this study. The Professional Knowledge exam is divided into four sub-domains and a performance (written) component. After completing the exam individuals received a score report that indicated whether or not they pass as well as their level of performance in the four sub-domains. Passing status is determined on the basis of the total assessment performance. The scaled score is a combination of the number of scorable questions answered correctly on the selected-response sections and the score(s) received on any performance assessment(s), converted to a scale from 100 to 300. A score of 220 represents a passing score. Sub-domain scores range from 1 to 4. In most cases, individuals who receive 3's and 4's in all four sub-domains pass the exam. In some cases, an individual can pass the exam even if he/she receives a two in a sub-

domain as long as his/her scores in the other three domains and on the performance assessment are threes or fours.

Pilot Test

The survey instrument used for this study attained content validity through rigor in the development of the instrument and validation procedures. Reliability was assessed through a pilot test of novice teachers who met the criteria of the study. Eleven current first or second year teachers were contacted to pilot the survey. Nine of the eleven surveys were returned. Six surveys were completed by females and three were completed by males. The surveys were completed by novice teachers in a variety of content areas (3 Social Studies, 3 Consumer and Family Studies, 1 Science, 1 Speech, and 1 Math). Five of the nine teachers completing the pilot study were in their first year of teaching. The remaining four were in their second year. All but one of the respondents were teaching in schools in suburban communities with the remaining participant teaching in a rural area. All participants were teaching full-time with all but one holding a 100% position at the level and content in which they were licensed. Five participants had overall GPA's ranging from 3.5-4.0. The remaining four had overall GPA's ranging from 3.0-3.49.

The pilot test was used to determine the propriety of the survey's overall format, questions, response categories, and time to complete. All but one of the individuals completing the survey determined that the length was acceptable and the format was easy to understand. Eight items were determined to be unclear by at least two participants. As a result, the questions were examined and revised to make them more understandable (see Appendix C for pilot study survey instrument).

Reliability

Factor and reliability analyses of the responses to the entire survey were conducted to confirm alignment of questions with the sub-domains. This factor analyses and internal consistency (Cronbach's α) concluded that the instrument was measuring what it intended to with α's above .83 for all the sub-domains.

Data Collection

Survey instruments were mailed, via first-class mail, to the sample of novice teachers (see Appendix D). Study participants were asked to return the survey instrument within fourteen days of receipt. The questionnaire was accompanied by a cover letter describing the purpose and use of the data collected (see Appendix E). If the participant did not provide permission for the researcher to access their Professional Knowledge PLACE exam scaled score and sub-scores from the institution to which they had them reported, they were reminded to include a copy of their results when they returned the survey. A self-addressed stamped envelope to was included for their convenience. The response deadline was included in the instrument instructions. The procedures described below were used to collect data.

1) A follow-up postcard was sent to non-respondents five days after the deadline date, with a new deadline date of ten days after the mail date (see Appendix F);

2) A follow-up letter with a second copy of the survey instrument was sent five days after the deadline date of the first follow-up letter (see Appendix G);

3) Ten days after the follow-up letter a telephone contact was made.

Data Analysis

Several statistical techniques were used in this research to answer the research questions. One of the statistical techniques used was descriptive analysis. Descriptive analysis is a technique that allows the researcher to study the research population in detail. Means and percentages were used to describe the composition of the data set. This technique was employed to analyze the population and develop a profile of novice teachers.

Research questions one and two were addressed using Pearson product-moment correlation coefficient. The correlation coefficient was used to determine any significant correlations between novice teachers' perceptions and the independent variables.

Research question three was examined using Pearson correlations as well. This procedure was used to test the research question that involved an analysis of the factors that explain any relationships between novice teachers' perceptions of their performance and their scaled and sub-scores on the Professional Knowledge PLACE exam. In order to do this, correlational analyses were run on each level of certain demographic variables.

The statistical package that was used to manage and analyze the data in this study was SPSS (Statistical Package for Social Sciences). This software allowed for a broad range of data analysis techniques frequently employed in the behavioral and social sciences.

The survey instrument included a section with open-ended (qualitative) questions to be answered by the study participants. These questions were designed to allow the participants the opportunity to express (1) their beliefs about the validity of the Professional Knowledge PLACE exam to measure their teaching competence and (2)

what variables impacted their feeling of success as a novice teacher. Data were examined to determine reoccurring themes that supported findings from previous studies dealing with high-stakes teacher testing and the success of novice teachers.

CHAPTER IV

Findings

The research questions guiding this study were designed to ascertain if a novice teacher's score on the Professional Knowledge PLACE exam predicted success in their first or second year of teaching. And, if a score on this exam was not a predictor, the study set out to determine what additional factors might account for any significant amount of variance in self-rated scores as compared to the scores novice teachers received on the exam. Presented are the findings from data collected through survey research. This chapter is divided into five sections: a) sample; b) demographic information; c) content validity results, d) predictive validity results; and, e) summary of qualitative data collected from participants.

Demographic Information on Respondents

A survey instrument was mailed to eighty-four novice teachers who could be located, were teaching in a Colorado secondary public school, and were in their first or second year of teaching. The method used to identify these participants was described in Chapter III. A total of sixty-five surveys were returned. Of those sixty-five, three were determined to be unusable. One survey was deemed to be unusable because the respondent's corresponding Professional Knowledge exam score could not be located. Another survey respondent had taken the elementary level Professional Knowledge exam rather than the secondary one. Finally, the third survey respondent had never passed the

Professional Knowledge exam and was teaching on an emergency license. A total of sixty-two surveys were useable for a response rate of approximately 74%.

Non-response error was controlled in two ways. First, early and late respondents (Miller, 1983) were compared with the late respondents serving as surrogates for non-respondents. No significant differences were found between the two groups of respondents ($p>.05$) in the PLACE exam scaled score and sub-scores and in their self-rated responses. In addition, the demographic data on non-respondents were examined to determine if they differed in anyway from their responding counterparts. The non-respondent population was similar in demographic make-up, and the mean of their scaled score and sub-scores on the PLACE exam were very similar to those who responded (see Appendix H). Therefore, results were generalized to the population of study participants.

Demographic statistics are presented on all respondents of useable surveys. The demographic variables reported are gender, ethnic background, current teaching status, primary teaching area, community setting, percentage of teaching load at the grade level of the license, percentage of teaching load in the teaching concentration of the license, overall GPA in licensure program, GPA in education courses in the licensure program, and class status at the time the Professional Knowledge exam was first taken.

Data in Table 1 displays the gender distribution of the participants. Female teachers represented the majority of the respondents, 40 (64.5%). The remaining 22 (35.5%) of the respondents were male teachers.

Table 1

Gender Distribution of First- and Second-Year Teacher Participants

Gender	N	Percentage
Female	40	64.5
Male	22	35.5
Total	62	100.0

Table 2 summarizes the respondents in terms of ethnicity. The respondents were represented by American Indian, Asian American, Hispanic, and Caucasian (non-Hispanic) individuals. Caucasian teachers represented the majority of the first- and second-year teachers responding to the survey, fifty-eight out of sixty-two (93.5%). Two of the teachers that responded were Hispanic (3.2%). One of the remaining two respondents was American Indian (1.6%) and the other was Asian American (1.6%).

Table 2

Ethnic Background Distribution of First- and Second-Year Teacher Participants

Ethnicity	N	Percentage
American Indian	1	1.6
Asian American	1	1.6
Caucasian (non-Hispanic)	58	93.5
Hispanic	2	3.2
Total	62	100.0

Another demographic variable of interest was the first- and second-year teacher's current teaching status. Teachers were asked to report if their teaching responsibilities

were full-time, part-time, or something other than either of those. Table 3 shows that 57 of the 62 teachers (91.9%) were employed full-time, 4 teachers (6.5%) were employed part-time, and one individual (1.6%) indicated being employed at a level other than full-time or part-time.

Table 3

Current Teaching Status of First- and Second-Year Teacher Participants

Current Teaching Status	N	Percentage
Full-time	57	91.9
Part-time	4	6.5
Other	1	1.6
Total	62	100.0

Participants were asked to indicate their primary teaching areas. Table 4 reveals that of the 62 respondents, fourteen (22.6%) were teaching in Science; ten (16.1%) were teaching in English; nine (14.5%) were teaching in Consumer and Family Studies; nine (14.5%) were teaching in Social Studies; five (8.1%) were teaching in Agricultural Education; five (8.1%) were teaching in Math; three (4.8%) were teaching in Business Education; four (6.5%) were teaching in Physical Education; one (1.6%) was teaching in Technology Education; one (1.6%) was teaching in Art; and, one (1.6%) was teaching in Marketing.

Table 4

Primary Teaching Area of First- and Second-Year Teacher Participants

Primary Teaching Area	N	Percentage
Agricultural Education	5	8.1
Art	1	1.6
Business Education	3	4.8
Consumer and Family Studies	9	14.5
English	10	16.1
Marketing Education	1	1.6
Math	5	8.1
Physical Education	4	6.5
Science	14	22.6
Social Studies	9	14.5
Technology Education	1	1.6
Total	62	100.0

Participants were also asked to indicate whether the community setting of the school in which they taught was rural (25,000 or less), suburban (25,000-250,000), or urban (>250,000). Table 5 reveals that those teaching in a rural community represented 35.5% or 22 respondents. Those teaching in a suburban community represented 58.1% or 36 respondents. Four of the 62 respondents (6.5%) reported teaching in schools in urban communities.

Table 5

Community Setting of the School in Which the First- and Second-Year Teacher Participants Teach

Community Setting	N	Percentage
Rural (25,000 or less)	22	35.5
Suburban (25,000-250,000)	36	58.1
Urban (> 250,000)	4	6.5
Total	62	100.0

Teachers were asked to determine if their teaching load was at the grade level for which they were licensed. Table 6 summarizes these data and illustrates that 95.2% or 59 of the 62 respondents had teaching loads that were 100% at the grade level in which they were licensed. In addition, 1.6% (1 participant) indicate having 99-81% of his/her teaching load at the grade level he/she was licensed; 1.6% (1 participant) indicated having 80-61% of his/her teaching load at the grade level he/she was licensed; and, 1.6% (1 participant) reported that 60-40% of his/her load was at the grade level he/she was licensed. There were no participants who indicated having a teaching load of less than 39% at the grade level in which they were licensed.

Table 6

Percentage of Teaching Load at the Grade Level the First- and Second-Year Teachers Were Licensed

Load at Grade Level	N	Percentage
100%	59	95.2
99-81%	1	1.6
80-61%	1	1.6
60-40%	1	1.6
Total	62	100.0

Participants were asked to determine the amount of their teaching load that was in the teaching concentration in which they were licensed. As shown in Table 7, 45 of the 62 respondents (72.6%) were employed 100% in the content area in which they were licensed.

Table 7

Percentage of Teaching Load in the Teaching Concentration the First- and Second-Year Teachers Were Licensed

Load in Teaching Concentration	N	Percentage
100%	45	72.6
99-81%	7	11.3
80-61%	3	4.8
60-40%	4	6.5
39% ↓	3	4.8
Total	62	100.0

Seven respondents (11.3%) were employed 99-81% in the content area in which they were licensed; 3 (4.8%) were employed 80-61% in the content area in which they were licensed; 4 (6.5%) were employed 40-60% in the content area in which they were licensed; and, the remaining 4.8% (3 individuals) indicated that 39%↓ of their teaching position was in the content area for which they were licensed to teach.

Table 8 reveals the results when participants were asked to determine their overall GPA at the completion of the teacher licensure program. The largest number of respondents, 54.8%, indicated GPAs at completion of the licensure program in the range of 3.5-4.0; 30.6% indicated having earned a GPA in the range of 3.0-3.49. Six respondents, 9.7%, indicated having earned an overall GPA of 2.5-2.99. There were no respondents who indicated having earned an overall GPA of 2.49 or below. Finally, 4.8% of the respondents reported that they did not recall their overall GPA at the completion of the licensure program.

Table 8

Overall GPA at the Completion of the Teacher Licensure Program of the First- and Second-Year Teacher Participants

GPA	N	Percentage
3.5-4.0	34	54.8
3.0-3.49	19	30.6
2.5-2.99	6	9.7
Don't Recall	3	4.8
Total	62	100.0

Table 9 represents the responses when asked to determine the GPA received in education courses completed for the licensure program. Those that received GPAs in the range of 3.5-4.0 represented 79% of the respondents; 11.3% indicated receiving GPAs in the range of 3.0-3.49. No respondents reported receiving GPAs below 2.99 and, six respondents (9.7%) could not recall their education coursework GPA.

Table 9

GPA in Education Courses Completed for Licensure Program of the First- and Second-Year Teacher Participants

GPA in Education Courses	N	Percentage
3.5-4.0	49	79
3.0-3.49	7	11.3
Don't Recall	6	9.7
Total	62	100.0

The final piece of demographic information asked participants to determine their class status at the time they first took the Professional Knowledge exam. Teacher licensure students were allowed to take the Professional Knowledge exam at any time during their preparation. Respondents were asked to determine if they had taken the exam during their sophomore, junior, or senior year, or, within a post-bachelor or Master's program. Table 10 indicates that the largest percentage of respondents, 40.3%, took the exam as Post-Bachelor students; 25.8% took it as seniors; 19.4% took it as juniors; 9.7% took it as Master's students; and, 4.8% took it as sophomores.

Table 10

Class Status of First- and Second-Year Teacher Participants at the Time They First Took the Professional Knowledge Exam

Class Status	N	Percentage
Sophomore	3	4.8
Junior	12	19.4
Senior	16	25.8
Post-Bachelor	25	40.3
Master's	6	9.7
Total	62	100.0

Factor Analysis and Reliability Results

The survey instrument for this study was developed using three questionnaires from previous studies dealing with quality indicators of teaching competence as well as the Colorado standards for approved professional education programs. Since a new instrument was developed for this study, it was necessary to determine the content validity or the degree to which the survey was actually measuring the skills and traits for which it was designed. Content validity was tested utilizing factor analyses and reliability analyses (Cronbach's alphas). Factor analyses were used to reduce the number of variables of this study to a more manageable and meaningful number of summated scores. Cronbach's alphas were used to check the internal consistency/reliability of the new scales that were formed through the factor analysis. This was done to confirm the alignment of questions within the sub-domains of the survey instrument.

Factor analysis and reliability analysis were conducted on the survey instrument used for the pilot study, concluding that the instrument measured what it intended with α's above .83 for all four of the sub-domains. Since the pilot sample was small, 11 respondents, a second factor analysis/reliability analysis was conducted to support the findings of the initial study using the instruments returned by the 62 study respondents.

A factor analysis was calculated on the survey instrument to determine how the questions the expert panel aligned with each of the four sub-domains fit together conceptually. Individual factor analyses were completed on each of the four sub-domains to determine if all the items could be grouped into smaller numbers of composite variables or components. The knowledge of the learner sub-domain factored into three components; the instructional planning and assessment sub-domain factored into four groups; the instructional delivery sub-domain factored into three groups; and the professional environment sub-domain factored into three groups. Once grouped, the items were examined to determine which specific items loaded into each of the components with factor loadings of .40 or higher. Some of the items loaded above the .40 level in more than one component. These items were examined to determine if they conceptually fit in the components they factored into and were left in all the ones to which they were related. The items that loaded high on each of the components were then examined to determine a name or title that described the item set.

The factor analysis results for the 16 questions that corresponded to the sub-domain of Knowledge of the Learner are delineated in Table 11. Items in this sub-domain loaded into three components. After examining the items that loaded high (>.40)

Table 11

Factor Analysis of Knowledge of the Learner Sub-domain

	Component		
Knowledge of the Learner Survey Questions	1	2	3
Understand developmentally appropriate behavior and respond effectively to students needs.			.808
Relate students' physical, social, emotional, and intellectual development to planning and organizing instruction.			.815
Present and explain subject matter in clear, accurate, and developmentally appropriate ways.		.618	
Recognize multiple paths to learning and teach to varying learning styles and performance levels.	.489	.615	
Understand how student attitudes and backgrounds can affect learning.	.705		.440
Understand the effect various systems, such as peers, groups, families, and communities have on student learning.	.815		
Understand how students' misconceptions about a subject can affect learning.	.644		
Provide an invitational classroom conducive to all students' learning.	.668		
Develop a sense of community, which enhances students' sense of self-worth in the classroom	.763		
Practice democratic principles that show consideration for the rights and responsibilities of students as well as encourage students to do the same.	.763		
Adapt curriculum materials to the unique learning needs of students.			.521
Recognize that all students have the potential for learning and personal growth.	.532		
Respect and value all types of diversity in students.	.596	.594	
Ask questions to stimulate student understanding and thinking.		.621	.412
Draw on a wide range of strategies to engage students in learning.		.867	
Engage students in relevant experiences which foster positive, productive learning.		.644	

Component 1 = Understand, recognize & respect diverse learners
Component 2 = Instructing diverse learners
Component 3 = Adapting curriculum to individual needs

in each of the components the following titles describe how the items fit together conceptually: Component 1 – Understand, recognize & respect diverse learners; Component 2 – Instructing diverse learners; and Component 3 – Adapting curriculum to individual needs.

The factor analysis for the 16 questions that corresponded to the sub-domain of Instructional Planning and Assessment resulted in the items loading into four components. After examining the items that loaded high in each of the components, the following titles describe how the items fit together conceptually: Component 1 – Assessment and evaluation; Component 2 – Teaching and assessing standards; Component 3 – Instructional delivery; and Component 4 – Curriculum development. Table 12 shows the items that loaded at .40 or higher for each of the four components.

A third factor analysis was run on the 16 questions that examined Instructional Delivery resulting in the items loading into three components. The following titles describe how the items fit together conceptually: Component 1 – Organizing and implementing instruction; Component 2 – Structure and management of the classroom; and, Component 3 – Communication modes to promote learning. Table 13 shows the items that loaded at .40 or higher for each of the three components.

A final factor analysis was run on the 12 questions that corresponded to the sub-domain of Professional Environment resulting in the items loading into three components. After the items that loaded high in each of the components were examined, the following titles describe how the items fit together conceptually: Component 1 - Personal and professional growth and development; Component 2 – Enhancing

Table 12

Factor Analysis of Instructional Planning and Assessment Sub-domain

	Component			
Instructional Planning and Assessment Survey Questions	1	2	3	4
Implement standards-based instruction and assessments.		.714		
Develop a curriculum that creatively meets state standards.		.819		
Select and teach your content.	.401			
Establish a rationale for the program/course/discipline.				.879
Plan for and use instructional time.			.547	
Prepare lesson plans including objectives, methods, materials, desired outcomes, and evaluation methods.		.411	.696	
Plan experiences consistent with the learning objectives.		.662	.557	
Identify and select curriculum resources for delivery of instruction.		.542		
Identify and processes by with students learn.				.779
Use a variety of evaluation techniques to improve teaching and learning.		.524		
Establish and maintain records of individual students progress.			.812	
Construct valid tests to measure and diagnose students' learning needs.			.635	
Provide prompt feedback to students and assist them in the evaluation of their own growth.	.716		.446	
Collaborate with colleagues to establish student performance expectations that are related and consistent across the school setting.	.779			
Provide regular opportunities for student self-reflection and/or peer assessment.	.790			
Work together with students to set challenging and attainable learning standards.	.819			

Component 1 = Assessment and evaluation
Component 2 = Teaching and assessing standards
Component 3 = Instructional delivery
Component 4 = Curriculum development

Table 13

Factor Analysis of Instructional Delivery Sub-domain

	Component		
Instructional Delivery Survey Questions	1	2	3
Involve learners in identifying relationships between what they are learning and what they already know.	.534		
Clarify the purpose of instruction and teach to those purposes.	.651		
Assist students to understand material at a variety of cognitive levels	.597		.466
Present instruction in a logical sequence consistent with instructional objectives.	.650		
Ask questions which engage students in meaningful discussions and utilize their responses and questions in discussion.	.571	.401	
Use technologies and materials appropriately to achieve instructional objectives.	.648		
Employ a variety of teaching methodologies	.687		
Engage students in organized and challenging activities that promoted higher order thinking.	.688		
Encourage and teach critical thinking and problem solving.	.741		
Stimulate students' interests	.484	.607	
Appreciate the use of humor, flexibility, tolerance, and equity in the classroom		.684	
Listen with the intent to understand.		.862	
Communicate in sensitive and caring ways.		.734	
Deal with discipline/management problems effectively and consistently.		.406	.839
Establish and maintain effective classroom procedures and routines.			.785
Clarify expectations and rules that are reasonable, equitable, and just.			.767

Component 1 = Organizing and implementing instruction
Component 2 = Structure and management of the classroom
Component 3 = Communication modes to promote learning

knowledge of the profession; and Component 3 – Interpersonal and professional skills.

Table 14 shows the items that loaded at .40 or higher for each of the three components.

Table 14

Factor Analysis of Professional Environment Sub-domain

	Component		
Professional Environment Survey Questions	1	2	3
Draw on current research, theory, and other educational opportunities for personal and professional growth.		.780	
Participate in discussions with others about contemporary educational issues.		.850	
Examine and reflect on own educational practices and performance.	.773	.446	
Recognize both the difficulties and the value of ambiguity and uncertainty in the profession.	.409	.769	
Seek professional growth opportunities.	.750		
Work to understand your discipline thoroughly.	.426	.489	
Communicate regularly with students and parents about student needs, strengths, and progress.	.691		
Develop and maintain good relations with community members and leaders who could act as resources for students.	.422		.761
Use various resources, such as other school professionals, specialists, paraprofessionals, and parents, to meet the educational needs of all students.			.804
Collaborate with mentors, colleagues, professional associates, and community representatives to improve your teaching and learning.	.541		
Communicate regularly with school administrators and support specialists.	.693		.480
Function as an effective change agent in school improvement.	.660		

Component 1 = Personal and professional growth and development
Component 2 = Enhancing knowledge of the profession
Component 3 = Interpersonal and professional skills

Reliability analyses of the four sub-domains and those components that factored into each domain resulted in α's of .90 or above. These reliability results indicate an increase from the alpha's of .83 on the pilot study. Increased alphas could be explained in several ways. First, as a result of the feedback provided by pilot study participants, minor wording changes were made to the survey instrument for clarification purposes. The results could indicate that the study participants understood more clearly items that were unclear to pilot study participants. A second explanation might be that the sample was different from the pilot study sample. And the final explanation is that α's above .90 indicate the possibility that the items within each sub-domain were repetitious or that there were possibly more items in the scale than were really necessary for a reliable measure of the concept. Table 15 illustrates that the lowest sub-domain alpha was .9020. The remaining three sub-domains had α's of .9053, .9200, and .9316.

Table 15

Reliability Analysis for the Four Sub-domains of the Study Survey Instrument

Survey Instrument Sub-domains	Alpha
Knowledge of the Learner	.9200
Instructional Planning and Assessment	.9020
Instructional Delivery	.9316
Professional Environment	.9053

Cronbach's alphas were used to check the internal consistency of the new scales that were formed through the factor analysis. This was done to confirm the alignment of questions that loaded at .40 or higher in each of groups that were formed within the four

sub-domains. Tables 16, 17, 18, and 19 show the alpha's that resulted from the reliability analysis done on the items that factored into each of the sub-domain components.

It is rather apparent that the reliability coefficients, alpha's, in each of the four sub-domains were rather high. This indicates that the items that factored into the four sub-domains were, for the most part, consistently measuring the same skills and traits as

Table 16

Results of the Reliability Analysis on the Knowledge of the Learner Sub-domain

Knowledge of the Learner Sub-domain Component	Alpha
Understand, recognize, and respect diverse learners	.9037
Instructing diverse learners	.8639
Adapting curriculum to individual needs	.8020

Table 17

Results of the Reliability Analysis on the Instructional Planning and Assessment Sub-domain

Instructional Planning and Assessment Sub-domain Component	Alpha
Assessment and evaluation	.8376
Teaching and assessing standards	.8231
Instructional planning	.8246
Curriculum development	.7377

Table 18

Results of the Reliability Analysis on the Instructional Delivery Sub-domain

Instructional Delivery Sub-domain Component	Alpha
Organize and implement instruction	.8887
Structure and management of the classroom	.8672
Communication modes to promote learning	.8913

Table 19

Results of the Reliability Analysis on the Professional Environment Sub-domain

Professional Environment Sub-domain Component	Alpha
Personal and professional growth and development	.8876
Enhance knowledge of the profession	.8347
Interpersonal and professional skills	.8025

all other items in those components. The factor analyses and the Cronbach's alpha analyses indicate the survey instrument, used for this study, had a high degree of content validity and internal consistency.

A second factor analysis was calculated to determine the components that resulted when the entire instrument was analyzed. Table 20 illustrates the results of the second factor analysis. Once grouped, the items were examined to determine which specific ones loaded into each of the components with factor loadings of .60 or higher. A higher correlation was used to determine those that most closely aligned conceptually. Items that loaded at .60 or higher in more than one component were examined to determine which was the best conceptual fit and were left in all the components to which they were

related. The factor analysis of the entire instrument resulted in 13 components, like the sub-domain factor analysis, but the number of items that loaded into each of the components was significantly lower. Of the original 60 questions, only 35 loaded at or above .60. In several cases a component had only one or two items that load at the .60 level. When the components were examined to determine a name or title for each component that described the item set the 13 component titles yielded results that were a bit different from the original factor analysis. Cronbach's alphas were once again used to check the internal consistency/reliability of the new scales that were formed through the factor analysis of the entire instrument. On the second, more refined instrument, the alphas were .83 or above indicating that the 35 items that remained also had a high degree of internal consistency or content validity.

Table 20

Results of Factor Analysis on Entire Survey Instrument

Survey Instrument Items	Entire Survey Factored Components												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Understand developmentally appropriate behavior and respond effectively to students needs.						X							
Relate students' physical, social, emotional, and intellectual development to planning and organizing instruction.						X							
Present and explain subject matter in clear, accurate, and developmentally appropriate ways.													
Recognize multiple paths to learning and teach to varying learning styles and performance levels.													
Understand how student attitudes and backgrounds can affect learning.													

Table 20

Results of Factor Analysis on Entire Survey Instrument (continued)

Survey Instrument Items	Entire Survey Factored Components												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Understand the effect various systems, such as peers, groups, families, and communities have on student learning.													
Understand how students' misconceptions about a subject can affect learning.													
Provide an invitational classroom conducive to all students' learning.	X												
Develop a sense of community, which enhances students' sense of self-worth in the classroom.	X												
Practice democratic principles that show consideration for the rights and responsibilities of students as well as encourage students to do the same.	X												
Adapt curriculum materials to the unique learning needs of students.													
Recognize that all students have the potential for learning and personal growth.													
Respect and value all types of diversity in students.													
Ask questions to stimulate student understanding and thinking.													
Draw on a wide range of strategies to engage students in learning.													
Engage students in relevant experiences which foster positive, productive learning.													
Implement standards-based instruction and assessments.								X					
Develop a curriculum that creatively meets state standards.								X					

Table 20

Results of Factor Analysis on Entire Survey Instrument (continued)

Survey Instrument Items	Entire Survey Factored Components												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Select and teach your content.										X			
Establish a rationale for the program/course/ discipline.													
Plan for and use instructional time.									X				
Prepare lesson plans including objectives, methods, materials, desired outcomes, and evaluation methods.				X									
Plan experiences consistent with the learning objectives.				X									
Identify and select curriculum resources for delivery of instruction.													
Identify and processes by with students learn.													
Use a variety of evaluation techniques to improve teaching and learning.													
Establish and maintain records of individual student's progress.				X									
Construct valid tests to measure and diagnose students' learning needs.													
Provide prompt feedback to students and assist them in the evaluation of their own growth.		X											
Collaborate with colleagues to establish student performance expectations that are related and consistent across the school setting.													
Provide regular opportunities for student self-reflection and/or peer assessment.													
Work together with students to set challenging and attainable learning standards.													

Table 20

Results of Factor Analysis on Entire Survey Instrument (continued)

Survey Instrument Items	Entire Survey Factored Components												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Involve learners in identifying relationships between what they are learning and what they already know.													
Clarify the purpose of instruction and teach to those purposes.									X				
Assist students to understand material at a variety of cognitive levels.													
Present instruction in a logical sequence consistent with instructional objectives.													
Ask questions which engage students in meaningful discussions and utilize their responses and questions in discussion.			X										X
Use technologies and materials appropriately to achieve instructional objectives.												X	
Employ a variety of teaching methodologies.				X									
Engage students in organized and challenging activities that promoted higher order thinking.			X										
Encourage and teach critical thinking and problem solving.			X										
Stimulate students' interests.													
Appreciate the use of humor, flexibility, tolerance, and equity in the classroom.		X											
Listen with the intent to understand.		X											
Communicate in sensitive and caring ways.	X												
Deal with discipline/management problems effectively and consistently.		X											
Establish and maintain effective classroom procedures and routines.		X											

Table 20

Results of Factor Analysis on Entire Survey Instrument (continued)

Survey Instrument Items	Entire Survey Factored Components												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Clarify expectations and rules that are reasonable, equitable, and just.		X											
Draw on current research, theory, and other educational opportunities for personal and professional growth.					X								
Participate in discussions with others about contemporary educational issues.					X								
Examine and reflect on own educational practices					X								
Recognize both the difficulties and the value of ambiguity and uncertainty in the profession.					X								
Seek professional growth opportunities.													
Work to understand your discipline thoroughly.							X						
Communicate regularly with students and parents about student needs, strengths, and progress.													
Develop and maintain good relations with community members and leaders who could act as resources for students.													
Use various resources, such as other school professionals, specialists, paraprofessionals, and parents, to meet the educational needs of all students.													
Collaborate with mentors, colleagues, professional associates, and community representatives to improve your teaching and learning.	X												
Communicate regularly with school administrators and support specialists.													
Function as an effective change agent in school improvement.											X		

Predictive Validity Results

The first research question sought to determine how well first- or second-year teachers' overall self-ratings of their performance of pedagogical skills and knowledge correlated with their scores on the Professional Knowledge PLACE exam. As a result, the predictive validity, or the usefulness of an exam to predict some future performance, was examined. In the case of this study, the scaled score on the Professional Knowledge PLACE exam was examined to determine whether a score received on that exam could predict teaching success. Teaching success was measured by participant's self-perceptions of their own performance within their first or second year of teaching. Pearson product-moment correlations were calculated to determine any relationships between the novice teachers' scaled score on the PLACE exam and their self-perceived ratings of their performance. Scatterplots were also used to provide a visual of the relationship between variables.

To answer research question one, correlation analyses were run using data from the original survey as well as data from the refined instrument in an attempt to determine if there was any significant relationship between the scaled score an individual received on the Professional Knowledge PLACE exam and the overall average self-rated score on his/her own performance. Table 21 illustrates the descriptive statistics related to the correlation. The mean of the Professional Knowledge PLACE exam scaled score for the 62 respondents was 254.52 with a range from 226 to 281. The mean of the overall average of self-rated scores for the survey instrument was 3.82 with a range from 2.08 to 4.85. The mean of the overall average of self-rated scores for the refined instrument was 3.86 with a range from 2.09 to 4.89.

Table 21

Mean and Standard Deviation for Professional Knowledge PLACE Exam Scaled Score and the Overall Average of Self-rated Scores

	n	Min.	Max.	M	SD
Professional Knowledge PLACE Exam Scaled Score	62	226	281	254.52	14.82
Overall Average of Self-rated Scores	62	2.08	4.85	3.8195	.5560
Overall Average of Self-rated Scores – Refined	62	2.09	4.89	3.86	.5581

In order to correlate the scores from the Professional Knowledge PLACE exam with the survey instruments (original and refined), grand means were created. The grand means of the individuals' self-rated scores were calculated by collapsing the means of the scores in the four sub-domains. The results of the Pearson correlation coefficient indicate there is no statistical relationship ($p<.05$) between the scaled score on the Professional Knowledge PLACE exam and the overall average self-rated score of performance whether it was the original survey or the refined one.

The correlation between the score individuals received on their Professional Knowledge PLACE exam and the overall average of their self-rated scores on the survey instrument is presented visually on the scatterplot in Figure 1. Figure 2 shows the results when using the self-rated scores on the refined instrument. The dependent measure on both figures, the overall average score of self-rated performance, is represented by the vertical axis. The independent variable on both figures, Professional Knowledge PLACE exam scaled score, is represented on the horizontal axis. The scatterplots illustrate that no matter which instrument was used, the original or the refined instrument, there was no

evidence of any relationship between the two variables. Individuals who received a high scaled-score on the PLACE exam did not necessarily believe they were highly successful at performing the same skills in their teaching. Similarly, those individuals who passed the exam but scored at lower levels varied greatly in their perceptions of success in the classroom.

Figure 1

Scatterplot of the Correlation of Professional Knowledge PLACE Exam Scaled Score and Overall Average of Self-rated Score

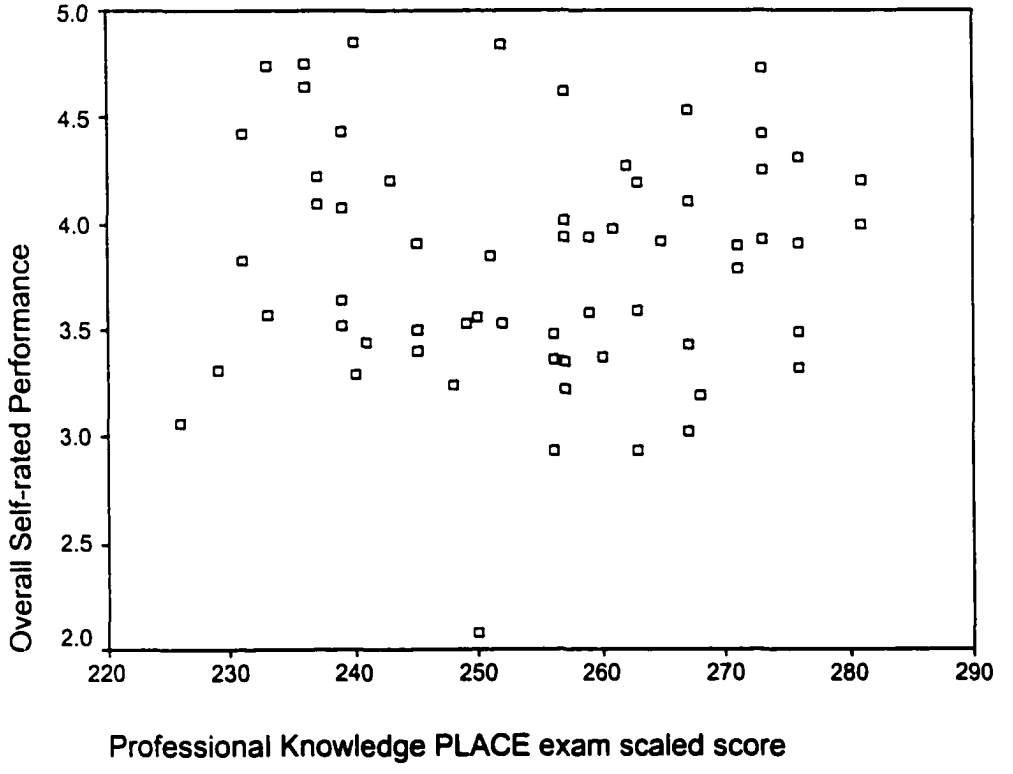
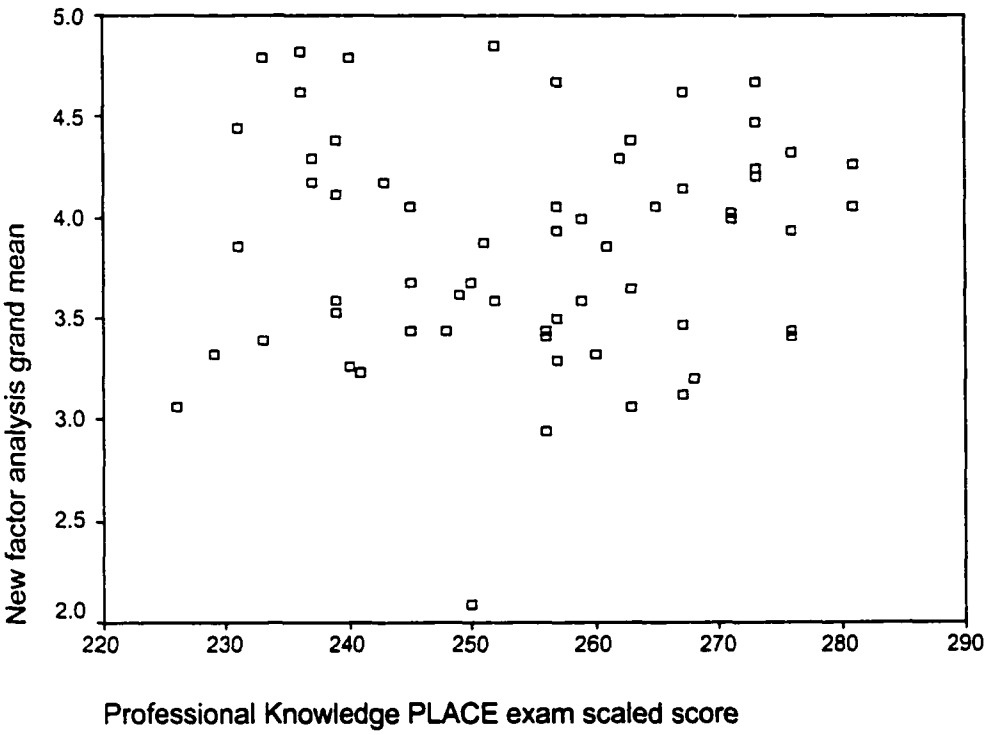


Figure 2

Scatterplot of the Correlation of Professional Knowledge PLACE Exam Scaled Score and Overall Average of Self-rated Score – Refined Instrument



Research question two set out to determine how well each of the sub-domains (i.e.; Knowledge of the Learner, Instructional Planning and Assessment, Instructional Delivery, and Professional Environment) correlated with self-rated skills within those domains. Once again, descriptive statistics, Pearson product-moment correlation coefficient analyses, and scatterplots were utilized to determine if any significant relationships existed.

The Professional Knowledge exam was divided into four sub-domains. The questions on the survey instrument were divided into groups of questions that aligned themselves with the four sub-domains on the exam. The scores individuals received in each sub-domain of the exam were correlated with the means of their self-rated responses

to questions on the survey (1 = Poor, 5 = excellent). Descriptive statistics in Table 22 show the means and standard deviations of scores for each PLACE exam sub-domain and the corresponding self-reported scores for each of the sub-domains on the survey instrument. The table illustrates that of the four sub-domains on the Professional Knowledge PLACE exam, participants received the highest scores on the Professional Environment and the Knowledge of the Learner sub-domains with a means of 3.79 and 3.55 respectively. There was the greatest range in the scores individuals received on the Instructional Planning and Assessment sub-domain of the PLACE exam (SD=.78) There was the least amount of variance in the scores received on the Professional Environment sub-domain of the PLACE exam (SD=.45).

Table 22

Mean and Standard Deviation for Sub-domain PLACE Exam Scores and the Self-rated Survey Scores Within Those Domains

	n	M	SD
PLACE-Knowledge of the Learner Sub-score	62	3.55	.56
KL - Component 1 – Understand, recognize, and respect diverse learners	62	4.093	.596
KL – Component 2 – Instructing diverse learners	62	3.97	.61
KL – Component 3 – Individual needs/adapting curriculum	62	3.745	.626
Survey – Knowledge of the learner composite total	62	3.951	.545
Refined Survey – Knowledge of the learner composite total	62	3.93	.608
PLACE-Instructional Planning and Assessment sub-score	62	3.29	.78
IPA – Component 1 – Assessment/evaluation	62	3.571	.769

Table 22

Mean and Standard Deviation for Sub-domain PLACE Exam Scores and the Self-rated Survey Scores Within Those Domains (continued)

	n	M	SD
IPA – Component 2 – Teaching/assessing standards	62	3.76	.689
IPA – Component 3 – Instructional planning	62	3.8	.645
IPA – Component 4 – Curriculum development	62	3.72	.675
Survey – Instructional planning and assessment composite total	62	3.71	.592
Refined Survey – Instructional planning and assessment composite total	62	3.82	.632
PLACE-Instructional Delivery Sub-score	62	3.29	.64
ID – Component 1 – Organize/implement instruction	62	3.76	.588
ID – Component 2 – Structure/management of classroom	62	4.0	.644
ID – Component 3 – Communication modes/promote learning	62	3.82	.844
Survey – Instructional delivery composite total	62	3.88	.588
Refined Survey – Instructional delivery composite total	62	3.90	.626
PLACE-Professional Environment Sub-score	62	3.79	.45
PE – Component 1 – Personal/professional growth and development	62	3.78	.706
PE – Component 2 – Enhance knowledge of the profession	62	3.76	.745
PE – Component 2 – Interpersonal/professional	62	3.66	.864
Survey - Professional environment composite total	62	3.73	.691
Refined Survey – Professional environment composite total	62	3.72	.716

An examination of the composite scores of the self-rated responses to the questions that align themselves with the four domains of the exam reveals that respondents rated themselves highest in the area of Knowledge of the Learner with a mean of 3.951 on the original survey and a mean of 3.93 on the refined survey. Although not significantly different, individuals rated themselves lowest in Instructional Planning and Assessment, when the original survey was used. Additionally, on both the original survey and the refined survey, individuals' self-perceived ratings in the Professional Environment sub-domain were lower than other sub-domains ($\underline{M}$=3.73 on original survey, $\underline{M}$=3.72 on refined survey). The means of the self-rated scores in each of the domains of the survey appear to be rather high with respondents rating themselves at close to above-average or excellent (4 = above average, 5 = excellent).

Pearson product moment correlation was used to determine if there was a significant correlation between an individual's PLACE scaled and sub-scores and their self-ratings of their pedagogical skills and knowledge. Correlations were calculated using data from both the original factor analysis and the refined instrument. Both instruments were used to determine if there were any differences in the correlations of the expert-developed instrument and the instrument that was a result of the factor analysis. PLACE data that were used were participants' scaled scores, performance scaled scores, knowledge of the learner sub-scores, instructional planning and assessment sub-scores, instructional delivery sub-scores, and professional environment sub-scores. Using data from both the original survey and the refined survey, the self-rated performance data used were participants' overall composite scores (Grand Mean – GM) on the survey instrument, knowledge of the learner composite scores, instructional planning and

assessment composite scores, instructional delivery composite scores, and professional environment composite scores. Table 23 reveals that the correlations calculated resulted in virtually no relationship or, in a number of cases, a negative relationship.

Research question three sought to determine what demographic characteristics might account for any significant amount of variance. In an effort to determine if any statistically significant correlations existed, analyses were computed on each level of certain demographic variables. The specific demographic variables examined and the levels within those variables were as follows: 1) gender (male or female); 2) years of teaching experience (one or two); 3) current teaching status (full-time, part-time); 4) community setting (rural, suburban, urban); 5) percentage of teaching load in content endorsed in (100%, 81-99%, 61-80%, 40-60%, 39% ↓); 6) overall GPA at time of licensing (3.5-4.0, 3.0-3.49, 2.5-2.99); 7) GPA in education courses at time of licensure (3.5-4.0, 3.0-3.49); and, 8) class status at the time of taking the Professional Knowledge PLACE exam (sophomore, junior, senior, post-bachelor, master's). Table 24 reveals the number of respondents and the correlation value when each level of select demographic variables were filtered for analysis. Results show that only one level of one demographic variable (percentage of teaching load – 61-80%) showed a significant correlation between the PLACE scaled score and participants' overall self-rated composite mean.

Table 23

Correlation Matrix for Self-rated Performance by Professional Knowledge PLACE Exam Scores

		Professional Knowledge PLACE Exam					
	Self-rated Performance	Scaled Score	Performance Scaled Score	Knowledge of the Learner Sub-score	Inst. Planning and Assessment Sub-score	Instructional Delivery Sub-score	Professional Environment Sub-score
Original Factor Analysis	Overall Grand Mean (GM)	-.003	-.108	.098	-.051	-.052	.231*
	Knowledge of the Learner GM	.010	-.132	.078			
	Instructional Planning & Assessment GM	.015	-.090		-.014		
	Instructional Delivery GM	.052	-.064			-.052	
	Professional Environment GM	-.075	-.112				.128
Entire Instrument Factor Analysis	Overall Grand Mean (GM)	.038	-.074	.118	.002	-.056	.236*
	Knowledge of the Learner GM	.022	-.092	.055			
	Instructional Planning and Assessment GM	.018	-.112		.042		
	Instructional Delivery	.048	-.036			-.070	
	Professional Environment GM	.040	-.031				.148

Note. Listwise N = 62
*p< .05, one tailed.

Table 24

Correlation Results of Professional Knowledge PLACE Scaled Score and Overall Self-rated Composite Means on Each Level of Select Demographic Variables

Demographic Variable	N	r-value
Gender		
1. Female	40	-.120
2. Male	22	.158
Years of Teaching Experience		
1. One	25	.184
2. Two	37	-.150
Current Teaching Status		
1. Full-time	57	-.037
2. Part-time	4	.005
Community Setting		
1. Rural	22	-.037
2. Suburban	36	.161
3. Urban	4	-.681
Percentage of Teaching Load in Content		
1. 100%	45	.044
2. 81-99%	7	-.001
3. 61-80%	3	-.998*
4. 40-60%	4	.540
5. 39% ↓	3	-.830
Overall GPA at time of licensure		
1. 3.5-4.0	34	-.218
2. 3.0-3.49	19	.110
3. 2.5-2.99	6	.170
GPA in education courses at time of licensure		
1. 3.5-4.0	49	-.072
2. 3.0-3.49	7	-.113
Class status when taking Professional Knowledge exam		
1. Sophomore	3	.066
2. Junior	12	.066
3. Senior	16	.343
4. Post-Bachelor	25	-.228
5. Master's	6	.491

*p.=<.05

Qualitative Data Results

The survey respondents were allowed the opportunity to respond to two open-ended questions. The responses were examined to determine themes that were reinforced through the responses. Following is a summary of the responses to the two questions.

The first question asked first- and second-year teachers to indicate how well they believed the Professional Knowledge PLACE exam measured their ability to teach. Forty-four respondents indicated that the exam did not measure their ability to teach. A theme that seemed to run through their responses was that the Professional Knowledge exam was easy and narrow in its focus. An additional theme was that the exam measured their knowledge but not their ability to apply it. Only three indicated that it in some way measured their ability to teach, with one individual indicating that out of all the exams they were required to take for licensing, the Professional Knowledge questions reflected positively on what they needed to know or use in teaching. Ten individuals were split on whether they believed it measured their ability to teach providing supportive statements on both sides of the issue.

The second question asked respondents to comment on what factors impacted their feeling of success or failure in the classroom within their first or second year of teaching. Several themes developed upon review of their responses. Seventeen individuals indicated that their *preparation* (licensure program, student teaching) played a significant role in their feelings of success. The *teacher induction program* was mentioned by 16 individuals and was given mixed reviews as to its impact on their success. Six indicated a strong induction program that was a support within their first years. Eleven individuals indicated that their induction program was not a factor that

impacted their success. Reasons cited for the induction program's ineffectiveness were the fact that they were weak, unorganized, and demanded too much time. In addition, they were seen as repetition of their preparation programs.

Another theme that developed was *mentor teachers*. Mentors were mentioned by 13 respondents as having an impact on their feelings of success. Respondents indicated support, ideas, and help to solve problems as reasons why mentors played an important role in their feelings. Along the same lines as mentor teachers was the mention, by 27 of the respondents, of *support* as a key to their feelings of success. Participants mentioned a variety of individuals as being part of the support group, e.g., teachers, administrators, parents, students, and community.

The final theme that resulted was the expression of *internal examination and reflection*. Although only mentioned by six individuals, internal examination and reflection was an important component to individuals' feelings of success or failure within their first years of teaching. A couple of the statements provided by the novice teachers that support this theme were reflecting on students' learning as a measure of success as well as the pressure and stress of teaching and its impact on their happiness and sanity.

The comments from the novice teachers provide an interesting look at their feelings about a test as part of the gate-keeping for licensure as well as what has impacted their feelings of success or failure within their first years of teaching. A summary of all the responses can be found in Appendix I.

Summary

Twenty-four tables and two figures were used in Chapter IV to present the data following the analysis of the questionnaire data, the demographic data, and the scores participants' received on the Professional Knowledge PLACE exam. The analysis of the data were both descriptive and inferential in nature. Chapter V presents the summary of results and the recommendations.

CHAPTER V

Discussion

This study attempted to ascertain the predictive validity of the Professional Knowledge PLACE exam by determining if there were any significant relationships between novice teachers' perceptions of their personal success at performing pedagogical skills and knowledge in their first or second year of teaching and the scores they received on the Professional Knowledge PLACE exam. In addition, it set out to determine what demographic characteristics might account for any significant amount of variance in those same variables.

The contents of this chapter are presented in the following four sections: a) summary and findings, b) conclusions and discussion, c) implications for policy and practice, and d) recommendations for future research.

Summary and Findings

One of the main issues surrounding high-stakes teacher testing is validity. Most of the research currently available on teacher testing is content validity. Numerous researchers have suggested that content validity is not enough to support these tests that have the potential to significantly impact the lives of those taking them (Cobb, et al., 1998; Flippo, 1986; Goodison, 1986; Guyton & Farokhi, 1987; Madaus & Pullin, 1987; Messick, 1989; Poggio et al., 1997). Determining the predictive validity of these high-stakes exams has not been dealt with to any great degree. Although it is difficult to

assess, it is a necessary component of research dealing with teacher testing for licensing. It is imperative that the decisions that are based on these tests be valid for the purposes for which the test occurs, and teacher testing has the implied function of predicting those who are competent to teach.

A survey instrument was developed and administered to novice teachers, allowing them to self-rate their performance in their first or second year of teaching. To assure that the instrument was doing what it set out to do, two different factor analyses were performed. The results of the two factor analyses yielded different survey structures. The first factor analysis was done on the survey instrument made up of 60 items that were aligned with the sub-domains of the Professional Knowledge PLACE exam. The second factor analysis was done on the entire survey instrument without dividing them out into sub-domain areas. Some of the items in each instrument (survey and revised) factored out into similar components. But, some of them did not.

To ascertain the predictive validity of the Professional Knowledge PLACE exam, correlational statistics were performed to determine any relationships between individuals' test scores and their self-ratings of performance as measured by the survey instrument. No significant relationships were found between the self-perceptions of performance and novice teachers' scaled and sub-scores on the Professional Knowledge exam. In addition, when filtering for select levels of several demographic variables, none of them revealed any statistically significant relationships between the survey responses and the exam scaled and sub-scores.

Conclusions and Discussion

One of the first goals of this study was to create a survey instrument that would measure novice teachers' perceptions of performance in pedagogical skills and knowledge and do so in a short, reliable, and valid way. Two separate factor analyses yielded different results. So, which one of the results could be trusted to measure novice teacher's performance, and to what might the factor analyses differences be attributed?

One explanation for the differences might be that the items were forced into a survey instrument format that corresponded with the sub-domains of the PLACE exam and that those contrived categories of the PLACE were not even the proper categories. In other words, maybe the items were being forced to fit. On the other hand, a very exhaustive and rigorous expert review was done to create the survey using several instruments that had been factor analyzed, had been subjected to fairly good psychometric studies, and had been part of journal articles and/or national conference presentations. While one might put some stake in the results of the entire survey factor analysis, this researcher believes that the instrument that was a result of the judgments of the experts more accurately aligned with what this study set out to determine.

Another explanation for the differences in the results might be the possibility that a factor analysis does not work in a construct being measured that is performance based. Can performance based questions be detected and factored into categories that measure performance? It seems more likely that the experts could more accurately examine items and make judgments about whether or not they were measuring performance.

The research questions in this study set out to determine relationships between scores on a pencil-paper exam and self-perceptions of performance. Results indicated

that a score on the Professional Knowledge exam did not predict how successful novice teachers perceived themselves to be within their first two years of teaching. Although this researcher does not question the possibility that the hypothetical relationship between an individual's score on a pedagogy exam and their self-perceived performance one to two years later is tenuous, it is doubtful that this hypothetical correlation is zero or near zero. These results cause the researcher to conclude with reasonable certainty that it is difficult to ascertain the predictive validity of a pencil-paper exam from a follow-up study of first- and second-year teachers' perceptions of their skills. This supports the findings of criterion validity studies previously done which provided consistent evidence of concurrent validity but a lack of predictive validity (Guyton & Farohki, 1987; McPhee & Kerr, 1985).

Maybe it is unlikely that one can get accurate self-perceptions of performance through a survey instrument. Maybe a different method, rather than a survey of self-perceptions, should have been used. Research would suggest that performance based assessments more accurately measure individual performance. Schalock, et al. (2000) argued that progress in student learning is what counts in schools and that just having knowledge does not assure that a teacher will impact student learning. They believe that performance based assessments provide a broader look at the potential influence teachers will have on their students. In reality though, because of the logistics and costs of administering such assessments, states are often looking for a cheaper way, such as competency examinations, to get at this information.

It is interesting to note that even the PLACE data that is considered a performance measure (a written response instead of selected-response) resulted in all negative

correlations. Although considered a performance measure, does a written response really provide any more information about an individual's pedagogical skills than does the selected-response? How much does ones' writing skills have to do with the score assigned?

It is also possible that the link between skill or performance (indicated by self-rated scores on the survey) and knowledge (indicated by scaled and sub-scores received on the PLACE exam) was questionable. Having first and second year teachers think only of their knowledge level of pedagogy, not in terms of performance, may have produced results that were more in line with scores received on the Professional Knowledge exam. In this case, self-perceptions of knowledge would have been compared with scores on teacher licensing exams expected to measure basic knowledge. But why would it be important to know that teachers' knowledge level within their first or second year of teaching correlated with their scores on the licensing exam? Does that really give us the information we want and need to know about the those entering the teaching profession?

It is possible that predictive validity is not even a viable concept in follow-up studies examining whether a pencil-paper pedagogy exam can be validated. Maybe the *knowledge* of pedagogy is all we can expect in a predictive validity study. Maybe we have to divorce ourselves from thinking that we can measure performance or it is performance that is measured. Maybe it is unlikely that a pedagogy test would ever demonstrate predictive validity. Although those who develop pencil-paper exams claim that the tests are only designed to measure basic knowledge, when talking about a pedagogy exam the common perception is that they measure performance. Pedagogy is a

performance term -- "the function of a teacher – teaching" (Webster, 1988). Similar to the belief of Madaus and Pullen (1987), why give a test if it has no connection to minimal success as a teacher? We all know that just because an individual can pass a test does not mean he or she has the skills to take on the complex job of teaching. In addition, is not the whole premise of contextual teaching and learning that an individual's competency level and qualities are dependent upon situations and contexts (Hutcheson, 1999)? Don't many of the decisions made by teachers depend on the situation and the context. Even though the claim is that the tests only measure knowledge, what good is it to only have basic knowledge? This researcher strongly believes that having the knowledge does not assure an individual will be an effective teacher, be successful in the classroom, have students who are successful, or feel personally successful in their first years of teaching.

The study respondents themselves hypothesized that there would be no relationship between their exam score and their performance by virtue of the largest percentage of them indicating that the test did not measure their ability to teach. The factors mentioned most often as impacting their success or feelings of success within their first years of teaching were their teacher preparation program and support, or lack there of. This is similar to the results of other research studies completed on factors that contributed to novice teacher's feelings of success, indicating positive peer support groups and close relationships with cooperating teachers as the two most significant factors (Gratch, 1998; U.S. Department of Education, 1997).

Several caveats should be stated concerning these findings. First, having novice teachers rate their own performance is a factor that potentially impacted the results of this study. Perhaps self-ratings were not the best way to get an accurate account of

participants' performances. One might think that individuals are often harder on themselves than others might be. It was interesting, though, that the means of the self-ratings of individuals in this study were rather high (M=3.7 or above; 5=excellent). Although one of the assumptions of this study was that the participants would answer truthfully, there is the possibility that the novice teachers inflated the ratings of their performance so they would be perceived by their preparation institution to be successful. In addition, although the participants were assured confidentiality, there is the possibility that they felt that the information from the study might be shared and impact them in some way.

Second, almost one-third of the respondents took and passed the exam before they had taken their methods of teaching courses. The passing rates on the Professional Knowledge exam tended to be rather high, bringing into question the level of knowledge needed to pass the exam. One of the criticisms is that licensing exams are too easy, requiring a low level of knowledge to pass (Darling-Hammond, 1996) with some states only requiring teacher candidates to answer 50% of the questions correctly. Also, what is to say that those individuals who barely passed the exam will make better teachers than those who barely failed the exam?

Another issue in this study worthy of consideration is the fact that because teacher candidates are allowed to take the Professional Knowledge exam at any point in their educational preparation, the experience gained between the time they took the exam and the their first or second year of teaching varied. As a result, a second-year teacher who took the exam in his/her junior year of college could have several years of experience that would enhance their perceptions of success (i.e., one year in the final stages of teacher

preparation/student teaching, participation in an induction program, one year of teaching, the possibility of additional time spent substitute teaching). These experiences would have no effect on their Professional Knowledge exam score but could potentially have a significant impact on their self-ratings of performance. This in turn might suggest that the timing of taking the exam and completing the survey could have an impact on the results.

And finally, there are a number of confounding variables that the researcher had no control over that could have impacted these findings: 1) respondents' individual abilities and comfort level with taking exams, 2) the support each novice teacher was provided with in their first couple of years of teaching, and 3) the experiences novice teachers had going into their first or second year of teaching.

Implications for Policy and Practice

The conclusions and discussion of this research study have implications for further educational policy and practice. Policy makers, nationally and statewide, should continue to examine the use of pencil-paper exams for teacher licensing. Should states do away with teacher licensing exams? Wiggins (1993) suggested that the aim of education is to help individuals become "competent, intellectual performers, not passive selectors of orthodox and prefabricated answers" (p. 202). If this is what we expect of students, shouldn't we also expect this of the teachers who will be teaching them? Important to note is that the judgments made from the scores received on these exams are often treated as predictive; therefore, it is imperative that decisions based on the results of these high-stakes teacher tests be valid.

Individuals responsible for decisions regarding the licensing of teachers need to examine other methods of determining the competence of potential teachers. Research suggests that to evaluate potential teachers' performances, multiple methods should be used (Lengeling, 1996; Mayo, 1997; Stronge, 1997). We need to get past the historical faith in testing and skepticism about other methods of determining quality (Haney, 1987). States need to continue to examine whether extra money put into alternative assessment methods is money well spent. With the passage within the last year of Senate Bill 00-195, Colorado did away with three of the examinations that had previously been a part of the licensing process. One of those exams was the Professional Knowledge exam. This exam requirement was replaced with performance-based evidence of pedagogical knowledge and skills from an accredited teacher education program. In Colorado, an accredited teacher education program is expected to provide performance-based evidence about their teacher candidates' competencies. This was a dramatic move by those involved in the decision-making in Colorado, and one that other states might consider as they look to improving the quality of teachers in the public schools, and ones the results of this study would recommend.

Colorado's decision to do away with all but one of the licensing exams may have a negative impact on the perceptions of teacher training in the state. The public tends to find comfort in knowing an individual passed an examination to receive a license and may feel robbed of what they perceive to be a measure of performance. It doesn't necessarily matter whether the test is valid or not, a score speaks volumes to those outside the education profession. Would an individual choose a doctor or lawyer who did not pass an exam for their profession? Does the exclusion of the requirement of the passing

of a test for teacher licensing take away from the credibility of teaching as a profession? In addition, dropping the test may send the message to students in teacher licensure programs that they don't need to learn the pedagogy content. So, while a test of pedagogy may not successfully predict performance in the classroom, it may have a positive function that has nothing to do with its predictive validity.

Because high-stakes teacher tests vary so greatly from state to state, the issue of equity, rigor, and usefulness of such exams need to continually be addressed. With states allowing individuals to get substitute or emergency licenses without passing required exams, allowing individuals to take tests multiple times, and having cut scores that are as low as performing as 50%, how credible can these exams be? The same standards should be held for all those entering the teaching profession.

The results of this study cause the researcher to question the utility of the follow-up survey as a tool to determine predictive validity of high-stakes teacher examinations. Other research methods should be utilized which take into consideration all those factors that might impact the accuracy of the results and the generalizations that can be made from the findings. The question arises as to the role of follow-up studies in general (i.e., evaluating teacher licensure programs). How much confidence can we put in the results? Attempting to get at information after the fact appears to increase the possibility of factors for which a researcher has no control.

Implications for Further Research

The conclusions of this study and implications for policy and practice provide some clear avenues for further research. While this research has provided results which reveal, to some degree, the lack of any relationships between those variables studied, this

research is only one step in a series of studies that could deepen the level of understanding about the issue of the predictive validity of teacher testing. Several issues remain to be addressed by future research efforts.

The primary purpose of this study was to determine the predictive validity of a pencil-paper exam, the Professional Knowledge PLACE exam. This researcher attempted to determine predictive validity by comparing test scores to performance in the classroom. Performance scores were the result of novice teachers' self-perceptions of their own performance. Further research needs to be conducted to determine the predictive validity of these high-stakes exams using methods that may prove to be less biased than self-reporting. Observations of novice teachers or including supervising teachers, administrators, or mentor teachers in the evaluation of these teachers may provide interesting results. Although, the results of a previous study by Ayers (1988) found no significant relationships between administrators' ratings and a teacher's score on the National Teaching Exam. More studies that produce similar results would lend support to the conclusion that scores on exams do not predict performance no matter what method is used to determine performance.

Because this study set out to determine if there was a relationship between the score on the exam and self-rated performance, demographic characteristics were used only to determine if any of them might account for any significant amount of variance. Additional research should be done that examines the levels of the demographic variables and their impact on exam scores and self-rated performance scores separately. In addition, this researcher mentioned several confounding variables that could have

impacted the results of this study. Additional research should be done controlling for one or more of those variables.

Predictive validity is difficult to measure. In addition, the research base regarding high-stakes teacher testing lacks this type of evidence. Empirical relationships between basic competency tests and job performance have yet to be established. Research utilizing a variety of other methods to examine predictive validity should be performed. One method of ascertaining predictive validity would be to partition students in two groups (high scorers and low scorers) using their Professional Knowledge PLACE examination scaled score. During the student teaching semester two or more observers could be assigned to rate students (high or low) on how they performed pedagogical skills and knowledge in the classroom. Comparing high and low achievers on the PLACE exam and high and low achievers in student teaching may produce interesting results. By conducting a study using this methodology the confounding variables of timing and self-reporting would be more effectively controlled.

Teacher candidates are allowed to take licensing exams until they pass them. It may be interesting to look specifically at the students who failed the test on one or more occasions before passing to determine if their perceptions of their performance differed in anyway from those that passed on a first attempt.

The examination used for this predictive validity study was one that was produced specifically for Colorado. Different states require different exams that measure Professional Knowledge. Similar research studies should be performed utilizing teacher candidate's scores on other state exams (PRAXIS series, state-developed tests).

This study was also limited to a fairly narrow and small sample. A further examination using a broader and larger sample could add to the generalizability of the results. In addition, the demographic information gathered through this study indicated little cultural diversity and representation from urban areas. A replication of this study should be conducted to determine if the results would be different with a more diverse sample.

Not only can this research benefit those examining high-stakes teacher testing but the instrument developed and validated for this study could be utilized by those looking to measure the teaching competencies of novice teachers. Institutions are continually looking for a brief, valid, and reliable instrument. The revised version of the instrument could be used to provide a snapshot of teacher competence. This researcher recommends the study survey over the revised instrument because it seems to more accurately assess the breadth of skills and knowledge needed to be a successful teacher.

This research provides part of the foundation for some of these future research efforts. While the findings presented here add to the body of knowledge on the predictive validity of high-stakes teacher tests, a number of related issues, deserving of further empirical attention, remain to be addressed.

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APPENDICES

APPENDIX A

Telephone Script for Initial Contact

Telephone Script for Initial Contact

Hi my name is .....

Dawn Mallette, a Ph.D student and faculty member in the School of Education at CSU and Dr. Brian Cobb, the director of the Research and Development Center at CSU asked me to locate and contact students who completed their licensure program at CSU within the past couple years.

You, as a teacher licensure student within the past couple of years, have been selected to participate in a study to determine how well a teacher's scores on the Professional Knowledge PLACE exam predicts their self-perceived success at performing professional skills and knowledge within the first or second year of teaching.

There are no known risks to participating in this study and it should be rather easy only taking up about 20-30 minutes of your time. What the researchers are requesting is that you agree to complete a survey, which will be mailed out to you within the next couple of months, that allows you to self-rate your performance on professional skills and knowledge within your first or second year of teaching.

In addition, they are requesting that you allow them to access your Professional Knowledge PLACE exam scaled and sub-scores. This can be done by either you, as the participant, providing a copy of your official results or by giving the researchers permission to request your scaled and sub-scores on the Professional Knowledge PLACE exam from the Director of Teacher Licensure at the institution to which your scores were reported. Your scores on the exam will be kept completely confidential.

Your participation in this study is crucial and your opinions are valued as decision-makers continue to evaluate the validity of high-stakes teacher testing for licensing and other purposes. It should be pretty painless. Can we count on you to participate??

If they say yes:
Thank you. We would like to send you a letter confirming your participation, address, and method in which you would like us to access their Professional Knowledge scores. Therefore, can you please provide me with your home or school address for sending purposes.

Remind them that they can expect the letter within the next month or so and the questionnaire in the next couple of months. Thank them for their time.

APPENDIX B

Letter Sent to Follow-up On Initial Contact

February 2000

Dear Friend:

Within the last month you received a call from my research assistant, Ellie Hartley, inquiring about your assistance in the collection of data for a research study dealing with the predictive validity of the Professional Knowledge PLACE exam. In other words, how well do a teacher's scores on the Professional Knowledge PLACE exam predict their self-perceived success at performing pedagogical skills and knowledge in the classroom? This research is being conducted to fulfill the requirements of my doctoral program at Colorado State University. Thank you for agreeing to complete a questionnaire. Your participation is greatly appreciated.

The questionnaire will allow you to self-rate your performance on pedagogical skills and knowledge within your first or second year of teaching. Once received, the completed survey will take approximately 20-30 minutes of your time to complete. This research will contribute to the body of knowledge dealing with high-stakes teacher testing as well as the predictive validity of the Professional Knowledge exam.

I should be sending the questionnaire to you in late spring. The timing of the mailing will depend on approval from my dissertation committee and from Human Subjects. Since it is difficult to predict if this process will run smoothly, I'm asking you to provide me with a permanent or home address (where I might reach you in the summer) in the case I'm unable to get the survey to you before the end of your school year. In addition, please indicate below the method by which you will allow me to access your Professional Knowledge PLACE exam scaled score and sub-scores.

Your participation in the study is crucial and your opinions are valued. Thank you for your assistance.

Sincerely:

Dawn Mallette

Dawn Mallette
School of Education, Colorado State University

* **cut and return the bottom portion** * * * * * * * * * * * * * * * * * * *

Check One or Both

_____I agree to provide the researcher with a copy of my scaled score and sub-scores on the Professional Knowledge PLACE exam. A photocopy will be sent with my completed survey.

_____The researcher has my permission to request the scaled score and sub-scores I received on the Professional Knowledge PLACE exam from the files/archives of the Teacher Licensure Office at _____ (Institution Scores Were Reported To)

Signature: _____(Please sign for permission)

School Address _____

School *Street* *City* *Zip*

Permanent/Summer Address

_____

Street *City* *State* *Zip*

Cut off this portion and return in the self-addressed stamped envelope included. Thank you!!

APPENDIX C

Pilot Study Survey Instrument

May 1999

Thank you for your participation in the review of the attached survey. The "Validation of the Professional Knowledge PLACE Exam" survey will be used to determine the validity of the PLACE exam in Professional Skills and Knowledge. This will be evidenced by the self-rating from novice teachers on their performance of pedagogical skills and competencies within their first and/or second year of teaching. In addition, it will examine how well each of the sub domains of the exam (i.e.; Knowledge of the Learner, Instructional Planning and Assessment, Instructional Delivery, and Professional Environment) correlate with self-rated skills and competencies within those domains. The data collected from this survey will be correlated with available PLACE exam data.

First, complete the survey and record the length of time it takes to complete it. Second, please respond to the rating scale found on the left column of the survey indicating whether each item is A= very relevant, B= relevant, or C= not relevant. Next, respond to the YES/NO scale on the clarity of each item. Then, make any comments about the demographic page (i.e; are the items being requested relevant, necessary, etc.) Finally, complete the General Survey Review sheet and include any additional comments that would help make this study valid and useful. Please feel free to make any changes or add items that you believe should be included.

I would appreciate a response to this request by **May 15, 1999**. Please place the completed survey and general review sheet in the return envelope and place in the mail. Thank you for your assistance.

Sincerely:

Dawn Mallette

Dawn Mallette
School of Education
Colorado State University

Attachment

GENERAL SURVEY REVIEW

1. **Length**—Time it took to complete _____

   The survey is:

   _____Too long _____Acceptable

   Suggest changes:

2. **Format**—Instructions are:

   _____Unclear _____Easy to Understand

   Questions are:
   a. _____too long _____about right _____too short
   b. _____easy to understand _____difficult to understand

   Rating scales:
   _____Acceptable _____Difficult to rate

   Sequence of questions:
   _____Acceptable _____Not appropriate

   Suggest format changes:

3. **Scope**—What additional concepts should be included in the survey?

   What items should be dropped or changed? Please indicate changes on the survey you return.

Additional Comments:

Thank You For Taking The Time To Review The Survey

VALIDATION OF THE PROFESSIONAL KNOWLEDGE PLACE EXAM

First or Second Year Teacher Survey

This survey aims to collect self-reported data about your perceived performance within your first or second year of teaching in the areas of professional knowledge and skills. Your responses will be kept completely confidential and will only be reported as an aggregate so that individual responses cannot be identified. Thank you for taking time to complete and return the entire survey. Please read the questions carefully.

Part 1. Demographic Information

Please respond to the following items by *checking* the most appropriate response.

1. **Gender:**
   _____Female _____Male

2. **Ethnic Background:**
   _____African American _____Caucasian (non-Hispanic) _____Other
   _____American Indian _____Hispanic
   _____Asian American _____Puerto Rican

3. **Years of Teaching Experience (include the current year):**
   _____One _____Two _____Other_____(please specify %)

4. **Current Status:**
   _____Full-time _____Part-time _____Other _____(please specify %)

5. **Primary Teaching Area:**
   _____Agricultural Ed. _____ESL _____Science
   _____Art _____Foreign Language _____Social Studies
   _____Business Ed. _____Marketing Ed. _____Special Ed.
   _____Consumer & Family Studies _____Math _____Speech
   _____Drama/Theater _____Music _____Technology Ed.
   _____English _____Physical Ed. _____Trade & Industrial Ed.

6. **Community Setting of the school in which you teach:**
   _____Rural (25,000 or less) _____Suburban (25,000-250,000) _____Urban (>250,000)

7. **What percentage of your teaching load is at the grade level for which you were licensed?**
   _____100% _____99-81% _____80-61% _____60-40% _____39% ⇓

8. **What percentage of your teaching load is in the teaching concentration for which you were licensed?**
   _____100% _____99-81% _____80-61% _____60-40% _____39% ⇓

9. **What was your overall GPA at the time you completed the teacher licensure program?**
   _____4.0-3.5 _____3.49-3.0 _____2.99-2.5 _____2.49 ⇓ _____don't recall

10. **What was your GPA in education courses you completed for the licensure program?**
    _____4.0-3.5 _____3.49-3.0 _____2.99-2.5 _____2.49 ⇓ _____don't recall

11. **At the time that you first took the Professional Knowledge PLACE exam, what was your class status?**
    _____Sophomore _____Senior _____Master's
    _____Junior _____Post-Baccalaureate _____ Doctorate

VALIDATING DATA

One: Indicate to what extent each item is a relevant professional knowledge or skill teachers should possess.
A=Very relevant
B=Relevant
C=Not relevant
Two: Indicate how clear the wording and the meaning of the item is.
Yes=Meaning is clear
No=Meaning is not clear

Part 2: Knowledge of the Learner

Directions:

Respond to each statement carefully and honestly. The following items represent many of the professional knowledge and skills teachers need to possess. Please circle on the scale from 1 to 5 (1=poor, 2=fair, 3=good, 4=very good, 5=excellent) how well you believe you possessed and/or performed the professional knowledge and skills listed in your first or second year of teaching.

	How well did I do at . . .	poor				excellent	A B C	Yes	No
1.	understanding developmentally appropriate behavior and responding effectively to student needs.	1	2	3	4	5	A B C	Yes	No
2.	relating students' physical, social, emotional, and intellectual development to planning and organizing instruction.	1	2	3	4	5	A B C	Yes	No
3.	presenting and explaining subject matter in clear, accurate, and developmentally appropriate ways.	1	2	3	4	5	A B C	Yes	No
4.	recognizing multiple paths to learning and teaching to varying learning styles and performance levels.	1	2	3	4	5	A B C	Yes	No
5.	understanding how student attitudes and background can affect learning.	1	2	3	4	5	A B C	Yes	No
6.	understanding the effect various systems, such as peers, groups, families, and communities have on student learning.	1	2	3	4	5	A B C	Yes	No
7.	understanding how students' misconceptions about a subject can affect learning.	1	2	3	4	5	A B C	Yes	No
8.	providing an invitational classroom conducive to all students' learning.	1	2	3	4	5	A B C	Yes	No
9.	developing a sense of community which enhances students' sense of self-worth in the classroom.	1	2	3	4	5	A B C	Yes	No
10.	practicing democratic principles that show consideration for the rights and responsibilities of all and encouraging students to do the same.	1	2	3	4	5	A B C	Yes	No
11.	adapting curriculum materials to the unique learning needs of students.	1	2	3	4	5	A B C	Yes	No
12.	recognizing that all students have the potential for learning and personal growth.	1	2	3	4	5	A B C	Yes	No
13.	respecting and valuing all types of diversity in students.	1	2	3	4	5	A B C	Yes	No
14.	asking questions to stimulate student understanding and thinking.	1	2	3	4	5	A B C	Yes	No
15.	drawing on a wide range of strategies to engage students in learning.	1	2	3	4	5	A B C	Yes	No
16.	engaging students in relevant experiences which foster positive, productive learning.	1	2	3	4	5	A B C	Yes	No

Continued ⇒

VALIDATING DATA

One: Indicate to what extent each item is a relevant professional knowledge or skill teachers should possess.
A=Very relevant
B=Relevant
C=Not relevant
Two: Indicate how clear the wording and the meaning of the item is.
Yes=Meaning is clear
No=Meaning is not clear

Part 3: Instructional Planning and Assessment

Directions:

Respond to each statement carefully and honestly. The following items represent many of the professional knowledge and skills teachers need to possess. Please circle on the scale from 1 to 5 (1=poor, 2= fair, 3=good, 4=very good, 5=excellent) how well you believe you possessed and/or performed the professional knowledge and skills listed in your first or second year of teaching.

		How well did I do at . . .	poor				excellent
A B C	Yes No	17. implementing standards-based instruction and assessments.	1	2	3	4	5
A B C	Yes No	18. developing a curriculum that creatively met state standards.	1	2	3	4	5
A B C	Yes No	19. selecting and teaching of content.	1	2	3	4	5
A B C	Yes No	20. establishing a rationale for the program/course discipline.	1	2	3	4	5
A B C	Yes No	21. planning for the use of instructional time.	1	2	3	4	5
A B C	Yes No	22. preparing lesson plans including objectives, methods, materials, desired outcomes, and evaluation methods.	1	2	3	4	5
A B C	Yes No	23. planning experiences consistent with the learning objectives.	1	2	3	4	5
A B C	Yes No	24. identifying and selecting curriculum resources for delivery of instruction.	1	2	3	4	5
A B C	Yes No	25. identifying the processes by which students learn.	1	2	3	4	5
A B C	Yes No	26. using a variety of evaluation techniques to improve teaching and learning.					
A B C	Yes No	27. establishing and maintaining records of individual student progress.	1	2	3	4	5
A B C	Yes No	28. constructing valid tests to measure and diagnose students' learning needs.	1	2	3	4	5
A B C	Yes No	29. providing prompt feedback to students and assisting them in the evaluation of their own growth.	1	2	3	4	5
A B C	Yes No	30. collaborating with colleagues to establish student performance expectations that are related and consistent across the school setting.	1	2	3	4	5
A B C	Yes No	31. providing regular opportunities for student self-reflection and/or peer assessment.	1	2	3	4	5
A B C	Yes No	32. collaborating with students to set challenging and attainable learning standards.	1	2	3	4	5

Continued ⇒

VALIDATING DATA

One: Indicate to what extent each item is a relevant professional knowledge or skill teachers should possess.
A=Very relevant
B=Relevant
C=Not relevant
Two: Indicate how clear the wording and the meaning of the item is.
Yes=Meaning is clear
No=Meaning is not clear

Part 4: Instructional Delivery

Directions:

Respond to each statement carefully and honestly. The following items represent many of the professional knowledge and skills teachers need to possess. Please circle on the scale from 1 to 5 (1=poor, 2= fair, 3=good, 4=very good, 5=excellent) how well you believe you possessed and/or performed the professional knowledge and skills listed in your first or second year of teaching.

		How well did I do at . . .	poor				excellent	
A B C	Yes No	33.	involving learners in identifying relationships between what they are learning and what they already know.	1	2	3	4	5
A B C	Yes No	34.	clarifying the purpose of instruction and teaching to those purposes.	1	2	3	4	5
A B C	Yes No	35.	assisting students to understand material at a variety of cognitive levels.	1	2	3	4	5
A B C	Yes No	36.	presenting instruction in a logical sequence consistent with instructional objectives.	1	2	3	4	5
A B C	Yes No	37.	asking questions which engage students in meaningful discussions and utilizing their responses and questions in discussion.	1	2	3	4	5
A B C	Yes No	38.	using technologies and materials appropriately to achieve instructional objectives.	1	2	3	4	5
A B C	Yes No	39.	employing a variety of teaching methodologies.	1	2	3	4	5
A B C	Yes No	40.	engaging student in organized and challenging activities that promote higher order thinking.	1	2	3	4	5
A B C	Yes No	41.	encouraging and teaching critical thinking and problem solving.	1	2	3	4	5
A B C	Yes No	42.	stimulating students' interests.	1	2	3	4	5
A B C	Yes No	43.	appreciating humor and being flexible, tolerant, and fair.	1	2	3	4	5
A B C	Yes No	44.	listening with the intent to understand.	1	2	3	4	5
A B C	Yes No	45.	communicating in sensitive and caring ways.	1	2	3	4	5
A B C	Yes No	46.	dealing with discipline management problems effectively and consistently.	1	2	3	4	5
A B C	Yes No	47.	establishing and maintaining effective classroom procedures and routines.	1	2	3	4	5
A B C	Yes No	48.	clarifying expectations and rules that are reasonable, equitable, and just.	1	2	3	4	5

Continued ⇒

VALIDATING DATA

One: Indicate to what extent each item is a relevant professional knowledge or skill teachers should possess.
A=Very relevant
B=Relevant
C=Not relevant
Two: Indicate how clear the wording and the meaning of the item is.
Yes=Meaning is clear
No=Meaning is not clear

Part 5: Professional Environment

Directions:

Respond to each statement carefully and honestly. The following items represent many of the professional knowledge and skills teachers need to possess. Please circle on the scale from 1 to 5 (1=poor, 2= fair, 3=good, 4=very good, 5=excellent) how well you believe you possessed and/or performed the professional knowledge and skills listed in your first or second year of teaching.

	How well did I do at . . .	poor				excellent	A B C		
49.	drawing on current research, theory, and other educational opportunities for personal and professional growth.	1	2	3	4	5	A B C	Yes	No
50.	participating in discussions about contemporary educational issues.	1	2	3	4	5	A B C	Yes	No
51.	examining and reflecting on my own educational practices and performance.	1	2	3	4	5	A B C	Yes	No
52.	recognizing both the difficulties and the value of ambiguity and uncertainty in the profession.	1	2	3	4	5	A B C	Yes	No
53.	seeking professional growth opportunities.	1	2	3	4	5	A B C	Yes	No
54.	being committed to understanding my discipline thoroughly.	1	2	3	4	5	A B C	Yes	No
55.	communicating regularly with students and parents about student needs, strengths, and progress.	1	2	3	4	5	A B C	Yes	No
56.	developing and maintaining good relations with community leaders who can act as resources for students.	1	2	3	4	5	A B C	Yes	No
57.	using various resources, such as other school professionals, specialists, paraprofessionals, and parents, to meet the educational needs of all students.	1	2	3	4	5	A B C	Yes	No
58.	collaborating with mentors, colleagues, professional associates, and community representatives to improve teaching and learning.	1	2	3	4	5	A B C	Yes	No
59.	communicating regularly with school administrators and support specialists.	1	2	3	4	5	A B C	Yes	No
60.	functioning as an effective change agent in school improvement.	1	2	3	4	5	A B C	Yes	No

Part 6: Personal Reflections

61. How well do you believe the Professional Knowledge PLACE exam measured your ability to teach? Please explain your reasoning.

62. What would help make the Professional Knowledge PLACE exam a better measure of teaching success?

63. Please use the back of this page to share any other information you wish to contribute.

Please Check To See If Every Item Has Been Answered. Thank You For Completing This Survey!!
Return to: Dawn Mallette, 242 Education, Colorado State University, Ft. Collins, CO 80523

APPENDIX D

Survey Instrument

VALIDATION OF THE PROFESSIONAL KNOWLEDGE PLACE EXAM

First or Second Year Teacher Survey

This survey aims to collect self-reported data about your perceived performance within your first or second year of teaching in the areas of professional knowledge and skills. Your responses will be kept completely confidential and will only be reported as an aggregate so that individual responses cannot be identified. Thank you for taking time to complete and return the entire survey. Please read the questions carefully.

Part 1. Demographic Information

Please respond to the following items by *checking* the most appropriate response.

1. **Gender:**
   _____Female _____Male

2. **Ethnic Background:**
   _____African American _____Caucasian (non-Hispanic) _____Other
   _____American Indian _____Hispanic
   _____Asian American _____Puerto Rican

3. **Years of Teaching Experience (include the current year):**
   _____One _____Two _____Other_____(please specify %)

4. **Current Status:**
   _____Full-time _____Part-time _____Other _____(please specify %)

5. **Primary Teaching Area:**
   _____Agricultural Ed. _____ESL _____Science
   _____Art _____Foreign Language _____Social Studies
   _____Business Ed. _____Marketing Ed. _____Special Ed.
   _____Consumer & Family Studies _____Math _____Speech
   _____Drama/Theater _____Music _____Technology Ed.
   _____English _____Physical Ed. _____Trade & Industrial Ed.

6. **Community Setting of the school in which you teach:**
   _____Rural (25,000 or less) _____Suburban (25,000-250,000) _____Urban (>250,000)

7. **What percentage of your teaching load is at the grade level for which you were licensed?**
   _____100% _____99-81% _____80-61% _____60-40% _____39% ⇓

8. **What percentage of your teaching load is in the teaching concentration for which you were licensed?**
   _____100% _____99-81% _____80-61% _____60-40% _____39% ⇓

9. **What was your overall GPA at the time you completed the teacher licensure program?**
   _____4.0-3.5 _____3.49-3.0 _____2.99-2.5 _____2.49 ⇓ _____don't recall

10. **What was your GPA in education courses you completed for the licensure program?**
    _____4.0-3.5 _____3.49-3.0 _____2.99-2.5 _____2.49 ⇓ _____don't recall

11. **At the time that you first took the Professional Knowledge PLACE exam, what was your class status?**
    _____Sophomore _____Senior _____Master's
    _____Junior _____Post-Baccalaureate _____ Doctorate

Part 2: Knowledge of the Learner

Directions:

Respond to each statement carefully and honestly. The following items represent many of the professional knowledge and skills teachers need to possess. Please indicate, on the scale from 1 to 5 (1=poor, 2= fair, 3=good, 4=very good, 5=excellent), how well you believe you performed the following professional knowledge and skills in your first or second year of teaching.

How well did you . . .		poor				excellent
12.	understand developmentally appropriate behavior and respond effectively to student needs?	1	2	3	4	5
13.	relate students' physical, social, emotional, and intellectual development to planning and organizing instruction?	1	2	3	4	5
14.	present and explain subject matter in clear, accurate, and developmentally appropriate ways?	1	2	3	4	5
15.	recognize multiple paths to learning and teach to varying learning styles and performance levels?	1	2	3	4	5
16.	understand how student attitudes and backgrounds can affect learning?	1	2	3	4	5
17.	understand the effect various systems, such as peers, groups, families, and communities have on student learning?	1	2	3	4	5
18.	understand how students' misconceptions about a subject can affect learning?	1	2	3	4	5
19.	provide an invitational classroom conducive to all students' learning?	1	2	3	4	5
20.	develop a sense of community, which enhances students' sense of self-worth in the classroom?	1	2	3	4	5
21.	practice democratic principles that show consideration for the rights and responsibilities of students as well as encourage students to do the same?	1	2	3	4	5
22.	adapt curriculum materials to the unique learning needs of students?	1	2	3	4	5
23.	recognize that all students have the potential for learning and personal growth?	1	2	3	4	5
24.	respect and value all types of diversity in students?	1	2	3	4	5
25.	ask questions to stimulate student understanding and thinking?	1	2	3	4	5
26.	draw on a wide range of strategies to engage students in learning?	1	2	3	4	5
27.	engage students in relevant experiences which fostered positive, productive learning?	1	2	3	4	5

Continued ⇒

Part 3: Instructional Planning and Assessment

Directions:

Respond to each statement carefully and honestly. The following items represent many of the professional knowledge and skills teachers need to possess. Please indicate, on the scale from 1 to 5 (1=poor, 2= fair, 3=good, 4=very good, 5=excellent), how well you believe you performed the following professional knowledge and skills in your first or second year of teaching.

How well did you . . .		**poor**				**excellent**
28.	implement standards-based instruction and assessments?	1	2	3	4	5
29.	develop a curriculum that creatively met state standards?	1	2	3	4	5
30.	select and teach your content?	1	2	3	4	5
31.	establish a rationale for the program/course/discipline?	1	2	3	4	5
32.	plan for and use instructional time?	1	2	3	4	5
33.	prepare lesson plans including objectives, methods, materials, desired outcomes, and evaluation methods?	1	2	3	4	5
34.	plan experiences consistent with the learning objectives?	1	2	3	4	5
35.	identify and select curriculum resources for delivery of instruction?	1	2	3	4	5
36.	identify the processes by which students learn?	1	2	3	4	5
37.	use a variety of evaluation techniques to improve teaching and learning?	1	2	3	4	5
38.	establish and maintain records of individual students progress?	1	2	3	4	5
39.	construct valid tests to measure and diagnose students' learning needs?	1	2	3	4	5
40.	provide prompt feedback to students and assist them in the evaluation of their own growth?	1	2	3	4	5
41.	collaborate with colleagues to establish student performance expectations that are related and consistent across the school setting?	1	2	3	4	5
42.	provide regular opportunities for student self-reflection and/or peer assessment?	1	2	3	4	5
43.	work together with students to set challenging and attainable learning standards?	1	2	3	4	5

Continued ⇒

Part 4: Instructional Delivery

Directions:

Respond to each statement carefully and honestly. The following items represent many of the professional knowledge and skills teachers need to possess. Please indicate, on the scale from 1 to 5 (1=poor, 2= fair, 3=good, 4=very good, 5=excellent), how well you believe you performed the following professional knowledge and skills in your first or second year of teaching.

How well did you . . .		**poor**				**excellent**
44.	involve learners in identifying relationships between what they were learning and what they already knew?	1	2	3	4	5
45.	clarify the purpose of instruction and teach to those purposes?	1	2	3	4	5
46.	assist students to understand material at a variety of cognitive levels?	1	2	3	4	5
47.	present instruction in a logical sequence consistent with instructional objectives?	1	2	3	4	5
48.	ask questions which engage students in meaningful discussions and utilize their responses and questions in discussion?	1	2	3	4	5
49.	use technologies and materials appropriately to achieve instructional objectives?	1	2	3	4	5
50.	employ a variety of teaching methodologies?	1	2	3	4	5
51.	engage students in organized and challenging activities that promoted higher order thinking?	1	2	3	4	5
52.	encourage and teach critical thinking and problem solving?	1	2	3	4	5
53.	stimulate students' interests?	1	2	3	4	5
54.	appreciate the use of humor, flexibility, tolerance, and equity in the classroom?	1	2	3	4	5
55.	listen with the intent to understand?	1	2	3	4	5
56.	communicate in sensitive and caring ways?	1	2	3	4	5
57.	deal with discipline/management problems effectively and consistently?	1	2	3	4	5
58.	establish and maintain effective classroom procedures and routines?	1	2	3	4	5
59.	clarify expectations and rules that were reasonable, equitable, and just?	1	2	3	4	5

Continued ⇒

Part 5: Professional Environment

Directions:

Respond to each statement carefully and honestly. The following items represent many of the professional knowledge and skills teachers need to possess. Please indicate, on the scale from 1 to 5 (1=poor, 2= fair, 3=good, 4=very good, 5=excellent), how well you believe you performed the following professional knowledge and skills in your first or second year of teaching.

How well did you . . .		poor				excellent
60.	draw on current research, theory, and other educational opportunities for personal and professional growth?	1	2	3	4	5
61.	participate in discussions with others about contemporary educational issues?	1	2	3	4	5
62.	examine and reflect on your own educational practices and performance?	1	2	3	4	5
63.	recognize both the difficulties and the value of ambiguity and uncertainty in the profession?	1	2	3	4	5
64.	seek professional growth opportunities?	1	2	3	4	5
65.	work to understand your discipline thoroughly?	1	2	3	4	5
66.	communicate regularly with students and parents about student needs, strengths, and progress?	1	2	3	4	5
67.	develop and maintain good relations with community members and leaders who could act as resources for students?	1	2	3	4	5
68.	use various resources, such as other school professionals, specialists, paraprofessionals, and parents, to meet the educational needs of all students?	1	2	3	4	5
69.	collaborate with mentors, colleagues, professional associates, and community representatives to improve your teaching and learning?	1	2	3	4	5
70.	communicate regularly with school administrators and support specialists?	1	2	3	4	5
71.	function as an effective change agent in school improvement?	1	2	3	4	5

Part 6: Personal Reflections

72. How well do you believe the Professional Knowledge PLACE exam measured your ability to teach? Please explain. (Use the back of the survey if you need more room.)

73. Please explain the factors (i.e.; induction program, support or lack thereof, etc.) that impacted your feeling of success or failure in the classroom within your first and/or second year of teaching? (Use the back of the survey if you need more room.)

*****Please Check To See That Every Item Has Been Answered.**

Continued ⇒

Researcher's Access to Participants' Professional Knowledge PLACE Exam Scores

If you are providing a copy of your Professional Knowledge scaled and sub-scores include it when returning this survey. Thank You.

OR

If you haven't already done so, please provide your signature giving the researcher permission to access your scores from the Teacher Licensure Office and include this page when returning the survey

The researcher has my permission to request the scaled score and sub-scores I received on the Professional Knowledge PLACE exam from the files/archives of the Teacher Licensure Office at _____
Institution

Signature:_____ **Date:** _____

Thank You for Your Participation!!

Do you know of any other individuals that graduated from CSU and are currently in their first or second year of teaching? We would like to include them in this study as well. Any information that you can provide would be helpful. Thank You!!

Name _____
School _____
City, State _____
Home Address, Phone???
_____
_____
_____

APPENDIX E

Cover Letter Sent With Survey Instrument

Spring 2000

First or Second Year Teacher:

Enclosed is the questionnaire that you agreed to complete to assist me in the study I am conducting entitled High-Stakes Teacher Testing in Colorado: The Predictive Validity of the Professional Knowledge Examination. This research is being conducted to fulfill the requirements of my doctoral program at Colorado State University.

I would appreciate your help. The data you supply by participating in this research study will be considered in making recommendations regarding testing as an indicator of teacher competency. The findings will allow those concerned with licensing procedures to examine the benefit, or lack thereof, of using test results as part of the criteria examined for initial licensing. In addition, it will add to the body of knowledge dealing with the predictive validity of high-stakes teacher testing.

The survey will take approximately 20-30 minutes of your time to complete. Please read the survey instructions on the first page and respond as accurately as possible to all the questions on the instrument. In addition, I'm requesting your Professional Knowledge PLACE scaled score and sub-scores. Please indicate if you would like me to access your scores from the Teacher Licensure Office or include a copy of your scores when you return the survey. In addition, I would like to include a correlation of GPA's with PLACE scores as part of this validity study. Therefore, on the demographic page you will find two questions related to GPA. There is no known risk related to your completing and returning the survey instrument. It is not possible to identify all potential risks in research procedures, but the researchers have taken reasonable safeguards to minimize any known and potential, but unknown, risks.

All responses will be confidential. Identification numbers have been placed on each instrument. These numbers will be used for follow-up purposes only. In addition, you are being asked to provide the last four digits of your Social Security number. Those will be needed to confirm the accuracy of the match between your survey results and PLACE scores. Once an accurate match has been made, the social security number will be replaced with a unique code used for follow-up and data analysis. The final database will be free from any identifying information. All survey forms will be destroyed once the data are loaded in electronic form. If you choose not to complete and return the survey there will be no penalties or loss of benefits of any kind.

Your participation in the study is crucial and your opinions are valued. **Please return the survey by June 10, 1999**. Thank you for your participation and dedication to the teaching profession. If you have any questions or problems with the survey please feel free to give me a call at (970) 491-5319 or e-mail me at mallette@cahs.colostate.edu. Questions about subjects' rights may be directed to Celia S. Walker at (970) 491-1563.

Sincerely:

Dawn M. Mallette

Dawn M. Mallette, M.S.
Co-Investigator

R. Brian Cobb

Dr. Brian Cobb, Ph.D.
Principal Investigator

APPENDIX F

Follow-up Postcard

Dear First or Second Year Teacher:

You recently received a Validation of the Professional Knowledge PLACE exam survey. We know you are extremely busy but your opinions are critical to this study. Please take a few minutes to complete and return the survey. If you have already returned the survey, thank you.

Sincerely,

Dawn M. Mallette, M.S. Dr. Brian Cobb, Ph.D.

Dear First or Second Year Teacher:

You recently received a Validation of the Professional Knowledge PLACE exam survey. We know you are extremely busy but your opinions are critical to this study. Please take a few minutes to complete and return the survey. If you have already returned the survey, thank you.

Sincerely,

Dawn M. Mallette, M.S. Dr. Brian Cobb, Ph.D.

APPENDIX G

Follow-up Letter That Accompanied Second Survey

June 10, 2000

First or Second Year Teacher:

Within the last month I sent you a questionnaire and a follow-up postcard asking you to assist me in the study I am conducting for my dissertation. I realize that the survey arrived in your hands at an inopportune time with the busy close of a school year. I apologize for that. You may, at that time, have misplaced the survey or thrown it away. Just in case either of the previously mentioned are true and you are still willing to help me out, I have enclosed a copy of the original mailing with a self-addressed stamped envelope to give you another opportunity to be part of the study. Please disregard the return date indicated on the original cover letter.

It has been very difficult to locate many of our teacher licensure graduates therefore my sample size is fairly small. I would greatly appreciate your input. Increasing the return rate adds to the validity of the results. Would you help me out? It will only take a few minutes of your time to complete.

I would appreciate it if you would complete and return the survey by **June 24, 2000**. Your participation is crucial and your opinions are valued. Thank you for your assistance.

Sincerely:

Dawn M. Mallette

Dawn M. Mallette, M.S.

APPENDIX H

Information on Non-Respondents

Information on Non-Respondents

Gender	Ethnicity	Location	Size	Scaled Score	Sub-domain scores
1. F	Cau	Ft. Collins	Sub	247	3334
2. M	Hisp	Ft. Collins	Sub	251	3334
3. F	?	Ft. Collins	Sub	252	2434
4. F	?	Berthoud	Rur	250	3334
5. M	?	Boulder	Sub	276	4444
6. M	?	Loveland	Sub	284	4444
7. M	?	Elizabeth	Rur	253	3434
8. F	?	Littleton	Sub	253	3234
9. M	?	Loveland	Sub	258	3433
10. F	Cau	Ft. Collins	Sub	256	3444
11. M	?	Loveland	Sub	247	4233
12. M	?	Swink	Rur	239	3434
13. M	?	Ft. Morgan	Rur	228	2423
14. F	?	Loveland	Sub	259	3444
15. F	Cau	Ft. Collins	Sub	261	4433
16. M	?	Ft. Collins	Sub	241	3334
17. F	?	Ft Morgan	Rur	247	3333
18. M	?	Ft. Collins	Sub	257	3444
19. F	?	Ault	Rur	253	3344

Range of scaled score = 228-284
Mean = 252.45

10 Males
10 Females

13 Suburban
6 Rural

APPENDIX I

Summary of Responses to Qualitative Questions

Question 1: How well do you believe the Professional Knowledge PLACE exam measured your ability to teach? Please explain.

No Response 1
Split 10
-50% valid, basic knowledge can be measured skill can't be
-It measured my knowledge of what it takes to teach fairly well. But, knowledge and ability are two different things.
-it was OK but shouldn't be used as the only consideration in granting a license.
-measures your knowledge of current practice but in actual teaching it boils down to your own personality as to which of the practices you use.
Yes 3
-the questions I answered on this test did reflect positively on what I have needed to use/know in teaching. This was not the case with the other 3 exams.
No 44
-questions were common sense, not ones that four years of schooling were needed to answer.
-another hoop to jump through
-a way for the state to make money - 2
-it didn't measure my abilities whatsoever
-didn't do anything for me
-not a direct indication of how well a person can teach, what it does measure is a person's interest in the teaching profession.
-it is a weak attempt at accountability that only covers a narrow range of knowledge.
-impossible to measure teaching performance from a multiple-choice test. – it measured my reasoned response to questions about the professional environment. During teaching I must make a myriad of fast-paced multi-layered decisions that impact my teaching performance
-tested random knowledge
-can only measure knowledge of theory and content areas, can't measure how well you apply/use your knowledge
-measured human development but not the ability to teach
-a more structured student teaching program would be more realistic and effective
-too many factors that can affect final scores, final scores not a measure of teaching ability.
-a way the public can monitor teachers and eliminate poor ones. Poor ones will eliminate themselves because it isn't a profession someone can survive in by just getting by.
-guessed on many of the questions.
-too situational without background for there to be a meaningful responses
-questions used dated material
-questions don't focus on my ability to communicate with and reach students
-often times I would choose the most traditional answer rather than thinking of what I would do.
-too many intangibles that can't be measured
-measures test taking ability

-in many ways I think they are measuring how well one can read the minds of the test generators, not how well you will perform as a teacher.
-although it may weed out some who shouldn't be teachers.
-the test questions don't fit someone who is going to teach in a rural area.
-educational trivial pursuit

Question 2: Please explain the factors that impacted your feelings of success or failure in the classroom within your first and/or second year of teaching.

Preparation – 17
-training at CSU was beneficial
-project promise @ CSU prepared me very well. The multiple teaching environments & immediate feedback helped.
-student teaching experience is what most of what I do in teaching is based on.
-student teaching and preparation – spending a lot of time in the classroom
-student teaching
-Project Promise provided me the foundation for all my successes these first two years.
-in class experiences and students teaching
Induction – 16
Strong - 5
-helpful only because it put you in regular contact with others suffering through their first year of teaching - didn't learn anything new but enjoyed it.
-helpful but not interactive
-more helpful when more organized.
Weak – 11
Unorganized, repetitive to prep program, more of a chore, a lot of work, added stress.
-only about 25% of it is useful
-the induction program in my district is a waste of time
-demanded too much of our time – simultaneous overload – having mtgs. & assignments can be overwhelming
Mentor – 13
Mentor to faculty/administration in the school has biggest impact
-mentor teacher next door to solve problems sooner rather than later
-nice to have someone to borrow ideas from.
-fortunate to have a wonderful mentor at my school
Support – 27
Mentioned faculty, administration, community, parents, students
-success related to students achievement and support - 8
-direct feedback from students, their family and gifts were very supportive.
-support from students and fellow faculty
-monetary support for professional development activities
-good feedback from administration
-support from students, teachers, parents, and administration
-from administration and other teachers
-constant communication with administrators

-I was unprepared for how isolated you are and how you have to aggressively seek out support.
-our school works on the team concept. It was very helpful in my first years.

Learning from others – 3

-learning from others in the actual setting
-collaborating with other teachers on a project
-list serve of teachers on the Internet.

Internal – 4

-I was put on this earth to teach
-I base my success and failure on the students, did they accomplish the objectives, did they enjoy the class, did appreciate me as a teacher.
-feelings of failure came from within
-very stressful, had the skills but struggled with being able to implement things and still stay a happy, sane person.
-time and experience is what I continue to count on to build confidence to continue in this career.
-failure came when I spoke up about activities (athletics) I think kids need.
-lack of guidance in first month made it difficult however it allowed me the freedom to grow.
-I didn't push and was willing to put in the extra effort