A comparative study of the NCATE Standards and the Virginia Licensure Regulations for School Personnel with the perceptions of elementary principals and teachers

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A Comparative Study of the NCATE Standards and the Virginia Licensure Regulations for School Personnel with the Perceptions of Elementary Principals and Teachers

A Dissertation Presented to the Faculty of the College of William and Mary in Virginia

In Partial Fulfillment of the Requirements for the Degree of Doctor of Education

by

Stephen J. Chantry

October, 2002
A Comparative Study of the NCATE Standards and the Virginia Licensure Regulations for School Personnel with the Perceptions of Elementary Principals and Teachers

by

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Approved

[Signatures]

Virginia 2. McDougal
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A Comparative Study of the NCATE Standards and the Virginia Licensure Regulations for School Personnel with the Perceptions of Elementary Principals and Teachers

Abstract

The purpose of this study was to compare the National Council for the Accreditation of Teacher Education (NCATE) 2000 Standards for Elementary Preparation and the Virginia Licensure Regulations for Elementary Personnel (1998) with the perceptions of principals and teachers in the elementary schools in Chesterfield County, Virginia. The methodology incorporated an exploratory design using qualitative data collection and analyses of surveys of school-based personnel, as well as the NCATE standards and Virginia Licensure Regulations. Specifically, themes were identified through a series of reductions of the terms and phrases contained within the documents and surveys.

The results of this study identified similarities and differences between the perceptions of the school-based individuals and the documents analyzed. Among others, some significant themes that emerged were knowledge of content and pedagogy, assessment, personal and professional skills, and authentic experiences.

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A Comparative Study of the NCATE Standards and the Virginia Licensure Regulations for School Personnel with the Perceptions of Elementary Principals and Teachers
Chapter I

Statement of the Problem

Introduction

Since the beginning of public education in America, teacher preparation has been scrutinized. Educational reformers have attempted to more clearly define its purpose (Banner & Cannon, 1997; Cruickshank, Bainer, & Metcalf, 1999). Legislators have instituted policy and program parameters (Gideonse, 1992). National, state and local groups have attempted to provide their own influence and recommendations (Cooper & Tate, 1992; Roth, 1996; Voyles, M., et al., 1996). Despite more than 80 years of existence, teacher preparation programs still has its critics.

Critiques vary from demands to standardize teacher education and certification to suggestions for adding more content courses while limiting education courses altogether (Clabough & Rozycki, 1996; Gideonse, 1992; Sikula, 1996). Too often newly hired teachers encounter adjustment problems that greatly hinder their future success with students (Delgado, 1999; Rowley, 1999). These adjustment problems have resulted in commentary by public school teachers and administrators with regard to their opinions about teacher preparation and their perceptions regarding the readiness of newly hired staff. As a result, many schools have implemented programs to mentor new teachers as they gain skills necessary to be successful (Rowley, 1999; Stedman & Stroot, 1998).
Teacher quality and teacher effectiveness also have been questioned when student performance is less than desired. This issue can be cited as far back as the Sputnick era when the country became concerned with keeping pace with Russia for the exploration of space (Urban, 1990). When events such as this occurred, both student achievement standards and teacher preparation standards were questioned. The pervasive standards movement in public education today (Roth, 1996), especially with test scores being linked to evaluation of teachers and schools, brings further attention to the need to obtain well-trained teachers. At the same time, some believe that attempts to attract more applicants in times of teacher shortages may cause a lowering of standards (Latham, Gitomer & Ziomeck, 1999).

Using alternative and quick licensure programs increase concerns of school administrators and local school boards with regard to the preparation of graduates of these programs because of the lack of time given to fully assimilate their new learning (Diegmueller, 1990; Warren, 1996).

Statement of the Problem

Administrators and their eventual teacher colleagues are concerned that these "new hires" become successful teachers (Rowley, 1999; Stedman & Stroot, 1998; Wasley, 1999). Some teachers come equipped with outstanding skills and preparation right from the beginning. Some have ample skills and knowledge, however, others develop expertise over their years of teaching and still; others remain the same as when they first entered the classroom (Wasley, 1999). Why do administrators view some to be better or more
successful teachers than others? Can the difference be attributed to an experience in a teacher education program adhering to NCATE standards? What knowledge is required about the students, the content to be taught or pedagogy that will enhance one's ability to be a good teacher? What teaching abilities are required for someone to be able to transfer that knowledge to the learner? What dispositions are necessary to ensure that entry-level elementary teachers can make teaching a successful career? Do the NCATE standards reflect these emphases? Do the Virginia Licensure Regulations emphasize these attributes as part of the conditions for entry into the classroom?

School-based administrators and teachers have much insight regarding these issues (Cruickshank, 1996; Voyles, et al.). The focus of this study is how the perceived necessary attributes of entry-level teachers compare to the NCATE (2000) Standards for Elementary Preparation and subsequently the Virginia Licensure Regulations for Elementary Personnel (1998) as noted by experienced elementary educators with whom they work in public education.

Research Questions

NCATE identifies four attributes for teachers: knowledge of content and pedagogy, teaching ability, dispositions necessary for a successful career in teaching, and the ability to positively effect student learning (NCATE 2000 Program Standards for Elementary Teacher Preparation). This study explored these issues by addressing the following four research questions:
1. What do elementary principals perceive as the desired or needed knowledge, abilities, and dispositions of entry-level elementary teachers?

2. What do experienced elementary teachers perceive as the desired or needed knowledge, abilities, and dispositions of entry-level elementary teachers?

These two questions were answered by analyzing survey responses from current principals and teachers as outlined specifically in the methodology section. The information gained provided information essential to the resolution of the third and fourth research questions:

3. How do elementary principals' and experienced elementary teachers' perceptions of elementary entry-level teacher competencies compare to the Virginia Licensure Regulations for Elementary Personnel (1998)?


The third and fourth questions were answered using information gained from the survey information as well as through an extensive document analysis of the NCATE (2000) Standards for Elementary Preparation and the Virginia Licensure Regulations for Elementary Personnel (1998). Specifically, through an analysis of these documents and through information gathered by surveying elementary school principals and teachers, similarities and differences were identified.
Context for the Research

The context for this research was derived from three points of reference: elementary teacher education standards, state regulations for elementary personnel, and elementary educators in the field. Many colleges and universities (more than 50% nationally and 15 of 37 in Virginia) are adhering to the National Council for the Accreditation of Teacher Education (NCATE) standards for teacher preparation (http://www.ncate.org/standard/m_stds.htm; Howey, 1995). NCATE (along with Holmes, Center for Educational Renewal, and the National Education Association's Teacher Education Initiative) is identified as being among the most influential organizations for teacher education and reform (Valli, L. & Rennert-Ariev, P. L., 2000). Alignment with the NCATE standards are intended to ensure that graduates of these programs have acquired the skills necessary to be successful in the classroom (Howey, 1995; Hummel & Strom, 1987; Katz & Raths, 1985; Laithsh, 1998; Raths, Zych, & Wojtaszek-Healy, 1985). Additionally, in some states there are requirements for teacher licensure or employment at the state level. In Virginia, the requirements are delineated in the Virginia Licensure Regulations for School Personnel (Appendix B). Elementary educators bring a school-based perspective to this study. During the course of their employment, teachers have time to reflect on the experience that prepared them for teaching (Richardson, 1996). Administrators evaluate their efforts using formative and summative assessments prescribed by local and state policy. In this light, an analysis of teacher preparation from the perspective of a finite set of standards (NCATE and the Virginia Licensure Regulations) as well as
from the point of view of those who work with or have benefited from a teacher education program is presented.

Description of the Study

This was a comparison study of the NCATE (2000) Standards for Elementary Preparation and the Virginia Licensure Regulations for Elementary Personnel (1998) with the perceptions of principals and teachers in the elementary schools in Chesterfield County, Virginia. All elementary teachers and principals in the 36 elementary schools in Chesterfield County Public Schools were surveyed to assess their perception with regard to needed attributes of entry-level elementary teachers. The NCATE (2000) Standards for Elementary Preparation and the Virginia Licensure Regulations for Elementary Personnel (1998) were analyzed using thematic analysis to determine content relative to these attributes.

Significance of the Study

Teacher education programs must reflect the standards and emphases necessary to develop highly qualified and skilled teachers for our classrooms. Reform movements and state and local initiatives impacting these programs may occur as a result of sudden changes in climate with the local or national education community or as a result of changes in leadership within governing bodies or education boards and associations such as the National Education Association (NEA), the American Association of Colleges for Teacher Education (AACTE), and NCATE (Gideonse, 1992; Lee & Yarger, 1996). These changes can cause rapid attempts for modifications in legislation or policy that might affect accreditation requirements or teacher preparation standards.
(Gideonse, 1992). In some instances state boards of education have worked with public school educators as well as college and university personnel to develop standards for teacher education (Cooper & Tate, 1992; Roth, 1999; Warren, 1996). At the same time there are instances in which teacher education standards have been developed without input from key experts (Roth; Voyles, et al., 1996). In either regard, the preparation of teachers continues to be critiqued and as the standards movement continues to prevail, teacher expertise becomes an increasingly significant issue (Roth, 1996).

This study compared NCATE (2000) Standards for Elementary Preparation and the Virginia Licensure Regulations for Elementary Personnel (1998) with administrators’ and teachers’ perceptions regarding the desired or needed attributes of entry-level elementary teachers. A review of this analysis may provide valuable insight to teacher educators as well as public school personnel with regard to the necessary attributes for teachers.

Teacher educators, in collaboration with public school educators may use the results of this study to refine and focus their delivery of services. Discussion between college faculty and public school educators regarding the findings in this study might further increase the usefulness of the results. Further, developers of standards as well as legislation that guides state licensure requirements can benefit from noted similarities or differences.

Specifically, the issue researched was: What is the comparison between the NCATE standards, the Virginia Licensure Regulations and the perceptions of administrators and teachers with regard to the
attributes required for teaching? Voyles and colleagues (1996) stated: "thoughtful interaction between classroom teachers and methods faculty should lead to professional growth for teachers and college faculty alike" (p. 75). As a result of the information gained in this study, a benefit may be realized from all three contexts involved: teacher education standards, state regulations, and educators in the field.

Education is a complex issue that requires multiple perspectives and opportunity for judgment from those closest to the students (Goodlad, 1999; Meier, 2000). At the onset of the 21st century, changes and expectations within the work force are occurring rapidly. This, in turn, creates new challenges for schools to ensure adequate preparation of our youth (Brandt, 2000). Educators work steadfastly in their vocation focusing on teaching students and these students deserve the best-trained and highest quality instructors available. How will we address the apparent conflict between preparing more teachers with higher quality while at the same time compensating for the decreasing pool of prospective teachers due to current shortages?

One way is to make sure that teacher education programs reflect the standards and emphases necessary to produce highly qualified and skilled graduates. This study was significant in that it provided further insight regarding similarities between the attributes emphasized in the content of the NCATE standards and the Virginia Regulations, and the desired or needed competencies of teachers as noted by public school personnel.
Definitions of Related Terms

Abilities: Abilities refer to the effective application of knowledge "in the classroom and other professional teaching situations, including collaboration with colleagues" (NCATE 2000 Guidance for Institutions, September 22, 2000; p. 16).

Accreditation: Accreditation means that the institution has met all formal requirements in such areas as academic excellence, curriculum offerings, staffing and facilities and other required resources. "Accredited institution means an institution of higher education which is accredited by a state, regional or national accrediting agency recognized by the United States Department of Education" (1993 Virginia Register of Regulations: VR 270-01-0000:1 Regulations Governing the Licensure of School Personnel).

Alternate licensure. "Alternative programs developed by institutions of higher education (i) recognize the unique strengths of prospective teachers from nontraditional backgrounds, and (ii) prepare these individuals to meet the same standards that are established for others who are granted a provisional license" (Virginia Register of Regulations: VR 270-01-0000:1 Regulations Governing the Licensure of School Personnel).

Certification: This term refers to the status of an individual with regard to meeting specific requirements or guarantees (Websters New World Dictionary, 1991). Therefore, educators who have certification, have been reliably endorsed by the state or institution.
eventually granting their licensure. Certification is required before licensure unless licensure is granted provisionally. (In this case, the individual agrees to work towards completion of requisite course work for certification in order to be granted full licensure.)

**Dispositions**: Dispositions refer to professional characteristics usually associated with "candidates who go on to successful teaching careers" (NCATE 2000 Guidance for Institutions, September 22, 2000; p. 16).

**Endorsement**: An endorsement refers to a concentration or specialty that a teacher has majored in during the undergraduate program. When a teacher applies for a teaching certificate or license, the individual request an endorsement as a part of this application process as well. Some examples of this are English, Math, or French (1993 Virginia Regulations Governing the Licensure of School Personnel: 8 VAC 20-21-60).

**Experienced teacher**: For the purpose of this study, experienced teacher is defined as a teacher who has taught at least three years (Richardson, 1996).

**Knowledge**: Knowledge is defined as the information "that candidates possess about subject content, pedagogy, child development and learning, motivation, instruction, assessment and the qualities of a professional" (NCATE 2000 Guidance for Institutions, September 22, 2000; p. 16).

**Licensure**: Licensure refers to the teacher license required to teach. Licensure is usually granted by the state or locality after certification is guaranteed by an accredited
educational institution. "Collegiate Professional License means a five-year, renewable license available to an individual who has satisfied all requirements for licensure, including the NTE or Praxis" (Virginia Register of Regulations: VR 270-01-0000:1 Regulations Governing the Licensure of School Personnel).

National Council for the Accreditation of Teacher Education (NCATE): This organization provides standards for colleges and universities with teacher preparation programs. It is not a requirement for schools with teacher education to follow these standards. More than half of the institutions adhere to the NCATE standards (http://www.ncate.org/standard/m_stds.htm).

Teacher education: For the purpose of this study, teacher education is being defined as curriculum and program activities designed to prepare individuals in undergraduate programs for the field of teaching. These programs are usually comprised of a four or five year undergraduate program leading to teacher licensure.

Teacher preparation: Similar to teacher education, in this study teacher preparation is defined as a series of curriculum and activities for preparing individuals for entry into teaching. Teacher preparation however, may also include alternate routes to licensure. These routes may include Masters programs after an undergraduate degree has been obtained or after an individual has been in the world of work. Often these programs are shorter in duration than typical four-year undergraduate teacher education programs.
Limitations and Delimitations of the Study

When studying the emphasis of teacher education, there are a myriad of factors that one could consider. Because each instructor who prepares future teachers has a degree of academic freedom, it might be impossible to accurately define the outcomes of all teacher education programs as an entire group (Roth, 1999; Tom, 1997). This is true regardless of whether they are all intending to follow even the strictest standards (Katz & Raths, 1985). Therefore, this study was delimited to an analysis of the content of the NCATE standards and the Virginia Licensure Regulations rather than an interpretation of the actual effect of these documents.

Another issue is the fact that the beneficiaries of teacher education programs may not know the degree to which their teacher education experience has affected them (Hummel, 1987; Kochman, 1995; Richardson, 1996). Richardson (1996) in Featherstone noted that "the novice sometimes rehearses, with a new ear, propositions which seemed to make little impact on them at the time they were offered" (p.106). Teachers need extensive time in the classroom before their preparation experience can be fully appreciated. A second limitation, therefore, was the uncertainty with regard to the time it may take for a new teacher to become fully aware of the necessary attributes for teaching. The effect of this limitation is uncertain; however, it must be recognized and in this light, perceptions of teachers with at least three years of experience will be used.

Finally, this study was delimited to surveying experienced elementary teachers and principals and assistant principals.
For the purpose of this study, survey respondents were delimited to elementary schools in Chesterfield County, Virginia. Due to the above stated conditions, generalizibility may be limited. Also noteworthy is the fact that Virginia is not representative of all states. Virginia has its own set of Licensure Regulations and it is currently involved in an increased emphasis with regard to standards of learning (SOL) for students with high accountability issues for public school educators related to student achievement of these standards.
Overview

As public education has responded to the need to change over the last hundred or more years, so too has the style of teacher preparation changed. This review focused on the evolution of teacher education programs or on the desired focus of these programs as noted over time by the influence of various educational organizations, educational reform agents, societal changes, and most importantly, legislative bodies and boards of education.

The second aspect of the literature review focused on teacher preparation content. That is, the ideal content and methods that should be included to prepare individuals to become effective teachers as noted by educational theorists, those in higher education institutions, and formal standards— and most likely influenced by the evolution described in the first section of this review. It is important to note that although it would seem that there would be congruence between these aspects, it is not always the case (Warren, 1996). For example, a perceived need to increase student performance in areas such as basic skills, problem solving, or math may influence a specific area of emphasis in teacher education (Darling-Hammond, 1998; Lewis, 1994; National Commission on Teaching and America's Future, 1996; Stoddart, 1991; Tom, 1995). Similarly, shortages in certain content areas may result in innovations that are not necessarily congruent with formal teacher preparation practices.
(Laitsh, 1998; Rowley, 1999; Sikula, 1996; Strengthening Teacher Quality, 2000). Obviously, standards and accreditation requirements may intend to affect teacher preparation, but it does not always determine exactly the substance of the content.

Finally, it is important to summarize the findings of the literature review to note common trends, inconsistencies and implications for further study. This third part of the literature review provides the reader as well as the researcher an opportunity to develop questions that may extend the study on this topic in alternative directions or it may provide the impetus to delve deeper into the topic.

Historical Perspective of Teacher Education

To help put teacher education into perspective, it is important to go back a few years. Berliner (1985) cited Cremin (1953) as he described the nation's four periods of education:

- the period of no interest, from 1600 to 1789; the period of school expansion and normal school development, from about 1789 to 1860; a period from 1860 to 1910 characterized by the development of professional schools of education in liberal arts colleges and universities and the transformations of normal schools into four year colleges; and a fourth period, from 1910 on, characterized by rising enrollments, expanding curriculum, and efforts to raise standards throughout the educational enterprise. (p. 7)

Urban (1990) provided further insight when he describes that fact that for the first two hundred years of this country's existence there was
no process for formally preparing teachers for their job. He also noted that during this time frame, there was no formal education requirement for other distinctive professions such as medicine and law either. But today there is a discrepancy because these other professions have developed precise standards (Howey, 1995). Urban notes: “The anomaly, if there is one, is that, in the twentieth-century, when medicine, law, and other occupations with which teaching is often compared have developed extensive and elaborate systems of professional education, teacher education continues to face challenges to its very existence.” (p.59) Urban noted that the concern with regard to the efficacy of teacher preparation programs may be indirectly related to this anomaly.

From the one room school house. Continuing with the historical perspective it is interesting to note that before the twentieth century, teaching often took place for a fee in homes and churches by someone thought to be educated -that is they could “read, write and cypher, the tasks for which they were to prepare their pupils” (Urban, 1990, p.60). With the introduction of the free common school during the 1900’s in New England came the impetus to prepare individuals to teach in these schools (Shen, 1999). The public normal schools also started in New England with the first to be established in Lexington, Massachusetts in 1839 (Shen; Urban). The goal of the normal school was to prepare teachers for the common schools. As years passed, attendance at these normal schools became sought by families who saw it as a means for education beyond the elementary years offered at the common schools (Shen). When university systems came into place and
education departments were formed, the shift in teacher preparation moved towards "a science of education, in the sense of a systematic approach to the subject..." (Urban, 1990, p. 63). The universities began training high school teachers while the normal schools continued to train many of the elementary teachers. As the evolution continued, normal schools became teachers colleges offering degrees similar to the universities.

As teacher education became more prevalent at universities and teachers colleges continued to transform from normal schools, more scrutiny with regard to how teachers should be prepared also developed. Interestingly, the increase of the numbers of the normal schools moving towards being accredited teachers colleges also brought university graduates to these schools as teacher educators themselves. This in turn initially slanted the philosophy or emphasis of the teachers colleges to be in line with the universities. The possibility for a common system or pedagogy regarding teacher education fell into place and continued for many years. Initially controlled by teacher educators in the education departments of universities and without legislative or other standards, the content and methods for preparation of all teachers were established and became self-fulfilling. Events in the 1950s and the 1960s that compared American student achievement with that of those in other countries caused the nation to speculate on the educational progress of the country's young people (Urban, 1990; Shen, 1999). This also caused much discussion with regard to the effectiveness of the teachers who were teaching these students and logically, the quality

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of the teacher education to prepare individuals to help students in
the American schools (Wideen, 1995).

Educational reformers. During this time period, two theorists,
Conant and Koerner (1963), submitted that the focus on teacher
education was more about what public school students needed to know
rather than the more important issue of how to ensure effectiveness in
transmitting this knowledge (Wideen, 1995). After all, the "science
of education" concept introduced years earlier focused on the learning
not on the teaching. Yet, even with the focus on learning, Conant
noted that teacher preparation programs did not provide sophisticated
and research based techniques to prospective teachers. He notes:

As for learning theory, I humbly submit my opinion that at the
present time this phase of educational psychology is not
sufficiently developed to warrant more attention for secondary
teachers than that given in a good course in general psychology
required as part of a general education. (Conant, 1963, p.171)

Wideen (1995) noted that Koerner had a similar perspective that
teacher education courses were vague and in need of a more solid
research base. Koerner states:

Education still lacks a significant corpus of knowledge and
practice that its graduates can use with confidence and that can
form the base for the research and intellectual advancement of
the field. This lack accounts for many of the continuing
problems and controversies of teacher education. (Koerner, 1963,
p.26)
Conant and Koerner cited the "lack of reliable data to support a given approach to teacher education as a considerable part of their argument against teacher preparation controlled by education schools or departments" (Urban, 1990, p.68). Without outside influences and continuous research on teaching and learning, teacher educators would continue preparing teachers using practices that Conant and Koerner believed were already time worn and in need of improvement (Wideen, 1995).

Urban noted that Koerner further validated his arguments by seeking opinions from teachers about the value of the preparation programs that they experienced. He cited surveys of California teachers, University of Wisconsin education students, and a national study done by the United States Department of Education (USDOE). In each case, the helpfulness of teacher education courses rated poorly (Koerner, 1963). For instance, the (USDOE) survey noted that 36% of 7,150 beginning teachers polled believed that education courses were "not very helpful" or "not helpful at all." This percentage went up to 76% when it included the category "fairly helpful." Equally disturbing, however, was the fact that only 20% thought their teacher education courses were "very helpful." (Koerner, 1963, p.102) The Wisconsin survey produced similar results with half of the students less than satisfied with their education courses. (Koerner, 1963, p.100)

The survey of the California teachers conducted by Albrecht (1960) was the most comprehensive. 1,391 high school teachers completed this forty-two item questionnaire. Albrecht noted that this
represented a 73% response rate which; he said "reflects the interest of classroom teachers in the issues on which the questions were based" (Albrecht, 1960, p.103). The results of this survey noted that only 6% believed that their education courses had been "most important" in making them an effective teacher (Koerner, 1963, p.101). Four of the first five questions of the survey are the most revealing. An abbreviated summary of these questions showed that more than 94% of those surveyed felt that education courses were of some to little value and that they would favor less education courses and more general education courses (Albrecht, 1960). This information is evidence of the problems with teacher education in the 1950s and 1960s.

Conant and Koerner continued to put personnel in teacher education programs on notice and caused stirring debates. "Either a program of concentration should be sequential, so that completion of the most advanced work ensures a grasp of what has preceded it, or it should be tested comprehensively and be capable of being so tested" (Conant, 1963, p.109). Tom (1995) noted that teacher education hasn’t changed significantly in the past thirty years. Add to this the point that Koerner said the same thing almost forty years ago and it becomes evident that the criticism about unchanged practices in teacher education spans a significant time frame:

...after forty more years of being on the road and traveling fast, Education still suffers from the imprecision with which it began. Today educationists are still trying, as one of their spokesman recently put it, "to identify, clarify, and delineate
the knowledge, skills, and attitudes that are essential to teaching and to other educational services - still trying, that is, to find out what their job is and how to do it. (Koerner, 1963, pp.25-26)

The science of education. The Conant and Koerner books and their various other publications caused teacher educators to react defensively. Teacher educators responded to these critics in various ways ranging from completely ignoring them to attempts at proving that the preparation of teachers is and can be researched and defined in specific terms. Also, it was argued that there might be some problems with the interpretation of some of the surveys of teacher attitudes (Yarger, 1988). Citing Featherstone (1996), Richardson explained the need for teachers to fully understand the concepts of teaching before they can precisely evaluate the effect of their teacher preparation programs. Featherstone, he noted, described "the novice sometimes rehearses, with a new ear, propositions which seemed to make little impact on them at the time they were offered" (Richardson, 1996, p.106). Teachers need extensive time in the classroom before their preparation experience can be fully appreciated.

Many revisited the long-standing concept of the science of education, but this time with teaching instead of learning as the main focus. This significant shift in perspective provided opportunities for researchers to quantify specific behaviors related to teaching and assess their subsequent effects. Smith was one researcher who used technology to record teacher behaviors, analyze them and then construct lessons based on this analysis (Urban, 1990). This process,
known as micro-teaching provided opportunities for prospective teachers to more readily practice their skills with feedback as opposed to relying only on theoretical study. During this process, education students teach brief lessons of five to twenty minute's duration to one individual and then to a small group (usually classmates). The lesson is videotaped and analyzed by the education student, classmates and college instructors (Cruickshank & Metcalf, 1990). Emerging from this design came other conceptual frameworks such as Performance Based Teacher Education (PBTE) and Competency Based Teacher Education (CBTE) movements during the 1970s and the 1980s (McNerney, Medley, & Caldwell, 1988). These practices are systematic in their approach to learning how to teach a lesson. They often include a sequence of steps following a pattern such as: a) selection of a skill to be practiced or concept to be taught, b) practice to and within small groups, c) further reading about the skill or concept, d) observation of a master teacher, e) developing an abbreviated lesson; f) teaching the lesson, g) and critiquing of the lesson (Cruickshank, 1984).

Recalling Berliner's description of Cremin's four periods in education earlier in this paper, Berliner stated that the fourth period ends in 1963 when the first handbook of research on teaching was published. The fifth period is a time when education and the preparation of professional staff are accomplished with research-based practices. He stated: "The research of the last decade or so has provided exactly what Smith thought was needed 20 years ago. We have valid treatments in the form of sensible and replicable findings and a
newer and richer set of concepts to analyze classroom phenomena”
(Berliner, 1985, p.6).

In Teachers for the Real World, Smith identified 10 teaching
skills necessary for classroom success. He notes that teachers must
have as a minimum the following abilities:

1. perform stimulant operations (question, structure, probe)
2. manipulate the different kinds of knowledge
3. perform reinforcement operations
4. negotiate interpersonal relations
5. diagnose student needs and learning difficulties
6. communicate and empathize with students, parents, and others
7. perform in and with small and large groups
8. utilize technological equipment
9. evaluate student achievement
10. judge appropriateness of instructional materials

(Smith, 1969, p.71)

Eleven years later Smith (1980) expanded his concepts in A
Design for School Pedagogy hoping that those in higher education would
use this book as a basis to transform teacher education programs.
(Smith, 1980) He was disappointed in their reaction.

The failure of his design to overtake and transform
teacher education could be due to his being overly optimistic
about the knowledge base generated by educational research or to
the simple recalcitrance of education faculties to change
themselves in conformity with Smith’s, or anyone else’s
externally generated mandate.
Whatever the cause of the inertia, teacher educators in the late 1980s found themselves beset with many of the same problems teacher educators faced for generations (Urban, 1990, p. 68).

Berliner (1985) pointed out "the most obvious use of this research on teaching is as the content of programs of teacher education" (1985, p. 7). He noted, however, that use of this research is not always achieved, "...just as we see the possibility of creating pedagogical laboratories, we see reformers demanding arbitrary increases in student teaching and field-based experience" (Berliner, p. 7). He emphasized that during "this fifth and most exciting period of the history of teacher education" (Berliner, p. 7), educational professionals can work together to influence political leaders. When teacher educators, researchers and public school personnel work jointly, results are more likely to be positive (Wellerman, McNeely, & Koffman, 1991; Warren, 1996).

Alternative preparation programs. Meanwhile another factor related to teacher preparation was developing. School personnel officials, noticing a decline in available applicants, sought ways to employ non-traditionally trained individuals. The teacher shortage in America started to occur at the same time reformers were working towards higher standards and better preparation programs. The result was a simultaneous effort to develop better prepared teachers while also providing alternate means to license future teachers quickly (Tom, 1995; Tryneski, 1998).
The end of the Vietnam War and the Cold War era and subsequent downsizing of the military seemed to offer a pool of candidates who already had some experience. This led to military transition programs that are still in effect today. Also, the end of the cold war brought many changes internationally. One of the significant effects it had on education was that the reduction in military personnel caused an increase in the number of available individuals wishing to be retrained for educational careers.

Many states such as Florida, California, New York, Indiana, Ohio, and Texas developed transition programs between the military, state departments of education and the universities for retraining ex-military who wished to become teachers. The Army Transition Project, a joint venture between the Florida Department of Education and the military, provided educational methods courses at "alternative certification centers" (Diegmueller, 1990, p.17) for ex-military who have been hired with temporary certification. Money for these projects could be obtained from the USDOE which set aside funds for mid career teacher programs (Strengthening Teacher Quality, 2000).

Former Assistant Secretary for Education, Christopher Cross, stated that this could be "a problem for the military that could be a solution for the education world" (1990, p. 16). Seasoned workers desiring to change careers and come into education may be a valuable source of talent for school divisions. The work experience of these individuals may help prepare them to deal effectively with the pressures of the school environment (Ashton, 1991).
Teachers in specific content areas such as math and science were some of the first areas to be affected as the teacher shortages continued. Individuals trained in these areas have been lured into high paying private sector jobs resulting in a shortage of teachers of this content. Currently, there are increasing opportunities for obtaining federal funds to address the teacher shortage while maintaining teacher quality. With support from programs such as the Eisenhower Professional Development Program quality teacher preparation in math and science can be enhanced (Strengthening Teacher Quality, 2000). West Virginia College of Graduate Studies, West Virginia State College and West Virginia Institute of Technology collaborated on a project known as the "Field Based Training Program (FBTP)" (Securro, Nicholsen & Dockery, 1989; Tom, 1995) which was designed to develop a pool of competent math and science teachers.

By the 1980s, many states began offering alternative teacher licensure and certification programs. Often these programs were affiliated with participating school districts that first had to prove that they had shortages.

The Los Angeles Unified School District used alternative routes for certification to attract and maintain teachers who otherwise would not choose to work in the difficult urban setting (Stoddart, 1991). Although many of these programs are not meant to be exclusive of college preparatory programs, they do offer a method for people to become certified that is sometimes more attractive than the traditional four year college certification program. This is especially true for those in
mid-career who desire to make a change to the field of education. These programs also help school divisions reduce the number emergency or temporary certification personnel. The Florida State Department of Education (FSDE) commissioned a comprehensive study of their preservice programs as well as various alternate routes for certification that are offered in many other states and then compared them with its own state program (FSDE, 1988; Laitsh, 1998). Although the Florida program has not resulted in decreasing the shortages to the degree originally hoped, the success has been enough to continue the program. In the next section, the affect on teacher education relative to these issues combined with the impact of the standards movement will be discussed.

Teacher Education and NCATE Standards

With the continued quest to improve both the education of students in America and the preparation of teachers to do so, further changes occurred in the 1990s. These changes became evident in policy and legislative action by national and state governing bodies. As Roth (1996) stated:

The domain encompassed by standards, accreditation, licensure, and certification is being reconstructed in fundamental ways. The impact is the creation of an entire historical era in the profession, equal in significance to other major periods in education history. The standards movement is so pervasive and powerful that it appropriately may be termed the Era of Standards. (p.242)
But, even during this movement to improve teacher education, there were words of caution. As Meier (2000) noted, there is no single definition of education. Education is a complex exercise that includes multiple perspectives and opportunity for judgment. We must be cautious that the standards movement doesn't inhibit or constrict the process and content of teacher education (Meier).

Content of teacher education. Teacher education programs at colleges and universities generally provide opportunity for acquisition and practice of both knowledge and skills for teaching. To be effective, teachers must learn content and a variety of means or pedagogy for students to absorb the content (Cruickshank, 1996; Goodlad, 1999). Simply put, teachers must know what and how to teach (Cruickshank).

As has been stated earlier in the chapter, the means and focus for the preparation of teachers has evolved throughout the years. Currently, leading practitioners and theorists have developed various constructs for teacher education. Some advocate the art of teaching or the personal characteristics of humor, enthusiasm, and warmth as necessities (Banner & Cannon, 1997; Cruickshank, Bainer & Metcalf, 1999), while others may be more mindful of the science of teaching and the use of systematic teaching strategies and required teaching behaviors (Burdon & Byrd, 1994; Cangelosi, 1992). Still, others see the delicate balance between these two aspects. The effective teacher is able to balance the drama of performance with objective reflectivity for practicality of purpose. Borich (1995), in a series
of dialogues written for beginning teachers, was able to depict this importance balance.

The content of teacher education, presumably, is based on what teachers should know and be able to do (NCATE 2000 - Program Standards for Elementary Teacher Education). There is little doubt that content knowledge and a means to communicate this knowledge are essential prerequisites (NBPTS, 1994). Yet, within this required content, there are complexities still to be examined (Meier, 2000; Stronge, 2001). The National Board for Professional Teaching Standards (NBPTS) in partnership with the National Council for the Accreditation of Teacher Education (NCATE) and Interstate New Teacher Assessment and Support Consortium (INTASC) acknowledge key skills while at the same time pointing out additional complexities: "The formal knowledge teachers rely on accumulates steadily, yet provides insufficient guidance in many situations. Teaching ultimately requires judgment, improvisation, and conversation about means and ends. Human qualities, expert knowledge and skill, and professional commitment together compose excellence in this craft" (NBPTS, 1994, p.4).

NBPTS identified 5 propositions for effective teaching:

1. Teachers are committed to students and their learning.
2. Teachers know the subjects they teach and how to teach those subjects to students.
3. Teachers are responsible for managing and monitoring student learning.
4. Teachers think systematically about their practice and learn from experience.

5. Teachers are members of learning communities. (NBPTS, 1994) Teachers must be prepared to perform a variety of roles that may include adviser, mentor, listener, grader, clown, nurse, lecturer, explorer, critic, role model—the list can go on and on (Duckworth, 1997). In The Act of Teaching, the authors describe three schools of thought about teaching and learning: Cognitive—understanding how knowledge is acquired; Humanistic—understanding how persons develop feelings, attitudes and values; Behavioral—understanding how observable behavior is modified by changing the environment (Cruickshank, Bainer, & Metcalf, 1999).

The content of teacher education programs must include curriculum and experiences that will enable graduates to develop a multitude of skills and knowledge (Cruickshank, Bainer, & Metcalf; Stronge). The complexities of the act of teaching require a program experience that ensures that those who will teach will have a thorough knowledge of the content as well as an understanding of the ways to transmit this content to the learner (NBPTS).

NCATE standards. The National Council for the Accreditation of Teacher Education (NCATE) is perhaps the most common national standard adhered to by colleges and universities (http://www.ncate.org/standard/; Howey, 1995). These standards address both content and skills necessary for effective teaching as well as demonstration of these and other competencies. Standard number one under Candidate Performance states:
Candidates preparing to work in schools as teachers or other professional school personnel know and demonstrate the content, pedagogical, and professional knowledge, skills, and dispositions necessary to help all students learn. Assessments indicate that candidates meet professional, state, and institutional standards. (NCATE 2000 Unit Standards, p. 4)

Not only is the intent of the document to provide a conceptual framework to assess candidates' knowledge and ability to teach, it further delineates areas related to the candidates understanding of their responsibility as a professional within the organization and culture of a school, their need to be familiar with the diverse students and families with which they work, and their ability to assess student learning and make adjustments as needed. Appendix E shows the rubric used in the NCATE document for assessment of the elements of the standards within this conceptual framework -content knowledge, pedagogical content knowledge, professional and pedagogical knowledge, dispositional awareness and student learning.

The standards that follow refer to the college or universities' responsibility for carrying out and monitoring the first standard through monitoring various field experiences, addressing diversity, faculty qualifications, public school partnerships and inputs and inclusion of appropriate technology. These standards further reinforce the fidelity of the intention of the NCATE Program Standards from one higher education institution to another (NCATE 2000 Standards; www.ncate.org/accred).
In the draft document from December 17, 1984 the NCATE mission states:

National accreditation of professional education units ensures that youth are served by professional and academically qualified school personnel. It assures the public that school standards of quality are maintained by NCATE accredited units. These national standards require rigorous academic and professional programs in institutions across the nation. For this reason, some states provide reciprocity of teacher certification or licenses to graduates from an NCATE accredited institution. (Raths, Zych, & Wojtaszek-Healy, 1985, p.53)

The intention of the mission is clear. Through a national standard prompted and endorsed by NCATE, teacher certification and licensure can be accepted and/or transferred from one state to another.

A further implication is that there can be a national standard for teacher education programs (Hummel, 1987; Howey, 1995). This remains true however only as long as the NCATE standards are viewed as rigorous and acceptable. Note here that some criticisms of NCATE are related to the fact that for compliance, NCATE merely requires the presence of rather than quality of the selected standards. (Katz and Raths, 1985) When states "add more specialized requirements" (Raths et al, 1985) however, the possibility for reciprocity, even with the NCATE accreditation, dwindles. As is evident in the case of Virginia, a reform movement for changes in the approval process for
teacher education programs was underway.

**Teacher Education and Virginia Licensure Standards**

Virginia was no exception during this era of standards. However, in Virginia as in most states, policy is developed as a result of new laws, federal and state educational guidelines, and various influences at the local level. Modifications to curriculum and required competencies of students also influence standards for teacher preparation and licensure. The Era of Standards must stand the test of state regulated policy and procedure as it moves from the national level, to the state level and finally to the local level. Virginia educational policy generated outside of the locality eventually must be adopted at the local level.

The Constitution of Virginia grants authority for supervision of the public school system to the Board of Education. Section 22.1-16 of the Code of Virginia reads as follows:

"The Board of Education may adopt bylaws for its own government and promulgate such regulations as may be necessary to carry out its powers and duties and the provisions of this title." (Regulations of the Board of Education of the Commonwealth of Virginia)

The state assists localities in this process in various ways. The Virginia Department of Education Division for Compliance provides information and assistance "to assist educational providers with the development and delivery of educational programs that are consistent with state and federal
requirements" (Virginia Department of Education Division for Compliance, June 13, 1994).

Another source of information with regard to policy development is the Virginia Register of Regulations. This document is published weekly and provides the text of proposed regulations—whether they are being adopted, amended or repealed. The Virginia Register follows specific procedures for policy adoption or revision and ultimately influences the development of licensure regulations for school personnel. Local school divisions also formulate similar procedures as those noted in the Virginia Register.

The standards movement and Virginia.

Cooper and Tate (1992) explained that state officials in Virginia "discouraged by what they perceived as a lack of attention to their pleas for reform, decided to take matters into their own hands" (p.133). Notwithstanding state and local procedures for adopting policy, two initiatives were formed: The Governor’s Commission on Excellence in Education and the Ad Hoc Committee on Teacher Education. Both of these groups had one major goal—“demand the restructuring of every certification program in the Commonwealth’s teacher education institutions” (Cooper & Tate, 1992, p. 133). They set new guidelines centered on three requirements: “restructuring teacher preparation from the ground up; requiring arts and sciences majors for prospective teachers; and limiting professional education courses to eighteen semester hours” (Cooper & Tate, p. 133).
Since 1968, Virginia had functioned in an "approved program" basis for teacher certification. Thirty-five colleges and universities had been approved to offer these programs. They were on five-year review cycles that required self study reports and on-site visits from external higher education staff, Department of Education staff, local public education staff, and others. Individual teacher certification could be obtained by graduating from an "approved program" in Virginia. Also note that many states, including Virginia, grant reciprocity. That is, they accept certification gained or approved in some of the other states that adhere to a rigorous or approved standard for teacher preparation, such as NCATE, for example (Raths, Zych, & Wojtaszek-Healy, 1985).

All Virginia teachers since 1985 were required to complete the Beginning Teacher Assistance Program also known as BTAP and pass the National Teacher Exams (McNergney, Medley, & Caldwell, 1988). BTAP was a method for ensuring competence and programmed assistance for newly hired teachers. Among others reasons, the expense of the program prohibited its continuation (McNergney, Medley, & Caldwell). During this time, governance of teacher education was under the authority of the State Board of Education but most of the decisions were made by deans and department chairs of college and university schools of education, Department of Education staff, and the Teacher Education Advisory Board.

The Teacher Education Advisory Board, comprised of teachers, school administrators, and teacher educators became dominant in the reform movement in Virginia. For instance, the Teacher Advisory
Committee (renamed the Teacher Education Advisory Board in 1987) continued its mission of advising the Board of Education on "policies related to teacher preparation, training, certification, recertification, and certificate revocation..." (§ 22.1-299.1, Code of Virginia). Required membership changed slightly over the years. Originally it was a 17-member committee, whereas it is now a 19-member board. In the 1975 edition of Virginia School Laws, teacher certification was addressed in Section 22-204 and began with words similar to the current code: "No teacher shall be regularly employed by a school board or paid from the public funds unless such teacher holds a certificate in full force in accordance with the rules of certification laid down by the State Board of Education;" In later years the words "or provisional certificate" were added. Now this reference can be found in Section 22.1-298 and 299. Currently this section is titled "Regulations governing licensure."

In the Virginia Register of Regulations (Appendix A, Volume 9, Issue 11 (February 22, 1993) regulation VR 270-01-0000, Teacher Certification, was shown to be repealed. The new regulation VR 270-01-0000:1, Regulations Governing the Licensure of School Personnel took its place. (Appendix B provides specific definitions regarding accreditation and licensure.) The development of the new regulations began with the establishment of a steering committee in 1989 that was composed of subcommittees for licensure and other areas to propose revisions to the Advisory Board on Teacher Education and Licensure. The Advisory Board received the recommendations and after further
review and revision and providing a time for public comment, submitted its recommendations to the State Board of Education.

Major differences in the new regulation included: the establishment of new licenses for vocational evaluators and superintendents; new endorsement areas for "adult education, adult English as a second language, computer science, keyboarding, dance, foreign languages in elementary grades, gifted education, and vocational special needs; new procedure to adding and deleting endorsements; and a new approach to the alternative route to licensure" (Virginia Register of Regulations, 1993, p. 1723).

At first glance it would appear that the licensure requirements were increasing the professionalism and hence the qualifications of the candidates. But the rhetoric also seems to make an apparent emphasis on first getting the baccalaureate degree. This did in fact emphasize the need for a balanced education for school personnel before the teaching degree but it also opened the doors for individuals changing careers. Alternate routes for teacher licensure suddenly became much simpler.

Coincidentally, as noted earlier, this also occurred at the time when we were downsizing our military forces. Here in Virginia the effect was going to be very noticeable. Suddenly, swells of college educated personnel getting out of the armed forces would be looking for teaching (and other non-school careers) jobs. At a time when teacher shortages were a continuing problem and salaries were again not keeping pace due to poor economies, this may actually have been
regarded as a great opportunity to help the education system as well as the military personnel. The State Board of Education was playing a distant role with regard to input toward the preparation and certification of teachers. BTAP required beginning teachers to demonstrate mastery in 14 capabilities before getting a renewable Collegiate Professional Certificate (McNergney, Medley, & Caldwell, 1988). These 14 areas were intended to encompass a comprehensive set of skills that could be observed during classroom visits and follow-up discussions. They include: Academic Learning Time, Accountability, Clarity of Structure, Individual Differences, Evaluation, Consistent Rules, Affective Climate, Learner Self-Concept, Meaningfulness, Planning, Questioning Skill, Reinforcement, Close Supervision, and Awareness (McNergney, Medley, & Caldwell).

Each of these skill areas was further defined with numerous sub-categories that an observer would look for during the classroom observation and following interview. BTAP was subsequently terminated in 1991 due to financial constraints. It should also be pointed out that at this time when teacher education programs at Virginia colleges and universities were being severely scrutinized, recertification of teachers was also being revised. In fact, beginning with 1990, standards for recertification moved away from requiring only college credit courses. Instead a point system was established which allowed various inservice activities and staff development experiences, as well as college credit courses to be counted towards recertification.

Teacher educators were not happy with this forced reform. Early on in the reform effort, teacher educators and teachers in the
Virginia Education Association (VEA) who were members of the Teacher Education Advisory Board were not consulted regarding the development of the proposals and regulations. Initial testimony using teachers with regard to their perceptions of "time wasted in education courses" (Cooper & Tate, 1992) were not teachers representing the VEA. The result was that they felt left out during the process. Once they became involved, it was too late. "In a bold and swift stroke, the AD Hoc Committee on Teacher Education completely wiped out all certification regulations" (Cooper & Tate, p.150). The intention here was to encourage starting completely anew "using their own ideas as well as research and collective wisdom to build brave, new programs" (Cooper & Tate, p.150). With new membership on the State Board of Education and the State Council of Higher Education of Virginia (SCHEV) these groups began using their authority (which they always had) to reform teacher education making swift and significant changes.

The report from the Governor's Commission on Excellence in Education stated:

If Virginia is to have one of the nation's best school systems, we must have teachers of the highest calibre. To this end, the preparation of teachers should undergo "fundamental change," beginning with the abolishment of the undergraduate degree in teacher education. All prospective teachers should receive thorough grounding in the liberal arts and in the subjects they will teach (Public Education 22(4) 1987, p.2).

Effective July 1, 1992, all teachers educated in Virginia must have an undergraduate degree in an arts and sciences discipline and a
cap of 18 semester hours would be placed on professional education courses at the undergraduate level.

Regarding the move to change the licensure regulations former State Superintendent Joseph A. Spagnolo (1993) said that colleges and universities who wish to graduate students eligible for a teaching license would restructure their preparation programs such that prospective teachers would be required to have an undergraduate degree in an arts and sciences discipline and that they would be limited to no more than eighteen semester hours of professional education courses. The eighteen hours did not include student teaching and other field experiences (Licensure Regulations for School Personnel, Forward by Joseph A. Spagnolo, 1993).

Some schools, such as The University of Virginia, already had begun to put in place five-year and masters in teaching programs for prospective teachers in anticipation of this new mandate. It should be noted that then Governor Baliles was key to the reform process. The previous governor, Charles Robb, successfully improved teacher salaries in the state.

When Governor Baliles took office, he continued with the effort to get more money for teachers at the same time that the major reform efforts began. Teachers in the highly populated Virginia Education Association were going to be in alignment with the education governor. It was his decision to make the membership of his Commission on Excellence in Education to be comprised of the State Board of Education (BOE) members and many of the State Council of Higher Education of Virginia (SCCHEV) members. These individuals came to the
Commission with first hand knowledge of policies and practices that already were in place. They also came to the Commission understanding the direction for the desired reform effort. Because these individuals already had extensive knowledge of the issues regarding teacher education in Virginia, they were able to act quickly. But equally important was the fact that because most of the membership was made of up BOE and SCHEV members, it was easy to follow through on the decisions being made with binding policy.

Virginia licensure regulations. In 1995, the State Board of Education adopted a new set of standards for public school students in Virginia. The adoption of the Standards of Learning (SOL) set "targets and expectations for what teachers need to teach and students need to learn" (Licensure Regulations for School Personnel -8 VAC 20-21-10, 1998). As a result, licensure regulations were developed such that teachers gaining employment in Virginia would have the needed skills and abilities to ensure that students would be able to achieve the new standards.

As just described in the previous section, in anticipation of the new SOL and the subsequent need to refine licensure regulations, ABTEL had already begun this process and it was completed in time for adoption and implementation July 1, 1998. The most significant revisions contained in the new regulations included additional requirements in core content areas (math, science, English and history) for middle level education and language acquisition and reading for endorsements in elementary education. Additionally, the
new licensure regulations noted competencies specifically related to the Standards of Learning for licensure candidates.

Research on Entry-Level Teacher Preparation and Practice

Teacher education programs at colleges and universities must prepare graduates to begin teaching with effectiveness from the moment they walk into the classroom. Bosch and Kersey (2000) point out that "it has been said that teaching is the only profession where the beginner is expected to do what the veteran does and with equal success" (p. 35). Still, new teachers deal with a myriad of adjustment problems with reluctance to ask for help due to the fear of appearing weak, all while teaching five and one half hours a day (Krajewski & Shuman, 1999).

Teacher preparation. Certified teachers who have completed a formal teacher education program are better rated and generally more successful than teachers without this preparation (Darling-Hammond, 2000). Despite this, policy makers in forty states have created alternate routes to teaching (Darling-Hammond). Attributes that ensure teacher success from the entry-level novice to the long-term veteran must be clearly identified.

Some teacher education programs have realized great satisfaction from its graduates. In a case study done at the Wheelock College teacher education program, 83% of the graduates felt that the college had prepared them very well for a teaching career (Darling-Hammond, 2000). The program at Wheelock College combines subject matter knowledge, pedagogy and supervised clinical practice with the focus on
pedagogic mastery proven in field experiences. Essential to quality teacher preparation is the recognition that an individuals' personal qualities, their knowledge and skill relative to their selected content area, and their professional commitment to their career, combine as the key to their potential effectiveness (NBPTS, 1994; Stronge, 2002).

Competencies of entry-level teachers. It is essential that teachers enter the classroom for the first time with subject matter knowledge and skills enabling them to transfer that knowledge to the students that they teach (Darling-Hammond, 2000). Competencies of entry-level teachers include areas related to instructional concerns, managerial issues and emotional support (Stroot, Fowlkes, Langholz, Paxton, Stedman, Steffes & Valtman, 1999). Stroot, et al. cited Marockie and Looney noting that 67% of new teachers reported making better use of instructional time when they were provided instructional support. Entry-level teachers must be able to use systematic teaching strategies (Burden & Byrd, 1994; Cangelosi, 1992) while maintaining a balance between personal characteristics of warmth, humor and enthusiasm (Cruickshank, Burner & Metcalf, 1999). The personal qualities of teachers have been shown to impact student achievement. Stronge (2002) notes: "The teacher's enthusiasm for teaching, learning, and for the subject matter has been shown to be an important part of effective teaching" (p. 18). Achieving students see teachers with these positive personal characteristics as "motivational leaders" (Stronge, 2002, p. 18). Positive personal traits, along with skills in pedagogy and knowledge of content, combine to provide essential
attributes that contribute significantly to teacher effectiveness and ultimately student success in the classroom.

Summary

The State Board of Education and the State Council of Higher Education of Virginia have authority to act on the proposals that are being initiated. In the years following the seriousness of the standards movement along with perhaps the most severe teacher shortage that has been experienced will be coupled with a continued striving for higher quality teacher education. Educators both in elementary and secondary education as well as higher education must deal with the constant skepticism from non-educators about "whether teacher education makes a difference" (Kennedy, 1996, p.120). The skeptics, however, cannot be a distraction from the effort to constantly improve the practice of preparing teachers.

Reflecting on the perspective from Clabough and Rozycki (1996): "Why, then, is teacher preparation routinely denounced? A partial answer is that many people who have schooling experience presume that having played the role of student, they are possessed of the knowledge needed to produce or direct the play" (p.396). Without a doubt, the near future will continue to unfold an exciting yet difficult time for teacher preparation programs. As we continue the quest to address the nation's educational problems related to the achievement of students so must we continue the emphasis on the "focus of renewed attention for improvement" of teacher education (Lee & Yarger, 1996).

The effectiveness of teacher education is always related to multiple variables - teacher educators and the experiences that they
provide, and the quality of the teacher education students in the preparation programs (Cruickshank, 1984; Cole, Elijah, & Knowles, 1998; Goodlad, 1999). As policies affecting curriculum are set by state officials, it must be remembered that the “curriculum in teacher education is a composite of general undergraduate education, specialized study in academic departments, professional courses in departments or schools of education, and clinical experiences in elementary and secondary classrooms and schools” (Doyle, 1996, p.6). All parts play an important role in the development of teachers for American schools. If policymakers attempt to establish standards emphasizing one component over another exclusively, they run the risk of leaving out important aspects of teacher education that contribute to the overall effectiveness of the programs.
Chapter III
Methodology

Background

The previous literature review revealed that teacher education has been studied and critiqued during the entire existence of public education in this country (Goodlad in Tell, 1999; Tom, 1995; Urban, 1990; Wideen, 1995). Survey results dating from the early 1960's show incomplete satisfaction with regard to teacher preparation and, therefore, continually provide reasons for researchers to study the teacher education experience being provided (Tom; Urban). Countless educational reform initiatives, followed by continuous scrutiny of public schools in America, have lead to attempts to more clearly define high standards for teacher skills (Brandt & Perkins, 2000; Goodlad, 1999).

Movements toward standardizing teacher preparation as well as continuous efforts to raise standards for those who are entering the teaching field provide further reasons to explore this issue. The literature indicated that in some instances public educators have been involved in the process for modifying teacher preparation (Cooper & Tate, 1992; Voyles et al., 1996; Warren, 1996), although this involvement has not necessarily guaranteed results that are desired by practitioners in the schools who receive the graduates (Rowley, 1999).

This study originated from a desire to closely review standards that frame the intended outcomes of teacher education programs and then, to compare this review with the perspectives of individuals who
are closely involved with the teaching process. The framework for the study is derived from the supposition that the standards and regulations governing teacher education and the educators in the field each have important knowledge with regard to the skills necessary for teaching (Cruickshank, 1996; Meier, 2000; NCATE Standards, 2000; Voyles, et al., 1996; Warren, 1996).

As supported by research, rather than surveying merely first year teachers who have just come from teacher education programs, this study involved the perspective of experienced teachers (with at least three years of experience) and administrators (Delgado, 1999; Hilliard in Checkley & Kelly, 1999; Richardson, 1996; Stedman & Stroot, 1998). The NCATE standards and Virginia Licensure Regulations were used as the basis for comparison of intended outcomes of teacher education programs. Through a thorough analysis of these standards and regulations, the reader is provided a clearer and more consistent understanding of their content. By comparing the perceptions of the school based personnel with the content derived from the NCATE documents and the Virginia Licensure Regulations, multiple perspectives on the same issue can be presented so that the reader can note various commonalities and differences.

Research Questions

The following four research questions guide this study:

1. What do elementary principals perceive as the desired or needed knowledge, abilities, and dispositions of entry-level elementary teachers?
2. What do experienced elementary teachers perceive as the desired or needed knowledge, abilities, and dispositions of entry-level elementary teachers?

3. How do elementary principals' and experienced elementary teachers' perceptions of elementary entry-level teacher competencies compare to the Virginia Licensure Regulations for Elementary Personnel (1998)?


The first two questions were addressed by surveying current principals and teachers in Chesterfield County, Virginia. The third and fourth questions were answered using information gained from the survey information as well as through an extensive document analysis of the NCATE (2000) Standards for Elementary Preparation and the Virginia Licensure Regulations for Elementary Personnel (1998).

**Design**

This research used an exploratory design focusing on teachers and administrators from the 36 elementary schools in Chesterfield County, Virginia. This design provided the opportunity to compare a specific issue: attributes necessary for teaching as described in the content within the NCATE (2000) Standards for Elementary Preparation and the Virginia Licensure Regulations for Elementary Personnel (1998) with the perceived attributes necessary for teaching, by using elementary teachers and administrators in Chesterfield County, as the
basis for the identification of these attributes. The Chesterfield County School division is the fourth largest school district in the state of Virginia (VADOE, 2000). Using this large school division provided the opportunity to access relatively large numbers of teachers and administrators in one particular bound system with regard to perceptions on teacher preparation.

The exploratory design offers opportunity to investigate patterns, beliefs, relationships, and policies relative to a specific issue (Marshall & Rossman, 1999). In this case, the perspectives of the Chesterfield County personnel provide information that can "serve to illuminate larger issues and, therefore, hold potential significance" for the development of teacher education standards (Marshall & Rossman, 1999, p.11). Survey is a common methodology for data collection in studies on teacher education. The review of the literature on this topic has shown similar efforts. In these cases however, most often the surveys were conducted using current education students, first year teachers, or teachers of specific content area preparation (Koerner, 1963; Urban, 1990; USDOE, 1993). Further, the lack of recent data available provides the opportunity to add new information as a result of this study. An exploratory design that compared the NCATE (2000) Standards for Elementary Preparation and the Virginia Licensure Regulations for Elementary Personnel (1998) with the perceptions of elementary principals and elementary teachers provided an adequate context from which to begin to explore the issue of teacher preparation.
Mixed Methods Approach

This exploratory design was accomplished using qualitative data collection and analyses. The literature review on teacher education indicated that there have been numerous influences on standards for teacher preparation ranging from political pressures and educational reform initiatives to efforts at increasing student achievement. The value of a qualitative approach is that it can provide insight into origin and intended meaning from a broader perspective. The qualitative process also allows for the emergence of language, terminology or bias relative to the influences mentioned.

In a purely quantitative study the meaning of the text is "assumed to be invariant across readers and across time" (Gall, Borg, & Gall, 1996, p.362). Analysis of the NCATE standards document and the Virginia Licensure Regulations, as well as the open-ended questions on the survey instrument, provided opportunities to investigate meaning from a qualitative viewpoint. Collections and analysis of numerous terms and phrases taken directly from open-ended survey responses as well as the documents provided the opportunity to study large quantities of data initially in unreduced form.

Setting

Although the NCATE and Virginia Licensure information contained a finite set of information to analyze, the identification of survey respondents was not so easily defined. As a matter of purposeful sampling, the Chesterfield County School District was used.

Chesterfield County Public Schools, enrolling approximately 53,000 students, is situated in the geographical area between Richmond, VA.
and Petersburg, VA. There are 36 elementary schools with school populations that range from 400 to over 900 students. Approximately 7.5% of the elementary students qualify for free and reduced lunch with a range of a low of .5% to a high of 79%. Because this school division is comprised of large schools and small schools as well as urban, suburban and rural settings, it provided a diverse setting that presented a broad perspective to the research.

The entire population of administrators and teachers in the elementary schools was surveyed. As Creswell (1998) stated, this is "sampling so that one can best study the problem under examination" (p. 110) by looking for the typical as opposed to the exemplars. Surveys of the 72 elementary school principals and assistant principals and their classroom teachers provided information regarding all of the elementary school based educators. The survey document included information with regard to years of experience of each respondent and content or grade taught to help to further refine or categorize the information gleaned from the surveys. Administrators were allotted enough surveys to be given to all of their full-time, certified classroom teachers.

Permission from the district superintendent was obtained before any surveys were distributed (Appendix H). Assurances were made that any information gathered from personnel in the school division would not be harmful to the division or its participants. Ethical standards in accordance with procedures to protect human subjects as well as full disclosure of the goals of the program were followed. A research assistant was used to mail and receive all correspondence relative to
the survey information. All participants were guaranteed anonymity through coded responses. The research assistant sent follow-up letters and made phone calls to encourage response rates and adherence to time lines. It should be noted that the researcher is the Executive Director of Secondary Education for the Chesterfield County Schools at the time of this study. Although careful assurances were made to guarantee the anonymity as well as voluntary participation of survey respondents, it is understood that full disclosure of the source of this study may have influenced response rates. However, it should not have affected the content of the anonymous responses.

Documents

A content analysis was done on the NCATE (2000) Standards for Elementary Preparation and the Virginia Licensure Regulations for Elementary Personnel (1998). The NCATE document began with a synopsis identifying attributes for teacher candidates that guide the design and content of the standards. Following this and various background and other supporting documentation were the twenty program standards. These twenty standards that relate to the attributes introduced in the synopsis were arranged within five major headings: 1) development, learning and motivation, 2) curriculum, 3) instruction, 4) assessment, 5) professionalism. Two sections of the NCATE document (Appendix D) were analyzed: Synopsis (containing Design of Program Standards and Content of the Standards) and Standards for Candidates Preparing to Teach Elementary Students (containing the twenty standards, supporting explanation, and source documents for the respective standard).
Again, each of the standards was intended to correlate with one or more of the attributes identified within the synopsis.

The Virginia Licensure Regulations for School Personnel contained numerous details and information regarding terms and conditions for licensure, types of licensure, endorsement requirements for all content and teaching areas. The sections of the Virginia Licensure Regulations document (Appendix C) analyzed, was Part IV Licensure Regulations Governing Early/Primary Education, Elementary Education and Middle Education Endorsements, Section 8 VAC 20-21-110 (containing elementary education endorsements and professional studies requirements) and Section 8 VAC 20-21-140 (containing Elementary education preK-6 methods, knowledge and skills as well as various content requirements). The sections referred to in both of these documents contain the content that is directly associated with the research questions of this study.

Instrumentation

As noted in the section on data collection, principals and teachers were surveyed to elicit information on their perceptions regarding whether the NCATE standards or Virginia Licensure Regulations reflect the desired or needed knowledge, abilities and dispositions of new teachers. Initially, topics for the survey instrument questions (Appendix G) were developed from some used in previous research (Albrecht, 1960; USDOE, 1963; Urban, 1990). However, because these surveys are dated and because they primarily quantify such things as numbers of education courses taken and perceived value ranges of these specific courses, they were modified
to be more open-ended and additional questions pertinent to the research questions in this study were added. Information gained through a previous unpublished, personal study assisted in the development of the questions. The matrix in Table 1 below shows the relationship between the survey questions and the basis for the development of the survey questions with the corresponding correlation to the four main research questions.

Table 1

Survey and Research Questions Matrix

<table>
<thead>
<tr>
<th>SOURCE FOR QUESTION</th>
<th>SURVEY QUESTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCATE Standards</td>
<td>#1</td>
</tr>
<tr>
<td>Virginia Licensure Regs</td>
<td></td>
</tr>
<tr>
<td>NCATE Standards</td>
<td>#2</td>
</tr>
<tr>
<td>Virginia Licensure Regs</td>
<td></td>
</tr>
<tr>
<td>NCATE Standards</td>
<td>#3</td>
</tr>
<tr>
<td></td>
<td>#4</td>
</tr>
<tr>
<td>NCATE Standards</td>
<td>#5</td>
</tr>
<tr>
<td></td>
<td>#6</td>
</tr>
<tr>
<td>NCATE Standards</td>
<td>#7</td>
</tr>
<tr>
<td>Virginia Licensure Regs</td>
<td></td>
</tr>
<tr>
<td>Miscellaneous/Feedback</td>
<td>#8</td>
</tr>
</tbody>
</table>

Research Questions
One and Two

Research Questions
Three and Four
Themes addressed in the survey questions included areas related to perceived abilities and dispositions required for teaching and desired knowledge of content and delivery. The survey was introduced with a cover letter briefly stating the purpose of the study with assurances and procedures relating to confidentiality.

The questions on the survey were derived from the Synopsis section of the NCATE document related to the identified attributes (knowledge of content, pedagogy and child development; abilities to apply that knowledge; dispositions necessary for successful teaching careers; and ability to have positive effects on learning). Questions one, two, and three, are associated with the first attribute described in the Synopsis (knowledge). Question four relates to the second attribute from the Synopsis (abilities). Question five(a) and five(b) refer to the third attribute of the standards (dispositions). Question six is derived from the last attribute described in the Synopsis (ability to have an effect on learning). It should be noted that because the additional sections of the NCATE document were intended to be a reflection of these attributes, they (as well as the components of the Virginia Regulations) were analyzed from the point of view of these attributes.

Data Collection

Collection of data occurred in two ways: analysis of the NCATE documents and Virginia Licensure Regulations, and tallying, grouping and reducing the survey responses to clearly identifiable themes. As stated earlier, the NCATE standards and Virginia Licensure Regulations were used as the basis for collecting information relative to the
attributes addressed in teacher education programs. Approximately half of the colleges and universities in the nation and 15 of 37 in Virginia adhere to these guidelines for their programs (http://www.ncate.org). These standards and the regulations were chosen because they provide a baseline from which to delineate requisites for teacher preparation. Note that although not all teachers and administrators surveyed will have graduated from programs adhering to NCATE standards, they will provide a public school based context from which to discern the knowledge, abilities and dispositions necessary for teaching. Through a concise method of categorizing and coding major themes in each of the six comprehensive standards, a sense of “order, structure and meaning” (Marshall & Rossman, 1989, p.112) should result, allowing comparisons to be made between the standards, regulations and the data gathered from the surveys.

Surveys were disseminated and returned during April/May of 2002. A research assistant employed to assist in the process coordinated the process as well as provided for necessary reminders and additional survey mailings. Administrators were provided with self-addressed, stamped collection envelopes for the surveys. Included in their packet were instructions to return the envelopes once they received surveys from all of their teachers or if necessary, once they achieved a response from all that agreed to participate in the study. A cover memo accompanied each survey describing the study and stating that completion of the survey was voluntary. It was further noted that completion of the survey constituted their consent to take part in
this study. A two-week time frame for gathering all of the surveys once the schools received them was anticipated, however this time line was extended an additional two weeks. A system was developed that ensured anonymity of the respondents while at the same time, provided information with regard to response rates of teachers and administrators. The research assistant sent surveys for each teacher and administrator in each school with a return request when at least 50% had been completed. For schools that did not respond within two weeks, the research assistant made a contact call to the respective schools to offer assistance or encouragement as needed.

Data Analysis

An analysis of the surveys was done using standard qualitative inductive analytic procedures. Some of the questions allowed for the opportunity to do frequency counts of like terms while others required emergent thematic analysis using themes/categories derived through the sorting and coding process. It was important to determine the similarity of the responses among and between the teachers and the principals. This provided additional information when comparing the themes identified from these perceptions to the terms identified from the document analysis.

Although all teachers in the elementary schools were surveyed, analyses focused on those with at least three years of experience. Because the literature review implied that experienced teachers, defined for this study as those with at least three years of experience, would provide the most accurate information, these surveys provided the most beneficial data. This also ensured that responses
were based on practitioners who have had the needed time to reflect on the needs regarding the teacher education experience (Richardson, 1996).

An analysis of the NCATE standards and the Virginia Licensure Regulations documents provided further information. This was accomplished using thematic analysis which included identifying a set of categories (themes) and then using a clustering procedure to bring together terms and phrases that fit in these categories (Krippendorff, 1989). Krippendorff (1989) defined this form of content analysis as a "research technique for making replicable and valid inferences from data to their context" (p. 21). The themes related specifically to the attributes described in the synopsis of the NCATE document. In a qualitative analysis the meaning is derived from deciphering the writers' intent as well as the readers' context. This results in more descriptive forms of interpretations and hypotheses (Creswell, 1998; Gall, et. al.). This was accomplished by summarizing, grouping and then combining like terms and transferring these clusters to a document summary form or table. For example, some of these tables depict a main theme with the sub-themes or clusters of terms that identify the related NCATE standard, examples of language within the standard, or supporting explanation related to the standard. And then, to answer the respective research question, they were compared with similar associations found within the survey's emergent themes. This reduction and comparison process may be depicted in what Krippendorff (1989) described as "dendrograms which are tree-like clusters indicating how objects are merged into clusters and at which
level of commonality the merger took place" (p. 116 & 117). In lieu of this format, tables were used in this study to depict these clusters. Crucial to this was the application of an objective and systematic process that allowed for the logical emergence of meaning from the text. Determining meaning or the intended message of the text is further complicated due to the fact that the "messages may not have a single meaning" (p. 22) and in fact may be based on the different receivers of the message (Krippendorff, 1989). In light of this, once combinations were identified, procedures were then established to reduce specific terms and phrases to a clearly emergent theme easily inferred from the original text.

Krippendorff described this as an analytic construct wherein the analyst provides the rules from which inferences, procedures and categories are developed. This process raised the concern of reliability or as Krippendorff stated, "reproducibility" (p. 130); therefore the researcher had to ensure that a means was used to check that the reduction of terms and phrases to these themes is clearly understood by the reader. The pathway to the final reduction of terms should be easily discernible to the reader and equally important, it should be able to be replicated by another researcher with a high degree of similarity. Constructing a document summary table that identifies associations, correlations and methods of cross-tabulations provided a means to more reliably depict the findings from this process (Gall et al., 1996; Krippendorff, 1989; Miles & Huberman, 1994). Further, audits with members of the dissertation committee were conducted in order to explain initial document and survey.
findings and to describe reduction and interpretations of these findings. Document and survey analysis took place during May through August of 2002 with final results and conclusions completed during September.

Statement of Bias

As an individual involved in public education as a teacher, building administrator, and central office administrator for over twenty-five years, I have been provided numerous opportunities to study teacher preparation. It has been of great interest to me as I have hired and evaluated countless numbers of teachers over the years. As a member of committees that revised teacher evaluation criteria as well as curriculum and pedagogy changes and enhancements, I have enjoyed learning and studying about this issue. Through graduate work I have encountered additional research and discussion with professors and colleagues. Within these experiences, I have developed an interest in identifying associations related to the public school/college and university partnership as it relates to preparing teacher candidates for entry into the classroom.

As noted previously, my position of Executive Director for Secondary Education in Chesterfield County Public Schools may have influenced the response rate but should not have influenced the content of the responses.
Chapter IV

Data Analysis and Findings

Overview

This chapter begins with a presentation of the analysis of the information contained in survey responses from elementary principals and experienced elementary teachers, the NCATE (2000) Standards for Elementary Teacher Preparation, and the Virginia Licensure Regulations for Elementary School Personnel. Later in the chapter, the information gleaned from this analysis is applied to the four research questions:

1. What do elementary principals perceive as the desired or needed knowledge, abilities, and dispositions of entry-level elementary teachers?
2. What do experienced elementary teachers perceive as the desired or needed knowledge, abilities, and dispositions of entry-level elementary teachers?
3. How do elementary principals' and experienced elementary teachers' perceptions of elementary entry-level teacher competencies compare to the Virginia Licensure Regulations for Elementary Personnel (1998)?
The procedures for depicting the information as well as reducing it to manageable and understandable terms for comparison and analysis incorporated a process that moved sequentially from summaries of information, to predictable groupings and combinations and finally to major themes. In this process, it was essential to reduce information in a gradual process such that researcher inferences and supposition did not determine the path nor unduly influence the outcome of the results. This is consistent with Krippendorf's explanation regarding "reproducibility" (p. 130) in data analysis explained in an earlier chapter. Although the end result of the data analysis is important, the process by which the final themes are produced is equally essential. The reader should see a logical path during the reduction that not only makes sense, but also would seem evident as the same or similar series of reductions that he/she might follow. The sequence diagram below illustrates this.

**DATA SOURCE** (Surveys, NCATE and Virginia Licensure documents)

- **SUMMARIES** (lists of terms in order of appearance)
  - **RE-ORDER** (ordering based on frequency)
  - **GROUPING** (grouping based similar terminology)

- **COMBINATIONS** (first reduction-combining similar terms)

- **THEMES** (second reduction-associated combinations)
Members of the dissertation committee conducted audits periodically to address the logic and appropriateness of the reduction process and thematic grouping as it took place. The following pages provide an explanation of this process with respect to each set of data (found in the appendices) from the three information sources cited above and presents the major themes that are used as the basis for answering the four research questions later in the chapter.

Survey Summaries

The data analysis began with the development of summaries of responses to the surveys completed by school-based administrators and teachers (Appendix J). Surveys were sent to each elementary school in Chesterfield County, Virginia. Each school received surveys initially for each full-time teacher and administrator. In accordance with the requirements of the Human Subjects Approval procedures, and the Department of Accountability of the Chesterfield County School Division, potential respondents were urged to consider completion of the survey as strictly voluntary. This was noted on the cover letter as well as on the survey document.

A research facilitator assisted in the process and provided assurances of anonymity as well as needed follow up and assistance. Follow-up phone calls and a second mailing were initiated by the research assistant to attempt to increase response rate and facilitate response time. A total of 142 surveys of experienced teachers and administrators were received, 15 were from the administrators and 127 were from the teachers. Upon receipt of the surveys, they were tallied and sorted. This process began by first sorting all surveys
based on respondents' job area. All Kindergarten teachers were grouped first, followed by first grade teachers, second grade teachers, third grade teachers, fourth grade teachers, fifth grade teachers, teachers of multiple grades and finally administrators. Teacher surveys from those individuals with less than three years of teaching experience were put aside. Also note that, in accordance with research question one and two, all steps for summary and analysis of information from the surveys were done separately with each of the two groups - teachers and administrators.

Table 2 shows the final counts of the surveys that were analyzed based on job assignment. These counts reflect the numbers of surveys of experienced teachers (as defined in this study) and do not reflect the removed surveys of those that did not meet the required criteria of having at least three years of experience.

Table 2

<table>
<thead>
<tr>
<th>ASSIGNMENT</th>
<th>NUMBER OF RESPONSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kindergarten</td>
<td>27</td>
</tr>
<tr>
<td>First Grade</td>
<td>20</td>
</tr>
<tr>
<td>Second Grade</td>
<td>9</td>
</tr>
<tr>
<td>Third Grade</td>
<td>16</td>
</tr>
<tr>
<td>Fourth Grade</td>
<td>18</td>
</tr>
<tr>
<td>Fifth Grade</td>
<td>19</td>
</tr>
<tr>
<td>Multiple Grades</td>
<td>18</td>
</tr>
<tr>
<td>Administrators</td>
<td>15</td>
</tr>
<tr>
<td>TOTAL</td>
<td>142</td>
</tr>
</tbody>
</table>
Appendix J provides summary lists of all of the responses for all the questions on the survey. These summaries contain terms and phrases excerpted from the sentences and paragraphs written in the open-ended responses. They also tally duplications of similar terms and phrases. This was achieved by reviewing all surveys and tallying responses while focusing on only one question at a time for each group -teacher and administrators.

Once the first question was summarized, all of the surveys were reviewed again for the second question. The recording of information using this process continued until each of the questions was summarized for each of the two respondent groups.

Re-ordering and grouping. Upon completion of the summaries, the terms and phrases were re-ordered and grouped based on the quantity of these specific responses and similarity of the response. This information can be found in the series of tables in Appendix K. The re-ordering is merely a ranking of the counts taken directly from the surveys in the order of their review (beginning with kindergarten, first grade etc). The grouping is based on the similarity and associations that can be easily inferred from the terms and phrases used by the respondents. These tables are intended to provide the reader with an overview of terms taken directly from the survey responses while also showing tallies and logical combinations.

For example, in some cases the respondents “voiced” emotion in their responses as they emphasized the significance or importance of this type of knowledge at the same time that they described what
knowledge entry-level teachers should have about child development and learning. Some typical responses included phrases such as "this is an area that is very important!" and "this is critical."

Again, the tables in Appendix K are intended to provide the reader with an overview of summary terms taken directly from the survey responses while also showing tallies and combinations. It is important to emphasize that at this point no analysis or reduction of the data was done. This information is presented in this way merely as an attempt to organize the data for the reader. The survey data was then analyzed by a series of reductions that eventually resulted in broad themes that provided the information required to answer the research questions.

Survey Analysis: Sequence for Reductions

The next step in the analysis process was the transition from groupings to combinations. In each data compilation shown in Appendix L, the set of tables representing the information contains both the previous sequence of groupings and the newly developed combinations. This is done in order to provide a constant opportunity to view the steps in the reduction as they take place. As the reduction process continued, full sets of data become more condensed while at the same time becoming more concise and useable.

Groupings to combinations. This stage depicts the first reduction in the analysis process. In this sequence, groupings of terms and phrases are transitioned to combinations that best reflect the general topics within the groupings. In most cases this included terms and phrases that were the most highly repeated and then,
additional terminology that captures individual or less frequent phrases were added. For instance, "methods of teaching," "knowledge of different styles," "relating information to child," and "vary teaching styles/lessons" transitioned to the combination: "methods of teaching and variations in teaching styles." In another example the groupings of "make parent partner in learning," "how to communicate with parent," "knowledge of school community," and "how to help child with parent" transitioned to: "school/parent community relations."

Again, researcher interpretations are held to a minimum during this next incremental step as phrases and terms in the "combinations" column are taken directly from the "summaries" column. As Miles and Huberman (1994) noted, this incremental process for organizing and presenting data reduction helps to avoid "selective stacking" (p. 92). That is, the resulting combinations are logical and valid.

Note that the tables in Appendix L represent combinations of terms that can be listed without frequencies in an abbreviated yet concise format in preparation for the final thematic reduction in this process. It is also important to point out that at this stage the teachers and administrators responses are now being identified with a "T" (teacher) and/or an "A" (administrator). Also discernable at this stage are redundancies and similarities within and across the tables. For instance, there are references to knowledge of the Virginia Standards of Learning ("SOL") and general "content knowledge" (Table L1); "classroom management", "management of students" and "classroom organizational skills" (Tables L2, L3 and L4); and "making a
difference”, “seeing kids succeed”, and “student achievement and acquisition of content” (Tables L3 and L5).

The value of scrutinizing these combinations is that they lead to the next logical step—identification of themes that capture the essence of the grouped combinations as well as terms or concepts that were not initially distilled within a respective combination. Some of these outliers can now be placed appropriately within the newly generated themes.

Combinations to themes. Appendix M illustrates the reduction from combinations to themes. In reviewing these tables it is essential to note that themes may be repeated across the tables. This is the result of duplications in the combinations that have occurred during the reduction process and due to responses to questions that may not have related to that specific question but did relate to another question. The priority at this stage was to ensure that all issues/concepts had been considered and applied to at least one of the themes generated. Otherwise, another theme had to be generated to account for the unassociated issue or concept.

It is at this point in the process that the first two research questions can be addressed. Table 3 below shows the final themes that have resulted from this reduction. The lists below were narrowed further from the exact list of all themes in the Appendix because here redundant themes have been combined as one final theme on the right side. For example:
### Table 3
Themes for Teacher and Administrator Responses to the Surveys

<table>
<thead>
<tr>
<th>Second Reduction - Grouped Themes</th>
<th>Third Reduction - Final Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOL (Standards of Learning) (T/A)</td>
<td>SOL Content Knowledge (T/A)</td>
</tr>
<tr>
<td>Math, Science, Social Studies,</td>
<td></td>
</tr>
<tr>
<td>English and Reading (T/A)</td>
<td></td>
</tr>
<tr>
<td>Broad Content Knowledge (T/A)</td>
<td></td>
</tr>
<tr>
<td>Content knowledge (T/A)</td>
<td></td>
</tr>
<tr>
<td>Pedagogy, Variety in Pedagogy (T/A)</td>
<td>Pedagogy (T/A)</td>
</tr>
<tr>
<td>Appropriate Pedagogy for Learner (T/A)</td>
<td>Learner Variances in Stages</td>
</tr>
<tr>
<td>Adaptability to the Learner (T/A)</td>
<td>of Development (T/A)</td>
</tr>
<tr>
<td>Learner Variances (T)</td>
<td></td>
</tr>
<tr>
<td>Learning Based on Developmental Stage (T/A)</td>
<td>Special Circumstances of the Learner (T)</td>
</tr>
<tr>
<td>Variances w/in Stages of Development (T/A)</td>
<td></td>
</tr>
<tr>
<td>Special Circumstances (T)</td>
<td></td>
</tr>
<tr>
<td>Organizational/Preparedness (T/A)</td>
<td>Access and Organize Resources (T/A)</td>
</tr>
<tr>
<td>Information Access Resourceful (T/A)</td>
<td></td>
</tr>
<tr>
<td>Organized (T/A)</td>
<td>Planning and Assessment (T/A)</td>
</tr>
<tr>
<td>Planning and Assessment (T/A)</td>
<td></td>
</tr>
<tr>
<td>Ability to Work with People (T/A)</td>
<td>Ability to Work with School, Parents and the Community (T/A)</td>
</tr>
<tr>
<td>School/community parent relations (T)</td>
<td></td>
</tr>
<tr>
<td>Getting along with People (T/A)</td>
<td>Personal and professional characteristics (T/A)</td>
</tr>
<tr>
<td>Personal and professional</td>
<td>Flexible, Motivated, Positive, Persevering and Empathetic (T/A)</td>
</tr>
<tr>
<td>characteristics (T/A)</td>
<td>Enjoyment of Job Experiences (T/A)</td>
</tr>
<tr>
<td>Flexibility and Perseverance (T/A)</td>
<td></td>
</tr>
<tr>
<td>Empathetic and Positive Personal Characteristics, Motivated (T/A)</td>
<td></td>
</tr>
<tr>
<td>Enjoyment of Job Experiences (T/A)</td>
<td></td>
</tr>
<tr>
<td>Enjoyment in all Aspects of the Profession (T/A)</td>
<td></td>
</tr>
<tr>
<td>Personal and Professional Growth (T/A)</td>
<td>Student and Personal Growth (T/A)</td>
</tr>
<tr>
<td>Student Growth and Success (T/A)</td>
<td>Dedication to the Student and the Profession (T/A)</td>
</tr>
<tr>
<td>Dedication to Student and Profession (T/A)</td>
<td></td>
</tr>
<tr>
<td>Practical/Authentic Experiences (T)</td>
<td>Practical/Authentic Experiences (T)</td>
</tr>
<tr>
<td>Practical Experiences, Experiences (T)</td>
<td></td>
</tr>
</tbody>
</table>
Research Question Number One: What do elementary principals perceive as the desired or needed knowledge, abilities, and dispositions of entry-level elementary teachers?

Based on the final themes listed in table 3, elementary principals in Chesterfield County, Virginia perceive the following regarding the necessary attributes of entry-level elementary teachers:

- Possess knowledge of content and the Virginia SOL.
- Understand pedagogy and the appropriate application of varying pedagogy based on learner variances and stages of development.
- Possess ability to access and organize resources.
- Possess ability to plan for instruction and assess student achievement.
- Possess ability to work with the school, parents and the community.
- Possess personal and professional characteristics to sustain a long-term teaching career.
- Must be flexible, motivated, positive, persevering and empathetic and be able to enjoy the experiences related to teaching.
- Must have dedication to aspects of the profession and the growth of the student.
Research Question Number Two: What do experienced elementary teachers perceive as the desired or needed knowledge, abilities, and dispositions of entry-level elementary teachers?

Based on the final themes depicted in table 3, elementary teachers in Chesterfield County, Virginia perceive the following regarding the necessary attributes of entry-level elementary teachers:

- Possess knowledge of content and the Virginia SOL.
- Understand pedagogy and the appropriate application of varying pedagogy based on learner variances and stages of development.
- Possess ability to identify special circumstances that need to be addressed within student populations.
- Possess ability to access and organize resources.
- Possess ability to plan for instruction and assess student achievement.
- Possess ability to work with school, parents and community.
- Possess personal and professional characteristics to sustain a long-term teaching career.
- Must be flexible, motivated, positive, persevering and empathetic and be able to enjoy the experiences related to teaching.
- Must have dedication to aspects of the profession and the growth of the student.
- Must have practical and authentic experiences in the classroom.
Document Analysis

In preparation for answering the third and fourth research questions, an analysis of the NCATE 2000 Program Standards for Elementary Teacher Preparation and the Virginia Licensure Regulations for School Personnel documents had to be completed. Essential to document analysis is the reduction and grouping of numerous words and text such that these groupings accurately reflect the content or categories already present. Weber (1990) described content analysis similarly when he pointed out the importance of retaining intended meaning during reductions of numerous text to lesser content. This was accomplished by constructing summaries of the terms used within the components of the Virginia Licensure Regulations and the twenty NCATE standards. The terms in these summaries were then associated with the corresponding categories identified within each of the documents as well as other supporting explanation or text within. Specific details of this process for each set of documents are described below.

Virginia Licensure Regulations Analysis

Excerpts from the document Virginia Licensure Regulations for School Personnel relating to elementary education preK-6 were used for analysis in the following section. The summaries of this information can be found in Appendix N. These summaries include information related to the requirements for licensure within two main headings: Professional Studies Components and Elementary Education preK-6. Professional studies components. Under this heading, the licensure regulations provide information relative to five components:
Human Growth and Development; Curriculum and Instruction; Foundations of Education; Reading; and Supervised Classroom Experience. Within the text of these five components of professional studies, broad concepts are presented related to child developmental issues, curricular and instructional content, objectives and methodologies, professional aspects of the field of education, and the student teaching experience. It is interesting to note that Reading is addressed as an isolated component in this section of the regulations. The information in Appendix 0 provides the associated categories drawn from the document that relate to these components. These categories and those described in the next section are used as the basis for answering the third research question.

Elementary education preK-6. The information in Appendix N under the heading "Elementary Education preK-6" is depicted within two main concepts: Methods, and Knowledge and Skills. The methods section covers broad areas related to necessary content knowledge and abilities related to planning, instruction and assessment. The knowledge and skills section replicates much of the information in the methods section except that it is much more focused on specific content and curricular objectives. Again Appendix 0 provides the categories that relate to the information within these concepts. In these tables the categories were identified by the researcher to correspond in a similar manner to the NCATE document that will be described later. These broad categories encompass the major concepts in each of the sections of the requirements for teaching and, similar to the NCATE analysis, may be associated with themes.
In the appendices, these terms and phrases are depicted in a way such that the combined reduced content and related overarching categories can be easily extended to broad themes and then compared for similarities and differences to the themes identified as a result of the survey analysis. For example, in the Methods section the following terms: "Knowledge, skills and processes of the Virginia Standards of Learning. (English, mathematics, history and social science, science, and computer/technology)" are depicted under the category "Virginia Standards of Learning." Additionally, under the Knowledge and Skills section the terms: "Knowledge and skills for teaching Virginia SOL in English and reading." are also placed in the category of "Virginia Standards of Learning."

In another example, under the section Professional Studies Components the terms "Understand physical, social, emotional and intellectual development," and under the section Knowledge and Skills the terms "Knowledge of child and family relative to: human growth and Development, the context of family, culture and community..." all are placed in the category of "Human Growth and Development." Table 4 below shows the resulting thematic comparison between the Virginia Licensure Regulations and the survey responses.
### Table 4
Thematic comparison of teachers' and administrators' perceptions with the Virginia Licensure Regulations

<table>
<thead>
<tr>
<th>Survey Themes</th>
<th>Virginia Licensure Regulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOL Content Knowledge</td>
<td>Virginia Standards of Learning</td>
</tr>
<tr>
<td></td>
<td>Proficiency in reading and language arts</td>
</tr>
<tr>
<td>Pedagogy</td>
<td>Teaching methods, integration of content and differentiation of</td>
</tr>
<tr>
<td></td>
<td>instruction</td>
</tr>
<tr>
<td>Learner Variances in Stages of Development</td>
<td>Human growth and development</td>
</tr>
<tr>
<td></td>
<td>Developmental disabilities</td>
</tr>
<tr>
<td>Special Circumstances of the Learner</td>
<td>Learning experiences</td>
</tr>
<tr>
<td></td>
<td>Principles of learning</td>
</tr>
<tr>
<td></td>
<td>Effective classroom management</td>
</tr>
<tr>
<td>Access and Organization of Resources</td>
<td>Research skills, Organization</td>
</tr>
<tr>
<td>Planning and Assessment</td>
<td>Assessment for instructional planning</td>
</tr>
<tr>
<td></td>
<td>Technology skills</td>
</tr>
<tr>
<td></td>
<td>Curriculum and instruction</td>
</tr>
<tr>
<td>Ability to Work with School, Parents and the Community</td>
<td>School organization and culture</td>
</tr>
<tr>
<td></td>
<td>Parental involvement</td>
</tr>
<tr>
<td>Personal and Professional Characteristics</td>
<td>Legal, contemporary, and historical issues related to public education</td>
</tr>
<tr>
<td></td>
<td>Values</td>
</tr>
<tr>
<td>Flexible, Motivated, Positive, Persevering and Empathetic</td>
<td>Collaboration</td>
</tr>
<tr>
<td>Enjoyment of Job Experiences</td>
<td></td>
</tr>
<tr>
<td>Student and Personal Growth</td>
<td>Professional growth</td>
</tr>
<tr>
<td>Dedication to the Student and the Profession</td>
<td>Appreciation for literature and reading</td>
</tr>
<tr>
<td>Practical/Authentic Experiences</td>
<td>Classroom experience</td>
</tr>
<tr>
<td></td>
<td>Teaching experience</td>
</tr>
</tbody>
</table>
Research Question Number Three: How do elementary principals' and experienced elementary teachers' perceptions of elementary entry-level teacher competencies compare to the Virginia Licensure Regulations for Elementary Personnel?

Based on the comparisons in table 4, perceptions of school-based personnel have great commonality with the Virginia Licensure Regulations. The following list illustrates similarities (marked by bullets) and differences (shown with the "Note:"):

- Possess knowledge of content and the Virginia SOL.
  Note: VA Regulations- Demonstrated a special emphasis in Reading and language arts.

- Understand pedagogy and the appropriate application of varying pedagogy based on learner variances and stages of development. Note: VA Regulations- Included the ability for integration of content.

- Possess ability to identify special circumstances that need to be addressed within student populations.

- Possess ability to access and organize resources.

- Possess ability to plan for instruction and assess student achievement. Note: VA Regulations- Emphasized assessment for instructional planning.

- Possess ability to work with school, parents and community.

- Possess personal and professional characteristics to sustain a long-term teaching career. Note: VA Regulations- Included understanding of the organization and culture of schools.
• Must be flexible, motivated, positive, persevering and empathetic and be able to enjoy the experiences related to teaching. Note: VA Regulations- Emphasized values as a specific requirement for working effectively with students and families.
• Must have dedication to aspects of the profession and the growth of the student.
• Must have practical and authentic experiences in the classroom.

NCATE Document Analysis: Sequence for Reductions

Appendix P provides summaries of the NCATE Program Standards for Elementary Teacher Preparation. These summaries are phrases and terms taken from the content of the standards in the order that they are presented in the document. "Supporting Explanations" from the text of the standards are associated with these summaries in Appendix Q. The Supporting Explanations immediately follow each of the standards within the document and provide further description of the accompanying standard. These two appendices present data that further clarify concepts presented in the body of the standards and condensed in the summaries. In the tables in Appendix R, the standards' summaries are presented along with categories and related terms identified within the standards. The broad categories within the standards include: development, learning and motivation; curriculum; instruction; assessment; and professionalism. These five categories are described in the standards as the broad content areas related to
teaching that comprise the twenty NCATE program standards for teacher preparation (NCATE 2000 Synopsis). In some instances, terminology related to these broad areas has been added. For example in cases where content or curriculum is described, there may be terms such as social studies, English or language arts included as well.

Under the umbrella of these five categories and within the content of the twenty standards, NCATE noted in the section "Design of Program Standards" within the Synopsis that the reader should find four complimentary attributes for teacher candidates (that were the basis for the development of the survey questions): knowledge of content and pedagogy, teaching ability, dispositions necessary for a successful career in teaching, and the ability to positively effect student learning. These categories and the condensed data from the previous tables provide the basis for the identification of broad themes. In the final stage of the analysis the reduced terms from within the standards and Supporting Explanation, and the related overarching categories were expanded to identify themes. In table 5 these themes are presented with the results of the survey to show similarities and differences.
Table 5

Thematic comparison of teachers' and administrators' perceptions with the NCATE Standards for Elementary Preparation

<table>
<thead>
<tr>
<th>Survey Themes</th>
<th>NCATE Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOL Content Knowledge</td>
<td>English, Language Arts</td>
</tr>
<tr>
<td></td>
<td>Science, Mathematics</td>
</tr>
<tr>
<td></td>
<td>Social Studies, The Arts</td>
</tr>
<tr>
<td></td>
<td>Health and Physical Education</td>
</tr>
<tr>
<td>Pedagogy</td>
<td>Development, Learning, Motivation</td>
</tr>
<tr>
<td></td>
<td>Critical Thinking and Problem Solving</td>
</tr>
<tr>
<td>Learner Variances in Stages of Development</td>
<td>Connections across the Curriculum</td>
</tr>
<tr>
<td>Special Circumstances of the Learner</td>
<td>Student Diversity</td>
</tr>
<tr>
<td>Access and Organization of Resources</td>
<td>Atypical developmental differences</td>
</tr>
<tr>
<td>Planning and Assessment</td>
<td>Curriculum, Instruction</td>
</tr>
<tr>
<td></td>
<td>Communication</td>
</tr>
<tr>
<td>Ability to Work with School, Parents and the Community</td>
<td>Assessment (Use assessment to plan.)</td>
</tr>
<tr>
<td>Personal and Professional Characteristics</td>
<td>Collaboration with Families</td>
</tr>
<tr>
<td></td>
<td>Collaboration with colleagues and the Community</td>
</tr>
<tr>
<td>Flexible, Motivated, Positive, Persevering and Empathetic</td>
<td>Characteristics of Career Teachers</td>
</tr>
<tr>
<td>Enjoyment of Job Experiences</td>
<td></td>
</tr>
<tr>
<td>Student and Personal Growth Dedication to the Student and the Profession</td>
<td></td>
</tr>
<tr>
<td>Practical/Authentic Experiences</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Research Question Number Four: How do elementary principals’ and experienced elementary teachers' perceptions of elementary entry-level teacher competencies compare to the NCATE (2000) Standards for Elementary Preparation?

Based on comparisons in table 5, perceptions of school-based personnel and the NCATE Standards have overlapping themes as well as gaps. The following list illustrates similarities (marked by bullets) and differences (shown with the "Note:"):

- **Possess knowledge of content and the Virginia SOL.**
  
  *Note:* The NCATE Standards listed content without reference to the Virginia SOL.

- **Understand pedagogy and the appropriate application of varying pedagogy based on learner variances and stages of development.** *Note:* The NCATE Standards also included critical thinking and integration of content.

- **Possess ability to identify special circumstances that need to be addressed within student populations.**

- **Possess ability to access and organize resources.**

- **Possess ability to plan for instruction and assess student achievement.** *Note:* The NCATE Standards identified assessment for the purpose of planning and revising instruction.

- **Possess ability to work with school, parents and community.**

- **Possess personal and professional characteristics to sustain a long-term teaching career.**
- Must be flexible, motivated, positive, persevering and empathetic and be able to enjoy the experiences related to teaching. Note: The NCATE Standards did not address this area.

- Must have dedication to aspects of the profession and the growth of the student.

- Must have practical and authentic experiences in the classroom. Note: The NCATE Standards did not explicitly address this area within the twenty standards. It is implied by the terminology "know, understand, and use" and is referred to as one of numerous means for exhibiting competence in the introduction.

Summary

This chapter illustrates the reduction process used to analyze the surveys in this study and the process used to compare these survey results with the document analysis of NCATE 2000 Standards and Virginia Licensure Regulations. Appendices J through R contain summaries and tables that help to illustrate this process. The comparisons were used to answer the four research questions. In the next chapter a final summary of findings, interpretations and implications is provided.
Chapter V

Summary

Focus of the Research

The information in Chapter 4 in this study provides data for comparisons of the NCATE Standards and the Virginia Licensure Regulations for School Personnel with the perceptions of elementary principals and teachers regarding the attributes necessary for entry-level elementary teachers. The literature review in Chapter two presents background by illustrating information related to an historical perspective of teacher education. Because there is evidence within the literature that teacher preparation and teacher education programs have been scrutinized and even criticized for many years, this study attempted to bring to light some of the issues related to this for elementary entry-level teachers.

Qualitative procedures using an exploratory design were used. Specifically, four research questions were addressed:

1. What do elementary principals perceive as the desired or needed knowledge, abilities, and dispositions of entry-level elementary teachers?

2. What do experienced elementary teachers perceive as the desired or needed knowledge, abilities, and dispositions of entry-level elementary teachers?

The above two questions were answered through a comprehensive data reduction process that identified themes from within the context of survey responses from current principals and teachers. The themes
identified provided information essential to the resolution of the third and fourth research questions:

3. How do elementary principals' and experienced elementary teachers' perceptions of elementary entry-level teacher competencies compare to the Virginia Licensure Regulations for Elementary Personnel (1998)?


The third and fourth questions were answered by comparing the document analysis of the NCATE (2000) Standards for Elementary Preparation and the Virginia Licensure Regulations for Elementary Personnel (1998) with the themes identified through the survey analysis. Specifically, the themes derived from the surveys of the elementary school principals and teachers and the analysis of these documents provided the necessary information to denote similarities and differences necessary in this comparison study.

A summary chart that depicts the necessary attributes for entry-level elementary teachers derived from both the survey and the document analysis in this study, compared to references in the literature provides the reader with a view of similarities and differences. The matrix below illustrates these comparisons:
Table 6

A comparison of various literature citations with identified themes and their associated sources from the data analysis.

<table>
<thead>
<tr>
<th>Literature Citation</th>
<th>THEMES</th>
<th>Teachers</th>
<th>Administrators</th>
<th>Va Regulations</th>
<th>NCATE Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cruickshank, 1996; Darling-Hammond, 2000; Goodlad, 1999; NBPTS, 2000; Stronge, 2002</td>
<td>Knowledge of content and the Virginia SOL.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Emphasis in Reading and language arts.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pedagogy</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Smith, 1990</td>
<td>Critical thinking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Integration of content.</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Learner variances and stages of development.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Special circumstances of the learner</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Access and organize resources.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Burden &amp; Byrd, 1994; Cannon, 1997; Cruickshank, Bainer &amp; Metcalf, 1999</td>
<td>Plan for instruction</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>NBPTS, 2000</td>
<td>Assess student achievement.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Assessment for instructional planning.</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Smith, 1990</td>
<td>Work with school, parents and community.</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banner &amp; Cannon, 1997; Cruickshank, Bainer &amp; Metcalf, 1999</td>
<td>Personal and professional characteristics.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>NBPTS, 2000</td>
<td>Understanding the organization and culture of schools.</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Flexible, motivated, positive, persevering and empathetic.</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>VA Regs- Noted “values” for working w/students and families.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stronge, 2002</td>
<td>Enjoyment of job experiences</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NBPTS, 1994; Stronge, 2002</td>
<td>Dedication to the profession and the student.</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Darling-Hammond, 2000; McNerney, Medley &amp; Caldwell, 1988; Richardson, 1996; Smith, 1990</td>
<td>Practical and authentic experiences in the classroom. NCATE- Implied but not specifically addressed</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
Interpretation

Content, pedagogy and parent involvement. There were many similar themes within the surveys and the documents that overlapped. Content knowledge (and SOL for Virginia) was evident throughout the survey responses as well as the documents. This theme was not isolated to merely one question from the survey nor was it isolated to only one section or standard within the Virginia Regulations and the NCATE document. Pedagogy and terms related to learner variances and child development also appeared throughout all of the documents analyzed. It appeared that both the practitioners as well as the documents supported the importance of knowing content and the appropriate methodology to teach it to the student.

Another area that appeared consistently in all of the sources analyzed was parental involvement. The NCATE document included this theme under the category of "professionalism" and noted among other things that: "...candidates know the importance of establishing and maintaining a positive collaborative relationship with families to promote the academic, social and emotional growth of children" (NCATE 2000 Standard 5c). The Virginia Regulations notes similarly: "...establish positive and collaborative relationships with all families as partners in teaching and learning" and "support students by cooperatively working with parents..." (Virginia Regulations, p. 23)

Although there was great similarity between the themes from the survey and the documents analyzed, there were also variations and gaps that became evident. Most noteworthy are the themes and categories relating to personal characteristics, assessment and authentic
experiences. These terms and phrases can be found within related categories from all of the documents and survey information analyzed; however, there are slight nuances that are interesting.

Personal characteristics. In one sense, because personal characteristics were illustrated in both the surveys and the documents analyzed, this could be interpreted as a similarity. However, teachers tended to identify personal characteristics differently than the administrators and the NCATE Standards and Virginia Licensure Regulations documents. Their reference continually focused on descriptors such as "honesty", "enthusiasm", "good role model", "determination and persistence", "create safe, caring learning environment", "responsible", and "kindness/caring." These traits are very personal traits that describe feelings, attitudes and behaviors that the individual teacher might possess. Administrators (and the documents) represented personal traits more from the point of view of good qualities of the professional. In fact, in the reduction process, the theme identified was "personal and professional characteristics."

Although these were personal traits and therefore listed within the theme of personal and professional characteristics, the adjectives used were slightly different. For instance, administrators (note that teachers used these descriptors as well as those noted above) did not use any of the terms above but instead exclusively said things like: "flexible, patient, organized, supportive, dedicated, and listener." These descriptors appear to be related to generic characteristics that might merely relate to job effectiveness. This slight nuance,
absorbed in the reduction process, may imply the need for qualities related to personal devotion to students that is not captured outside of the teacher level. Perhaps even more significant is the fact that these characteristics were also associated with sustaining a long-term teaching career.

Interestingly, the NCATE Standards addressed the need for this ("Candidates understand and apply characteristics of career teachers."), however this is the only standard that did not have an attached Supporting Explanation or follow-up descriptor of what this entails. The Virginia Licensure Regulations did not expound on this topic in great detail either. The references within the Professional Studies requirements of the Licensure Regulations merely stated: "understanding of the historical, philosophical, and sociological foundations underlying the role, development and organization of public education..." and then emphasized that attention should be given to understanding "school as an organization/culture." These terms only focus on the knowledge dimension.

Assessment of instruction. The other gap related to assessment strategies to plan, to evaluate and to strengthen instruction found in NCATE and the Virginia Licensure Regulations. Neither teachers nor administrators addressed this descriptor to any great degree even though it was addressed as a requisite for entry-level teachers within the NCATE document and the Virginia Licensure Regulations ("Use assessments to plan and modify instruction"). Further analysis of this disparity shows that survey respondents identified the need to vary learning based on the needs of the learner ("reaching child in
every way", "meeting kids needs", "appropriate expectations", "children are at different levels", and "knowledge of different kinds of learners"). However, the intent to use assessment as a means to monitor achievement and revise instruction as prescribed in the NCATE Standards and Virginia Licensure Regulations, was not demonstrated within the results of the surveys.

When survey respondents used the term "assessment," it was within the context of summary evaluation of achievement. This is not to say that school-based practitioners do not understand the use of assessment to guide instruction, rather, it may be due to the wording of the survey question. The query may not have been constructed in a manner that would elicit this type of response from the teachers and administrators. This may be an area for further study aclarification.

Authentic experiences. There is little disagreement regarding the benefit of practical experiences within the school setting as a prerequisite activity for entry-level elementary teachers. Although this was not specifically addressed in the survey questions, survey responses and to some degree, the documents analyzed, all portrayed the need to have practical experiences in preparation for teaching. However, teachers seemed to voice this with obvious emotion:

"Hands-on experience in semi-controlled settings beats the classroom any day!"

"The best prepared young teachers are those who are in the classroom (observe, aid, or teach) all through college. Practical application is the best thing you can do for these future teachers."

"You don’t really understand teaching until you’ve done it!"
"Got to teach to know teaching."

"You can never teach anyone what the 1st year on the job can."

The emphasis in these statements and others like them in the survey is obvious. Experienced elementary teachers believe strongly in the value of the practical experience for the preparation of teachers.

The Virginia Licensure Regulations included "participation in classroom observations" and "teaching experiences" as a part of teacher preparation and licensure. The NCATE Standards made reference to teaching practice in the introduction to the standards as one of numerous ways to determine competence. Most of the methods to determine competence however related to other forms of assessment. This is interesting in light of the numerous statements regarding the revised standards emphasis on outcomes and verification on what teachers will "know and be able to do so students learn." In NCATE (2000) Guidance for Institutions, there are more references to performance based assessments.

Noting the teacher responses about this issue, it would appear that they believe that there can never be enough opportunities for practical experiences. The next survey statement from a teacher summarizes those opinions nicely:

"The rhetoric in college education classes is a starting point. By the time I spent several years in the classroom, I realized that theories are only a beginning. I had to use what I knew and build on it to find what worked for me. I wish I had spent more practical time in the classroom as a student."
This quote supports the assertion by Richardson (1996) in Featherstone that "the novice sometimes rehearses, with a new ear, propositions which seemed to make little impact on them at the time they were offered" (p.106). Teachers need extensive time in the classroom before their preparation experience can be fully appreciated and perhaps the only way that this can occur is after they have been employed for a few years.

Comparisons to the Literature

The review of literature pointed out that teacher preparation programs have been scrutinized for many years (Banner & Cannon, 1997; Cruickshank, Bainer, & Metcalf, 1999) and despite recent development of teacher preparation standards based on what teachers should know and be able to do (NCATE 2000), critiques have continued. Still, teachers who have completed formal teacher education programs are generally more successful than those without formal preparation (Darling-Hammond, 2000). In this light, the analysis of the surveys and subsequent comparison to the Virginia Licensure Regulations and NCATE 2000 Program Standards for Elementary Personnel provided the opportunity to compare school-based educators opinions with the documents and standards that help regulate teacher education. The results of the analysis provided further clarification of the assertions in the literature. It quickly became apparent during the analysis of the surveys in relation to the NCATE Standards and Virginia Licensure Regulations that school-based teachers and administrators were describing similar attributes about entry-level teacher behaviors as were contained in the documents. With the bulk
of literature on this topic depicting teacher preparation requiring improvement, one might not expect these findings.

Upon reflection of the data analyzed and comparing it with the statements made in the literature about teacher preparation, it would appear that there is a dilemma that will always be present. As Meier (2000) noted, education is a complex exercise that includes multiple opportunity for judgement. No matter how well prepared, teachers will never be fully expert in their job until they have experienced years of practice in the classroom. Entry-level teachers need time to practice the concepts and methodologies that they have learned (Richardson, 1996). The results of this study appear to imply that for the most part experienced teachers and administrators in Chesterfield County, Virginia agree with the preparation standards that are adhered to by NCATE aligned teacher education programs and the licensure requirements of the Virginia Regulations. Given time for reflection on their practice and support of their effort, teachers with formal preparation that is based on these standards can be successful (Darling-Hammond, 2000; NBPTS, 1994).

Implications for Future Research, Policy and Practice

Due to the limitations and delimitations of this study described in Chapter 1, the results that have been presented are not intended to be generalizable. Nonetheless, the information gained can provide useful data from which the readers (including school-based practitioners, policy developers, researchers and others) can consider implications. The results described in a qualitative study such as this provide information that may be applied in parts or wholes and in
whatever fashion desired. The benefit comes from the opportunity to reflect on the abundance of data from the readers' own point of reference. Below are some key facets in the analysis that the researcher presents as possible implications for future research, policy and practice.

Issues for future research. Future research that investigates the importance of personal characteristics as they relate to continued job success and satisfaction may prove beneficial. Because the analysis of data raised questions related to the relationship of personal characteristics and job success, further research may help clarify these findings. Also, since these traits have been associated with characteristics of career teachers, additional study may provide information regarding the feasibility of improving the initial quality of teacher education candidates. It may be possible to identify and/or screen applicants to teacher education programs for specific personal traits that may be necessary for their long-term success in the career of teaching.

Along similar lines an investigation of personal traits of teachers (noted by teacher respondents) that reflect devotion to or commitment to the student and the corresponding achievement may provide valuable information regarding the recruitment, selection and retention of teacher candidates. Teachers who are able to sustain attitudes of enthusiasm and joy of the job experience not only enhance the learning attitudes of the student; they increase their chance to sustain a long term teaching career as well. This may provide valuable information to possible candidates for teaching careers as
well as administrators, higher education personnel, and career
counselors that will help in the selection and preparation of future
teachers. As one of the teachers stated in the survey: "School is not
a business! Personality and emotions are daily parts of the job."

Although pedagogy was a prevalent theme in the surveys and the
documents, further research may provide data on whether varied
teaching methodologies are merely attempted or whether they are
actually understood and applied based on the needs of the learner.
The documents referred to using appropriate pedagogy, but the survey
responses did not verify that this was occurring.

Policy implications. The emphasis in the surveys on authentic
and numerous opportunities for classroom experience points out a need
or a possible implication for policy. Although the NCATE standards
presented the idea that candidates shall demonstrate attributes
acquired during their teacher education experience, there is nothing
specific in terms of required hours or time frames. Unless a state
has a policy regulating hours for practical experiences (The Virginia
Licensure Regulations stated the number of hours required for
licensure.), colleges and universities adhering to the NCATE standards
do not have specific guidelines in this regard.

This issue also presents implications for current policy that
allows for alternate routes to licensure. As shown in the literature
review, among other things teacher shortages have contributed to quick
fixes to maintain an adequate pool of teacher candidates (Tom, 1995;
Tryneski, 1998). Policy that allows licensure without time for
adequate authentic experiences is not consistent with the apparent emphasis noted as a result of the analysis of data in this study.

Implications for practice. Finally, the general lack of emphasis by school-based individuals to use formative assessment to guide instruction may require additional professional development. (Although, it was pointed out that the wording of the question may have precluded the comprehensive response that assessment should be used not only as a means to evaluate but also as a means to modify instruction.) This may be an enhancement to current practice that could greatly affect student outcomes. As stated in the NCATE Standards:

"Candidates recognize that many different assessment tools and strategies, accurately and systematically used, are necessary for monitoring and promoting learning for each student. Elementary teacher candidates appropriately use a variety of formal and informal assessment techniques to enhance their knowledge of individual students, evaluate students' progress and performances, modify teaching and learning strategies, and collaborate with specialists on accommodating the needs of students with exceptionalities" (NCATE Standard 4, Supporting Explanation).

The implication here is that teachers who are expert in diagnoses of learning styles and needs, and who can strengthen instructional approaches and curriculum pacing based on assessment strategies will promote learning for students. The complexity of the process (Meier,
2000) is difficult to accomplish fully using short cut programs that provide alternate routes to licensure.

Additionally, the themes identified in this study in general have implications for professional development. The similarities and differences noted may serve as a focus for staff development initiatives to enhance learner outcomes and personal and professional characteristics of teachers.

Final Conclusions

This last section describes final thoughts regarding the results and the process for the study. It is intended to provide the reader with closing reflections that may be useful for further research on this topic while at the same time provide insight into some of the more significant findings that this researcher thought were compelling. The following reflections also provide the opportunity for the researcher to point out the personal benefit of conducting this investigation.

Closing Statement. A qualitative study provides opportunity to accumulate and process large quantities of information—in this case in the form of textual data. The process for reducing the information to manageable, concise, representative and ultimately useable information requires precision and consistency. But, it provides highly descriptive information that otherwise would not be found in strictly quantitative studies. The numerous opportunities to return to the text or survey and review exact words, phrases, terminology and even personal notations and punctuation marks provide the researcher with great insight to the meaning of the information. Even when
survey respondents pointed dissatisfaction with the difficulty or open-ended quality of the survey, they still completed it with an abundance of information.

During the analysis of responses, there were instances where respondents didn’t answer the topic of the question being asked. Instead, they may have reiterated a point that they felt strongly about that was related to a previous or succeeding question, or they merely may have missed the intent of the question at hand. In either regard, as the reduction process uncovered the issues and themes within the survey data, all information supplied was able to be considered and became a valuable part of the final product.

The preceding pages and attached appendices reflect the results of almost three years of research and study—after completion of most of the required course work. Throughout the process, and with the help of my dissertation committee, the general topic of teacher preparation was continually refined and focused. The end result was a comparison study of the NCATE Standards and the Virginia Licensure Regulations for School Personnel with the perceptions of elementary principals and teachers. This experience benefited more than merely my investigative, writing and analysis techniques. It also provided me with valuable information related to a topic that I have been involved in closely for the many years that I have been a school administrator—preparing teachers with the essential skills for enhancing student success.
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Appendix A

VIRGINIA REGISTER

The Virginia Register is an official state publication issued every other week throughout the year. Indexes are published quarterly, and the last index of the year is cumulative.

The Virginia Register has several functions. The full text of all regulations, both as proposed and as finally adopted or changed by amendment are required by law to be published in the Virginia Register of Regulations.

In addition, the Virginia Register is a source of other information about state government, including all Emergency regulations issued by the Governor, and Executive Orders, the Virginia Tax Bulletin issued periodically by the Department of Taxation, and notices of all public hearings and open meetings of state agencies.

ADOPTION, AMENDMENT, AND REPEAL OF REGULATIONS

An agency wishing to adopt, amend, or repeal regulations must first publish in the Virginia Register a notice of proposed action; the basis, purpose, impact and summary statement; a notice giving the public an opportunity to comment on the proposal, and the text of the proposed regulations.

Under the provisions of the Administrative Process
Act, the registrar has the right to publish a summary, rather than the full text, of a regulation which is considered to be too lengthy. In such case, the full text of the regulation will be available for public inspection at the office of the Registrar and at the office of the promulgating agency.

Following publication of the proposal in the Virginia Register, sixty days must elapse before the agency may take action on the proposal.

During this time, the Governor and the General Assembly will review the proposed regulations. The Governor will transmit his comments on the regulations to the Registrar and the agency and such comments will be published in the Virginia Register.

Upon receipt of the Governor's comment on a proposed regulation, the agency (i) may adopt the proposed regulation, if the Governor has no objection to the regulation; (ii) may modify and adopt the proposed regulation after considering and incorporating the Governor's suggestions, or (iii) may adopt the regulation without changes despite the Governor's recommendations for change.

The appropriate standing committee of each branch of the General Assembly may meet during the promulgation or final adoption process and file an objection with the Virginia Registrar and the promulgating agency. The
objection will be published in the Virginia Register. Within twenty-one days after receipt by the agency of a legislative objection, the agency shall file a response with the Registrar, the objecting legislative Committee, and the Governor.

When final action is taken, the promulgating agency must again publish the text of the regulation, as adopted, highlighting and explaining any substantial changes in the final regulation. A thirty day final adoption period will commence upon publication in the Virginia Register.

The Governor will review the final regulation during the time and if he objects, forward his objection to the Registrar and the agency. His objection will be published in the Virginia Register. If the Governor finds that changes made to the proposed regulation are substantial, he may suspend the regulatory process for thirty days and require the agency to solicit additional public comment on the substantial changes.

A regulation becomes effective at the conclusion of this thirty day final adoption period, or at any other later date specified by the promulgating agency, unless (i) a legislative objection has been filed, in which event the regulation, unless withdrawn, becomes effective on the date specified, which shall be after the expiration of the twenty-one day extension period; or (ii) the Governor exercises his authority to suspend the regulatory process.
for solicitation of additional public comment, in which event the regulation, unless withdrawn, becomes effective on the date specified which date shall be after the expiration of the period for which the Governor has suspended the regulatory process.

Proposed action on regulations may be withdrawn by the promulgating agency at any time before the regulation becomes final.

**EMERGENCY REGULATIONS**

If an agency determines that an emergency situation exists, it then requests the Governor to issue an emergency regulation. The emergency regulation becomes operative upon its adoption and filing with the Registrar of Regulations, unless a later date is specified. Emergency regulations are limited in time and cannot exceed a twelve months duration. The emergency regulations will be published as quickly as possible in the Virginia Register.

During the time the emergency status is in effect, the agency may proceed with the adoption of permanent regulations through the usual procedures (See "Adoption, Amendment, and Repeal of Regulations," above). If the agency does not choose to adopt the regulations, the emergency status ends when the prescribed time limit expires. (Virginia Register of Regulations, 1993 p.1)
Appendix B

The following excerpts are from the Virginia Register of Regulations:
VR 270-01-0000:1 Regulations Governing the Licensure of School Personnel.

PART I.
DEFINITIONS

§ 1.1 Definitions.

The following words and terms, when used in these regulations shall have the following meaning, unless the context clearly indicates otherwise:

"Accredited institution" means an institution of higher education which is accredited by a state, regional or national accrediting agency recognized by the United States Department of Education.

"Cancellation" means the annulment, voiding, or invalidation of a teaching license following voluntary surrender of the license by the license holder.

"Collegiate Professional License" means a five-year, renewable license available to an individual who has satisfied all requirements for licensure, including the NTE. It is also issued to an applicant from out-of-state with a current valid license from that state or who has completed an approved teacher preparation program in another state in a comparable endorsement area and who has met the NTE requirement.

"Content area course work" means courses at the
undergraduate level (two or four-year institution) or at the
graduate level that will not duplicate previous courses taken in
the humanities, history and the social sciences, the sciences,
mathematics, health, and physical education, and the fine arts.
These courses are usually available through the college or
department of arts or sciences.

"Denial" means the refusal to grant a teaching license to a
new applicant, or to an applicant who is reapplying after the
expiration of a license.

"Postgraduate Professional License" means a five-year,
renewable license available to an individual who has qualified for
the Collegiate Professional License and who holds an appropriate
earned graduate degree from an accredited institution.

"Provisional License" means a nonrenewable license issued
for a period of two years [to individuals who have been employed
by a Virginia educational agency. The Provisional License will be
issued for a two-year period for the 1992-93 school year;
thereafter, the license will be issued for a three-year period.]
It is available to:

1. An individual holding a baccalaureate degree from an
   accredited institution who meets the requirements for one or more
   endorsement areas (in-state or out-of-state); or

2. An individual entering the teaching field through the
   alternate route to licensure upon recommendation of the employing
   educational agency; or

3. An individual failing to meet an allowable portion of
4. An individual seeking the Technical Professional License; or

5. An individual who is eligible for licensure but who needs to successfully complete the National Teacher Examination (NTE) requirement. (The NTE requirement will be replaced by the PRAXIS series at the preservice level July 1994.) (pp. 1723-1724)

Definitions continue in this regulation but they refer to more specialized areas that are not pertinent to this topic. Sections of Part III that refer to alternate routes for licensure are noteworthy:

Part III.

Licensure.

§ 3.8 Alternate route to licensure.

A. Alternative programs developed by institutions of higher education (i) recognize the unique strengths of prospective teachers from nontraditional backgrounds, and (ii) prepare these individuals to meet the same standards that are established for others who are granted a provisional license.

B. An alternate route is available to those individuals employed by an educational agency seeking teaching endorsements Kindergarten through Grade 12. Endorsements at the elementary or middle school level may require the individual to take courses that are consistent with content and other unique practices for working with students at these levels. (pp. 1725-1726)

This section continues with guidelines for degree, course work and professional teaching experience:
1. b. (2) Complete one year of successful, full-time experience in the appropriate teaching area. A fully licensed, experienced teacher in the school building must be employed through the alternative route.

C. A Virginia educational agency may submit to the superintendent of Public Instruction for his approval an alternative program for licensure. Requirements for the Provisional License include:

1. A baccalaureate degree and the course work for the teaching area sought.

2. Training (seminar, internship, course work, etc.) in curriculum, methodology, and learning styles.

3. A fully licensed teacher in the school building available to assist the beginning teacher employed through the alternative route. (p. 1727)

Note that Senate Bill 113 has further revised this policy giving more flexibility to localities. (SS 22.1-299.3, Virginia Code.)
Licensure Regulations for School Personnel

Effective July 1, 1998

State Board of Education
8 VAC 20-21-10 et seq.
Licensure Regulations for School Personnel.

Statutory Authority:
§ 22.1-298 of the Code of Virginia.

Division of Teacher Education & Licensure
Virginia Department of Education
P. O. Box 2120
Richmond, Virginia 23218-2120

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Foreword

In June 1995, the Board of Education took an important step to raise the expectations for all students in Virginia's public schools by adopting new Standards of Learning (SOL) in the core subject areas of mathematics, science, English, and history and social science. These new standards set reasonable targets and expectations for what teachers need to teach and students need to learn. With this step came the need to establish licensure regulations for school personnel that will ensure that they have the background needed to facilitate student achievement of these rigorous standards.

The Advisory Board on Teacher Education and Licensure (ABTEL) is responsible for advising the Board of Education on policies applicable to the qualifications, examination, licensure, and regulation of school personnel. To fulfill this responsibility, the Advisory Board began a process about three years ago to review the requirements for school personnel with the intention of reducing the number of licensure teaching areas and developing requirements consistent with the Standards of Learning. The Advisory Board worked with a variety of professional organizations, school personnel, institutions of higher education, Department of Education staff, and other individuals to develop new licensure regulations. Following the required procedures of the Administrative Process Act (APA), the Board of Education adopted the new licensure regulations and established the effective date for implementation as July 1, 1998, for school divisions and July 1, 2000, for institutions of higher education offering teacher preparation programs.

Major revisions contained in the regulations include the requirement for concentrations in the core areas of mathematics, science, English, and history and social science for the middle education (grades 6, 7, and 8) endorsement; additional requirements in language acquisition and reading for individuals seeking endorsements in early/primary prek-3, elementary prek-6, middle grades 6-8, and special education; exit expectations written as competencies and aligned with the Standards of Learning for graduates of approved teacher preparation programs; a reduction in the number of teaching endorsement areas available for licensure from the current 104 to 57; establishment of a prek-12 endorsement for administration and supervision; and core competencies for all individuals seeking an endorsement in special education, as well as specific course work in the special education area or areas of concentration.

As Superintendent of Public Instruction, I strongly support these new licensure regulations. If we are to raise the achievement of our students, it will be as a result of our efforts to assure that every child in the Commonwealth is taught by fully licensed and qualified teachers. In administering these regulations, modifications may be made for individuals with equivalent experience, training, and preparation on a case-by-case review by me or Dr. Thomas A. Elliott, Assistant Superintendent for Teacher Education and Licensure, by calling (804) 371-2522.

These regulations are available on the Department of Education's web page along with responses to frequently asked questions about licensure in Virginia. The website is accessible for public use at http://www.pen.k12.va.us/

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Chapter 21.
Licensure Regulations For School Personnel
Part I.
Definitions

8 VAC 20-21-10. Definitions.

The following words and terms, when used in this chapter, shall have the meanings indicated unless the context clearly implies otherwise:

"Accredited Institution" means an institution of higher education accredited by a regional accrediting agency recognized by the United States Department of Education.

"Alternative route to licensure" means one route to licensure available to individuals employed by a Virginia educational agency who meet the guidelines specified in 8 VAC 20-21-80.

"Approved program" means a professional education program recognized as meeting state standards for the content and operation of such programs so graduates of the program will be eligible for state licensure. The Board of Education has the authority to approve programs in Virginia.

"Cancellation" means the annulment, voiding, or invalidation of a teaching license following voluntary surrender of the license by the license holder.

"Collegiate Professional License" means a five-year, renewable license available to an individual who has satisfied all requirements for licensure, including the professional teacher's assessment prescribed by the Board of Education.

"Competency" means a capability or skill that a person possesses and can demonstrate, given the appropriate resources and conditions. As used in this chapter, a competency refers to a behavior that a licensure candidate should be able to demonstrate prior to being issued a teaching license. In most cases, entry level proficiency relative to the competency is specified rather than desired mastery level proficiency.

"Content area course work" means courses at the undergraduate level (i.e., two-year or four-year institution) or at the graduate level that will not duplicate previous courses taken in English, history and social science, the sciences, mathematics, health and physical education, and the fine arts. These courses are usually available through the college or department of arts or sciences.

"Denial" means the refusal to grant a teaching license to a new applicant or to an applicant who is reapplying after the expiration of a license.

"Division Superintendent License" means a five-year, renewable license available to an individual who has completed an earned master's degree from an accredited institution of higher education and meets the requirements specified in 8 VAC 20-21-590. The individual's name must be listed on the Board of Education's list of eligible division superintendents.
"Postgraduate Professional License" means a five-year, renewable license available to an individual who has qualified for the Collegiate Professional License and who holds an appropriate earned graduate degree from an accredited institution.

"Provisional License" means a nonrenewable license issued for a period of three years to individuals who have been employed by a Virginia educational agency and meet the requirements specified in 8 VAC 20-21-50 A 4.

"Pupil Personnel Services License" means a five-year, renewable license available to an individual who has earned an appropriate graduate degree from an accredited institution with an endorsement for guidance counselor, school psychologist, school social worker, visiting teacher or vocational evaluator. This license does not require teaching experience.

"Reciprocity" means an agreement between two or more states that will recognize and accept one another's regulations and laws for privileges for mutual benefit. See 8 VAC 20-21-90 for conditions for teacher licensure by reciprocity.

"Revocation" means the annulment by recalling, repealing, or rescinding a teaching license.

"Special Education Conditional License" means a three-year, nonrenewable teaching license issued to an individual employed as a special education teacher in a public school or a nonpublic special education school in Virginia who does not hold the appropriate special education endorsement but meets the criteria specified in 8 VAC 20-21-50 A 5. This conditional license is not applicable to individuals employed as speech pathologists.

"Suspension" means the temporary withdrawal of a teaching license.

"Technical Professional License" means a five-year, renewable license available to a person who has graduated from an accredited high school (or possesses a General Education Development Certificate); has exhibited academic proficiency, technical competency, and occupational experience; and meets the requirements specified in 8 VAC 20-21-50 A 3.
Part II.
Administering The Regulations

8 VAC 20-21-20. Administering the regulations.

A. In administering this chapter, modifications may be made in exceptional cases by the Superintendent of Public Instruction. Proposed modifications shall be made in writing to the Superintendent of Public Instruction, Commonwealth of Virginia, Virginia Department of Education, P.O. Box 2120, Richmond, Virginia 23218-2120.

B. Universities or colleges of education may propose modifications to this chapter to the Superintendent of Public Instruction. Requests for modifications shall be submitted in writing. Proposals shall include at least the following information: (i) philosophy/rationale for the proposed modification; (ii) requirements of the program including academic and professional studies; (iii) program competencies; (iv) program evaluation; and (v) faculty assigned to the program. Proposals received by the Superintendent of Public Instruction will be presented to the Advisory Board on Teacher Education and Licensure for review and formulation of a recommendation to the Board of Education.

Part III.
Licensure

8 VAC 20-21-30. Purpose and responsibility for licensure.

The primary purpose for licensing teachers and other school personnel is to maintain standards of professional competence. The responsibility for licensure is set forth in § 22.1-296 of the Code of Virginia, which states that the Board of Education shall prescribe by regulation the requirements for licensure of teachers.


A. Applicants for licensure must:

1. Be at least 18 years of age;

2. Pay the appropriate fees as determined by the Board of Education and complete the application process;

3. Have earned a baccalaureate degree (with the exception of the Technical Professional License) from an accredited institution of higher education with a Board of Education approved teacher education program; and

4. Possess good moral character (free of conditions outlined in Part VII (8 VAC 20-21-660 et seq.) of this chapter).
B. All candidates who hold at least a bachelor’s degree and who seek an initial Virginia teaching license must obtain passing scores on a professional teacher’s assessment prescribed by the Board of Education. Candidates seeking a Technical Professional License or the Pupil Personnel Services License are not required to take the professional teacher’s assessment. Individuals who have completed a minimum of two years of full-time, successful teaching experience in an accredited public or nonpublic school (kindergarten through grade 12) in a state other than Virginia are exempted from the assessment requirement.

8 VAC 20-21-50. Types of licenses; dating of licenses.

A. The following types of licenses are available:

1. Collegiate Professional License. The Collegiate Professional License is a five-year, renewable license available to an individual who has satisfied all requirements for licensure, including the professional teacher’s assessment prescribed by the Board of Education.

2. Postgraduate Professional License. The Postgraduate Professional License is a five-year, renewable license available to an individual who has qualified for the Collegiate Professional License and who holds an appropriate earned graduate degree from an accredited institution.

3. Technical Professional License. The Technical Professional License is a five-year, renewable license available to a person who has graduated from an accredited high school (or possesses a General Education Development Certificate); has exhibited academic proficiency, technical competency, and occupational experience; and has completed nine semester hours of specialized professional studies credit from an accredited college or university. The nine semester hours of professional studies course work must include human growth and development (three semester hours), curriculum and instructional procedures (three semester hours), and applications of instructional technology or foundations of education (three semester hours). The Technical Professional License is issued at the recommendation of an employing educational agency in the areas of vocational education, educational technology, and military science. In addition to demonstrating competency in the endorsement area sought, the individual must:
   a. Hold a license issued by the appropriate Virginia board for those program areas requiring a license and a minimum of two years of satisfactory experience at the journeyman level or an equivalent;
   b. Have completed a registered apprenticeship program and two years of satisfactory experience at the journeyman level or an equivalent level in the trade; or
   c. Have four years of work experience at the management or supervisory level or equivalent or have a combination of four years of training and work experience at the management or supervisory level or equivalent.

Individuals holding the Technical Professional License who seek the Collegiate Professional or Postgraduate Professional License must meet the professional teacher’s assessment requirement.

4. Provisional License. The Provisional License is a three-year, nonrenewable license available to individuals who are employed by a Virginia educational agency and are:
a. Entering the teaching field through the alternative route to licensure upon recommendation of the employing educational agency;

b. Failing to meet an allowable portion of general, professional, or specific endorsement requirements;

c. Seeking the Technical Professional License; or

d. Eligible for licensure but need to complete successfully the professional teacher's assessment prescribed by the Board of Education.

5. Special Education Conditional License. A Special Education Conditional License is a three-year, nonrenewable teaching license issued to an individual employed as a special education teacher in a public school or a nonpublic special education school in Virginia who does not hold the appropriate special education endorsement. The conditional license is not applicable to individuals employed as speech pathologists. To be issued the Special Education Conditional License an individual must:

   a. Be employed by a Virginia public or nonpublic school and have the recommendation of the employing educational agency;
   
   b. Hold a baccalaureate degree from an accredited college or university;
   
   c. Have an assigned mentor endorsed in special education; and
   
   d. Have a planned program of study in the assigned endorsement area and have completed a minimum of six semester hours in the core competencies of characteristics of students with disabilities and legal aspects associated with students with disabilities.

   During the three years the Special Education Conditional License is valid, the individual must complete all requirements for the special education endorsement area, complete professional studies requirements, and meet Virginia's professional teacher's assessment requirement prescribed by the Board of Education.

6. Pupil Personnel Services License. The Pupil Personnel Services License is a five-year, renewable license available to an individual who has earned an appropriate graduate degree from an accredited institution with an endorsement for guidance counselor, school psychologist, school social worker, or visiting teacher. This license does not require teaching experience.

7. Division Superintendent License. The Division Superintendent License is a five-year, renewable license available to an individual who has completed an earned master's degree from an accredited institution of higher education and meets the requirements specified in 8 VAC 20-21-590. The individual's name must be listed on the Board of Education's list of eligible division superintendents.

B. All licenses will be effective from July 1 in the school year in which the application is made.

8 VAC 20-21-60. Additional endorsements.

   One or more endorsements may be added to a license provided specific endorsement requirements have been met. Written requests may be made by the licensed professional and should be directed to the employing educational agency or college or university. If the request is not acted upon by the local educational agency or college or university within 30 days or is disputed, the license holder may make a written request for an additional endorsement directly to the Office of Professional Licensure, Virginia Department of Education. Written requests should be submitted by January 15 to be in effect by July 1 of the same year.
8 VAC 20-21-70. Deletion of an endorsement.

An endorsement may be deleted from a license at the request of the licensed professional. Written requests are made by the licensed professional and should be directed to the employing educational agency. If the request is not acted upon by the local educational agency within 30 days, or is disputed, the license holder may make a written request for the deletion of an endorsement directly to the Division of Teacher Education and Licensure, Virginia Department of Education. Written requests should be submitted by January 15 to be in effect of July 1 of that year. Individuals who wish to add an endorsement that has been deleted must meet requirements for that endorsement at the time it is requested.

8 VAC 20-21-80. Alternative route to licensure.

A. An alternative route is available to individuals employed by an educational agency who seek teaching endorsements pre-K through grade 12.

1. An individual seeking a Provisional License through the alternative route must meet the requirements specified in 8 VAC 20-21-50 A 4.

2. The professional studies requirements for the appropriate level of endorsement sought must be completed. A Virginia educational agency may submit to the Superintendent of Public Instruction for approval an alternative program to meet the professional studies requirements. The alternative program must include training (seminar, internship, course work, etc.) in human growth and development, curriculum and instructional procedures (including technology), foundations of education, and reading.

3. One year of successful, full-time teaching experience in the appropriate teaching area in an accredited public or nonpublic school must be completed. A fully-licensed experienced teacher must be available in the school building to assist the beginning teacher employed through the alternative route.

B. Alternative programs developed by institutions of higher education (i) recognize the unique strengths of prospective teachers from nontraditional backgrounds and (ii) prepare these individuals to meet the same standards that are established for others who are granted a provisional license.

8 VAC 20-21-90. Conditions for licensure by reciprocity.

An individual coming into Virginia from any state may qualify for a Virginia teaching license with comparable endorsement areas if the individual has completed a state-approved teacher training program through a regionally accredited four-year college or university, or if the individual holds a valid out-of-state teaching license which must be in force at the time the application for a Virginia license is made. An individual seeking licensure must establish a file in the Department of Education by submitting a complete application packet, which includes official student transcripts. A professional teacher's assessment prescribed by the Board of Education must be satisfied.

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8 VAC 20-21-100. Requirements for renewing a license.

A. The Division Superintendent, Postgraduate Professional, Collegiate Professional, Technical Professional, and Pupil Personnel Services Licenses may be renewed upon the completion of 180 professional development points within a five-year validity period based on an individualized professional development plan. Professional development points can be accrued by the completion of activities from one or more of the following options: college credit, professional conference, peer observation, educational travel, curriculum development, publication of article, publication of book, membership/supervision, educational project, and employing educational agency professional development activity.

B. A minimum of 90 points (three semester hours in a content area) in the license holder's endorsement area or areas shall be required of license holders without a master's degree and may be satisfied at the undergraduate (two-year or four-year institution) or graduate level. Special education course work designed to assist classroom teachers and other school personnel in working with students with disabilities, a course in gifted education, a course in educational technology, or a course in English as a second language may be completed to satisfy the content course requirement for one cycle of the renewal process. Professional development activities designed to support the Virginia Standards of Learning, Standards of Accreditation, and Assessments may be accepted in lieu of the content course for one renewal cycle. The substance of the activities must clearly support these initiatives and address one or more of the following areas: (i) new content knowledge to implement the Virginia Standards of Learning; (ii) curriculum development initiative designed to translate the standards from standards to classroom objectives; (iii) teaching beginning reading skills including phonemic awareness and the structure of language (phonics); (iv) staff development activities in assessment to assist classroom teachers in the utilization of test results to improve classroom instruction; and (v) professional development designed to implement the technology standards in the schools. Technical Professional License holders without baccalaureate degrees may satisfy the requirement through vocational education workshops, vocational education institutes, or through undergraduate course work at two-year or four-year institutions.

C. Content area courses are courses at the undergraduate level (two-year or four-year institution) or at the graduate level that will not duplicate previous courses taken in English, history and social science, the sciences, mathematics, health and physical education, and the fine arts. These courses are usually available through the college or department of arts and sciences. License holders with elementary education, middle education, special education, or reading endorsements must satisfy the 90-point requirement through content course work in one of the areas listed above. Courses available through the college's or institution's department of education may be used to satisfy the content requirement for those license holders with endorsements in health and physical education, vocational education, and library science education.

D. With prior approval of the division superintendent, the 90 points in a content area also may be satisfied through course work taken to obtain a new teaching endorsement or course work taken because of a particular need of a particular teacher.

E. The remaining 90 points may be accrued by activities drawn from one or more of the 10 options described in The Virginia Licensure Renewal Manual. Renewal work is designed to provide licensed personnel with opportunities for professional development relative to the grade levels or teaching fields to which they are assigned or for which they seek an added endorsement. Such professional development encompasses (i) responsible remediation of any area of an individual's knowledge or skills that fails
I. To meet the standards of competency and (ii) responsible efforts to increase the individual's knowledge of new developments in his field and to respond to new curricular demands within the person's area of professional competence.

F. The proposed work toward renewal in certain options must be approved in advance by the chief executive officer or designee of the employing educational agency. Persons who are not employed by an educational agency may renew or reinstate their license by submitting to the Division of Teacher Education and Licensure, Department of Education, their individualized renewal record and verification of points, including official student transcripts of course work taken at an accredited two-year or four-year college or university.

G. Accrual of professional development points shall be determined by criteria set forth by the Virginia Department of Education.

H. Virginia school divisions and nonpublic schools will recommend renewal of licenses using the renewal point system.
Part IV.
Licensure Regulations Governing Early/Primary Education, Elementary Education and Middle Education Endorsements

8 VAC 20-21-110. Early/primary education, elementary education, and middle education endorsements.

Individuals seeking licensure with endorsements in early/primary education, elementary education, and middle education may meet requirements through the completion of an approved program or, if employed by a Virginia public or nonpublic school, through the alternative route to licensure. Components of the licensure program include a degree in the liberal arts and sciences (or equivalent), professional teacher's assessment requirement prescribed by the Board of Education, specific endorsement requirements, and professional studies requirements.

8 VAC 20-21-120. Professional studies requirements.

Professional studies requirements for early/primary education, elementary education, and middle education: 18 semester hours.

1. Human growth and development (birth through adolescence): 3 semester hours. Skills in this area shall contribute to an understanding of the physical, social, emotional, and intellectual development of children and the ability to use this understanding in guiding learning experiences. The interaction of children with individual differences — economic, social, racial, ethnic, religious, physical, and mental — should be incorporated to include skills contributing to an understanding of developmental disabilities and developmental issues related to but not limited to attention deficit disorders, substance abuse, child abuse, and family disruptions.

2. Curriculum and instructional procedures: 6 semester hours.
   a. Early/primary education preK-3 or elementary education preK-6 curriculum and instructional procedures. Skills in this area shall contribute to an understanding of the principles of learning; the application of skills in discipline-specific methodology; communication processes; classroom management; selection and use of materials, including media and computers; and evaluation of pupil performance. The teaching methods, including for gifted and talented students and those students with disabling conditions, must be appropriate for the level of endorsement (preK-3 or preK-6). Pre-student teaching experiences (field experiences) should be evident within these skills.
   b. Middle education 6-8 curriculum and instructional procedures. Skills in this area shall contribute to an understanding of the principles of learning; the application of skills in discipline-specific methodology; communication processes, classroom management; selection and use of materials, including media and computers; and evaluation of pupil performance. The teaching methods, including for gifted and talented students and students with disabling conditions, must be appropriate for the middle education endorsement. Pre-student teaching experiences (field experiences) should be evident within these skills.
3. **Foundations of education**: 3 semester hours. Skills in this area shall be designed to develop an understanding of the historical, philosophical, and sociological foundations underlying the role, development and organization of public education in the United States. Attention should be given to the legal status of teachers and students, including federal and state laws and regulations, school as an organization/culture, and contemporary issues in education.

4. **Reading**: 6 semester hours  
   a. Early/primary preK-3 and elementary education preK-6 — language acquisition and reading: 6 semester hours. Skills in this area shall be designed to impart a thorough understanding of the complex nature of language acquisition and reading, to include: phonemic awareness, an understanding of sound/symbol relationships, explicit phonics instruction, syllables, phonemes, morphemes, decoding skills, word attack skills, and a knowledge of how phonics, syntax, and semantics interact. Additional skills shall include proficiency in a wide variety of comprehension strategies, as well as the ability to foster appreciation of a variety of literature and independent reading.  
   b. Middle education — language acquisition: 3 semester hours and reading in the content areas: 3 semester hours. Skills in this area shall be designed to impart an understanding of comprehension skills in all content areas, including a repertoire of questioning strategies, summarizing and retelling skills, and strategies in literal, interpretive, critical, and evaluative comprehension, as well as the ability to foster appreciation of a variety of literature and independent reading.

5. **Supervised classroom experience**. The student teaching experience should provide for the prospective teacher to be in classrooms full time for a minimum of 300 clock hours with at least half of that time spent supervised in direct teaching activities (providing direct instruction) at the level of endorsement. One year of successful full-time teaching experience in the endorsement area in any accredited public or nonpublic school may be accepted in lieu of the supervised teaching experience. A fully licensed, experienced teacher must be available in the school building to assist a beginning teacher employed through the alternative route.

**8 VAC 20-21-130. Early/primary education preK-3.**

A. The program for early/primary education preK-3 will ensure that the candidate has demonstrated the following competencies:

1. **Methods.**  
   a. Understanding of the knowledge, skills, and processes to support learners in achievement of the Virginia Standards of Learning in English, mathematics, history and social science, science, and computer/technology;  
   b. The ability to integrate language and literacy, mathematics, science, health, social studies, art, music, drama, movement, and technology in learning experiences;  
   c. The use of differentiated instruction and flexible groupings to meet the needs of learners at different stages of development, abilities, and achievement;  
   d. The use of appropriate methods, including direct instruction, to help learners develop knowledge and basic skills, sustain intellectual curiosity, and problem solve;  
   e. The ability to utilize effective classroom management skills through methods that will build responsibility and self-discipline and maintain a positive learning environment;
f. The ability to modify and manage learning environments and experiences to meet the individual needs of children, including children with disabilities, gifted children, and children with limited proficiency in English;
g. The ability to use formal and informal assessments to diagnose needs, plan and modify instruction, and record student progress;
h. A commitment to professional growth and development through reflection, collaboration, and continuous learning;
i. The ability to analyze, evaluate, apply, and conduct quantitative and qualitative research; and
j. The ability to use technology as a tool for teaching, learning, research, and communication.

2. Knowledge and skills.
   a. Reading/English. Understanding of the content, knowledge, skills, and processes for teaching the Virginia Standards of Learning for English including: reading, writing, literature, oral language (speaking and listening), and research and how these standards provide the core for teaching English in grades preK-3 (early/primary licensure).
      (1) Assessment and diagnostic teaching. The individual must:
          (a) Be proficient in the use of assessment and screening measures (formal and informal) for language proficiency, concepts of print, phoneme awareness, letter recognition, sound-symbol knowledge, single word recognition, decoding, word attack skills, word recognition in context, reading fluency, and oral and silent reading comprehension; and
          (b) Be proficient in the ability to use diagnostic data to tailor instruction, accelerate, and remediate, using flexible skill-level groupings as necessary.
      (2) Oral communication. The individual must:
          (a) Be proficient in the knowledge, skills, and processes necessary for teaching oral language (including speaking and listening);
          (b) Be proficient in developing students’ phonemic awareness/phonological association skills;
          (c) Demonstrate effective strategies for facilitating the learning of standard English by speakers of other languages and dialects;
          (d) Demonstrate an understanding of the unique needs of students with language differences and delays; and
          (e) Demonstrate the ability to promote creative thinking and expression, as through storytelling, drama, choral/oral reading, etc.
      (3) Reading/literature. The individual must:
          (a) Demonstrate an understanding of the role of the family in developing literacy;
          (b) Demonstrate the ability to appreciate the written word and the awareness of the printed language and writing system;
          (c) Develop an understanding of the linguistic, sociological, cultural, cognitive, and psychological basis of the reading process;
          (d) Be proficient in explicit phonics instruction, including an understanding of sound/symbol relationships, syllables, phonemes, morphemes, decoding skills, and word attack skills;
          (e) Be proficient in the use of the cuing systems of language, including knowledge of how phonics, syntax, and semantics interact as the reader constructs meaning;
          (f) Be proficient in strategies to increase vocabulary;
(g) Be proficient in the structure of the English language, including an understanding of syntax and vocabulary development;

(b) Be proficient in reading comprehension strategies, including a repertoire of questioning strategies, understanding the dimensions of word meanings, teaching summarizing and retelling skills, and guiding students to make connections beyond the text;

(i) Be proficient in the ability to teach strategies in literal, interpretive, critical, and evaluative comprehension;

(j) Demonstrate the ability to develop comprehension skills in all content areas;

(k) Demonstrate the ability to foster the appreciation of a variety of literature; and

(l) Understand the importance of promoting independent reading and reading reflectively by selecting quality literature, including fiction and nonfiction, at appropriate reading levels.

(4) Writing. The individual must:

(a) Be proficient in the knowledge, skills, and processes necessary for teaching writing, including grammar, punctuation, spelling, syntax, etc.;

(b) Be proficient in systematic spelling instruction, including awareness of the purpose and limitations of "invented spelling," the connection between stages of language acquisition and spelling, orthographic patterns, and strategies for promoting generalization of spelling study to writing; and

(c) Demonstrate the ability to promote creative thinking and expression, as through imaginative writing, etc.

(5) Research. The individual must demonstrate the ability to guide students in their use of technology for both process and product as they work with reading, writing, and research.

b. Mathematics.

(1) Understanding of the mathematics relevant to the content identified in the Virginia Standards of Learning and how the standards provide the foundation for teaching mathematics in grades preK-3. Experiences with practical applications and the use of appropriate technology and manipulatives should be used within the following content:

(a) Number systems, their structure, basic operations, and properties;

(b) Elementary number theory, ratio, proportion and percent;

(c) Algebra: operations with monomials and polynomials; algebraic fractions; linear and quadratic equations and inequalities; linear systems of equations and inequalities; radicals and exponents; arithmetic and geometric sequences and series; algebraic and trigonometric functions; and transformations among graphical, tabular, and symbolic form of functions;

(d) Geometry: geometric figures, their properties, relationships, Pythagorean Theorem; deductive and inductive reasoning; perimeter, area, and surface area of 2- and 3-dimensional figures; coordinate and transformational geometry; and constructions;

(e) Probability and statistics: permutations and combinations; experimental and theoretical probability; prediction; graphical representations including box-and-whisker plots; measures of central tendency, range, and normal distribution; and

(f) Computer science: terminology, simple programming, and software applications.

(2) Understanding of the nature of mathematics and how the study of the discipline helps students appreciate:

(a) The sequential nature of mathematics;

(b) The multiple representations of mathematical concepts and procedures;
(c) The ways to reason mathematically, solve problems, and communicate mathematics effectively at different levels of formality;
(d) The contributions of different cultures toward its development;
(e) The role of mathematics and its applications in culture and society; and
(f) The way changes in technology have influenced mathematics education.

c. History and social science.
(1) Understanding of the knowledge, skills, and processes of history and the social science disciplines as defined in the Virginia Standards of Learning and how the standards provide the necessary foundation for teaching history and social science, including:
(a) History.
   (i) The contributions of ancient civilizations to American social and political institutions;
   (ii) Major events in Virginia history from 1607 to the present;
   (iii) Key individuals, documents, and events in the American revolution;
   (iv) The evolution of America's constitutional republic, its ideas, institutions, and practices;
   (v) The influence of religious traditions on American heritage and contemporary American society;
   (vi) The changing role of America around the world; relations between domestic affairs and foreign policy; global political and economic interactions; and
   (vii) The origins, effects, aftermath, and significance of the two world wars, the Korean and Vietnam conflicts and the Post Cold War Era.
(b) Geography.
   (i) The use of maps and other geographic representations, tools, and technologies to acquire, process, and report information;
   (ii) The relationship between human activity and the physical environment in the community and the world;
   (iii) Physical processes that shape the surface of the earth; and
   (iv) How political forces influence the division and control of the earth's resources.
(c) Civics/economics.
   (i) The privileges and responsibilities of good citizenship and the importance of the rule of law for the protection of individual rights;
   (ii) The process of making laws in the United States and the fundamental ideals and principles of a republican form of government;
   (iii) The nature and purposes of constitutions and alternative ways of organizing constitutional governments; and
   (iv) The structure of the United States economy compared to other economies.
(2) Understanding of the nature of history and the social sciences, and how the study of the disciplines assists students in developing critical thinking skills in helping them to understand:
   (a) The relationship between past and present;
   (b) The use of primary sources such as: artifacts, letters, photographs, and newspapers;
   (c) How events in history are shaped both by the ideas and actions of people;
   (d) Diverse cultures and shared humanity;
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e) Civic participation in a pluralistic democracy; and
f) The relationship between history, literature, art, and music.

d. Science.

(1) Understanding of the knowledge, skills, and processes of the Earth, life, and physical sciences as defined in the Virginia Science Standards of Learning and how these standards provide a sound foundation for teaching science in the elementary grades.

(2) Understanding of the nature of science and scientific inquiry, including:
(a) The role of science in explaining and predicting events and phenomena; and
(b) The science skills of data analysis, measurement, observation, prediction, and experimentation.

(3) Understanding of the knowledge, skills, and processes for an active elementary science program, including the ability to:
(a) Design instruction reflecting the goals of the Virginia Science Standards of Learning;
(b) Conduct research projects and experiments in a safe environment;
(c) Organize key science content into meaningful units of instruction;
(d) Adapt instruction to diverse learners using a variety of techniques;
(e) Evaluate instructional materials, instruction, and student achievement; and
(f) Incorporate instructional technology to enhance student performance in science.

(4) Understanding of the content, processes, and skills of the Earth sciences, biology, chemistry, and physics supporting the teaching of elementary school science as defined by the Virginia Science Standards of Learning and equivalent to academic course work in each of these core science areas.

(5) Understanding of the core scientific disciplines to ensure:
(a) The ability to teach the processes and organizing concepts common to the natural and physical sciences; and
(b) Student achievement in science.

(6) Understanding of the contributions and significance of science, including:
(a) Its social and cultural significance;
(b) The relationship of science to technology; and
(c) The historical development of scientific concepts and scientific reasoning.

3. Child and family.

a. Knowledge and understanding of human growth and development from birth through adolescence and the link between child development and instruction;

b. The ability to understand children in the context of family, culture, and community;

c. The ability to establish positive and collaborative relationships with all families as partners in teaching and learning;

d. The ability to support families in character development through emphasis on respect, responsibility, and moral behavior; and

e. The ability to support students by cooperatively working with parents and other professionals.

B. Endorsement requirements.

1. The candidate must have graduated from an approved teacher preparation program in early/primary education preK-3; or
2. The candidate for the early/primary education preK-3 endorsement must have a degree in the liberal arts and sciences (or equivalent) and completed course work which covers the early/primary education preK-3 competencies and fulfills the following 51-semester-hour requirements:
   a. English (must include composition, oral communication, and literature): 12 semester hours;
   b. Mathematics: 9 semester hours;
   c. Science (including a laboratory course): 9 semester hours;
   d. History (must include American history and world history): 6 semester hours;
   e. Social science (must include geography and economics): 6 semester hours;
   f. Arts and humanities: 6 semester hours; and
   g. Computer/technology: 3 semester hours.

8 VAC 20-21-140. Elementary education preK-6.

A. The program in elementary education preK-6 will ensure that the candidate has demonstrated the following competencies:

1. Methods.
   a. Understanding of the needed knowledge, skills, and processes to support learners in achievement of the Virginia Standards of Learning in English, mathematics, history and social science, science, and computer/technology;
   b. The ability to integrate language and literacy, mathematics, science, health, social studies, art, music, drama, movement, and technology in learning experiences;
   c. The use of differentiated instruction and flexible groupings to meet the needs of learners at different stages of development, abilities, and achievement;
   d. The use of appropriate methods, including direct instruction, to help learners develop knowledge and basic skills, sustain intellectual curiosity, and problem solve;
   e. The ability to utilize effective classroom management skills through methods that will build responsibility and self-discipline and maintain a positive learning environment;
   f. The ability to modify and manage learning environments and experiences to meet the individual needs of children, including children with disabilities, gifted children, and children with limited proficiency in English;
   g. The ability to use formal and informal assessments to diagnose needs, plan and modify instruction, and record student progress;
   h. A commitment to professional growth and development through reflection, collaboration, and continuous learning;
   i. The ability to analyze, evaluate, apply, and conduct quantitative and qualitative research; and
   j. The ability to use technology as a tool for teaching, learning, research, and communication.

2. Knowledge and skills.
   a. Reading/English. Understanding of the content, knowledge, skills, and processes for teaching the Virginia Standards of Learning for English including: reading, writing, literature, oral language (speaking and listening), and research and how these standards provide the core for teaching English in grades preK-6 (elementary licensure).
      (1) Assessment and diagnostic teaching. The individual must:
         (a) Be proficient in the use of assessment and screening measures (formal and informal) for language proficiency, concepts of print, phoneme awareness, letter recognition,
sound-symbol knowledge, single word recognition, decoding, word attack skills, word recognition in context, reading fluency, and oral and silent reading comprehension; and

(b) Be proficient in the ability to use diagnostic data to tailor instruction, accelerate, and remediate, using flexible skill-level groupings as necessary.

(2) Oral communication. The individual must:
(a) Be proficient in the knowledge, skills, and processes necessary for teaching oral language (including speaking and listening);
(b) Be proficient in developing students' phonemic awareness/phonological association skills;
(c) Demonstrate effective strategies for facilitating the learning of standard English by speakers of other languages and dialects;
(d) Demonstrate an understanding of the unique needs of students with language differences and delays; and
(e) Demonstrate the ability to promote creative thinking and expression, as through storytelling, drama, choral/oral reading, etc.

(3) Reading/literature. The individual must:
(a) Demonstrate an understanding of the role of the family in developing literacy;
(b) Demonstrate the ability to create appreciation of the written word and the awareness of the printed language and writing system;
(c) Develop an understanding of the linguistic, sociological, cultural, cognitive, and psychological basis of the reading process;
(d) Be proficient in explicit phonics instruction, including an understanding of sound-symbol relationships, syllables, phonemes, morphemes, decoding skills, and word attack skills;
(e) Be proficient in the use of the cuing systems of language, including knowledge of how phonics, syntax, and semantics interact as the reader constructs meaning;
(f) Be proficient in strategies to increase vocabulary;
(g) Be proficient in the structure of the English language, including an understanding of syntax and vocabulary development;
(h) Be proficient in reading comprehension strategies, including a repertoire of questioning strategies, understanding the dimensions of word meanings, teaching summarizing and retelling skills, and guiding students to make connections beyond the text;
(i) Be proficient in the ability to teach strategies in literal, interpretive, critical, and evaluative comprehension;
(j) Demonstrate the ability to develop comprehension skills in all content areas;
(k) Demonstrate the ability to foster appreciation of a variety of literature; and
(l) Understand the importance of promoting independent reading and reading reflectively by selecting quality literature, including fiction and non-fiction, at appropriate reading levels.

(4) Writing. The individual must:
(a) Be proficient in the knowledge, skills, and processes necessary for teaching writing, including grammar, punctuation, spelling, syntax, etc.;
(b) Be proficient in systematic spelling instruction, including awareness of the purpose and limitations of "invented spelling," the connection between stages of language acquisition and spelling, orthographic patterns, and strategies for promoting generalization of spelling study to writing; and
(c) Demonstrate the ability to promote creative thinking and expression, as through imaginative writing, etc.

(5) Research. The individual must demonstrate the ability to guide students in their use of technology for both process and product as they work with reading, writing, and research.

b. Mathematics.

(1) Understanding of the mathematics relevant to the content identified in the Virginia Standards of Learning and how the standards provide the foundation for teaching mathematics in grades pre-K-6. Experiences with practical applications and the use of appropriate technology and manipulatives should be used within the following content:

(a) Number systems, their structure, basic operations, and properties;
(b) Elementary number theory, ratio, proportion and percent;
(c) Algebra: operations with monomials and polynomials; algebraic fractions; linear and quadratic equations and inequalities; linear systems of equations and inequalities; radicals and exponents; arithmetic and geometric sequences and series; algebraic and trigonometric functions; and transformations among graphical, tabular, and symbolic form of functions;
(d) Geometry: geometric figures, their properties, relationships, Pythagorean Theorem; deductive and inductive reasoning; perimeter, area, and surface area of 2- and 3-dimensional figures; coordinate and transformational geometry; and constructions;
(e) Probability and statistics: permutations and combinations; experimental and theoretical probability; prediction; graphical representations, including box-and-whisker plots; measures of central tendency, range, and normal distribution; and
(f) Computer science: terminology, simple programming, and software applications.

(2) Understanding of the nature of mathematics and how the study of the discipline helps students appreciate:

(a) The sequential nature of mathematics;
(b) The multiple representations of mathematical concepts and procedures;
(c) The ways to reason mathematically, solve problems, and communicate mathematics effectively at different levels of formality;
(d) The contributions of different cultures toward its development;
(e) The role of mathematics and its applications in culture and society; and
(f) The way changes in technology have influenced mathematics education.

c. History and social science.

(1) Understanding of the knowledge, skills, and processes of history and the social science disciplines as defined in the Virginia Standards of Learning and how the standards provide the necessary foundation for teaching history and social science, including:

(a) History

(i) The contributions of ancient civilizations to American social and political institutions;
(ii) Major events in Virginia history from 1607 to the present;
(iii) Key individuals, documents, and events in the American revolution;
(iv) The evolution of America's constitutional republic, its ideas, institutions, and practices;
(v) The influence of religious traditions on American heritage and contemporary American society;
(vi) The changing role of America around the world; relations between domestic affairs and foreign policy; global political and economic interactions; and
(vii) The origins, effects, aftermath, and significance of the two world wars, the Korean and Vietnam conflicts, and the Post Cold War Era.

(b) Geography.
   (i) The use of maps and other geographic representations, tools, and technologies to acquire, process, and report information;
   (ii) The relationship between human activity and the physical environment in the community and the world;
   (iii) Physical processes that shape the surface of the earth; and
   (iv) How political forces influence the division and control of the earth's resources.

(c) Civics/economics.
   (i) The privileges and responsibilities of good citizenship and the importance of the Rule of Law for the protection of individual rights;
   (ii) The process of making laws in the United States and the fundamental ideals and principles of a republican form of government;
   (iii) The nature and purposes of constitutions and alternative ways of organizing constitutional governments; and
   (iv) The structure of the United States economy compared to other economies.

(2) Understanding of the nature of history and social sciences and how the study of the disciplines assists students in developing critical thinking skills in helping them to understand:
   (a) The relationship between past and present;
   (b) The use of primary sources such as: artifacts, letters, photographs, and newspapers;
   (c) How events in history are shaped both by the ideas and actions of people;
   (d) Diverse cultures and shared humanity;
   (e) Civic participation in a pluralistic democracy; and
   (f) The relationship between history, literature, art, and music.

d. Science.
   (1) Understanding of the knowledge, skills, and processes of the Earth, life, and physical sciences as defined in the Virginia Science Standards of Learning and how these standards provide a sound foundation for teaching science in the elementary grades;
   (2) Understanding of the nature of science and scientific inquiry, including:
      (a) The role of science in explaining and predicting events and phenomena; and
      (b) The science skills of data analysis, measurement, observation, prediction, and experimentation.
   (3) Understanding of the knowledge, skills, and processes for an active elementary science program including the ability to:
      (a) Design instruction reflecting the goals of the Virginia Science Standards of Learning;
      (b) Conduct research projects and experiments in a safe environment;
      (c) Organize key science content into meaningful units of instruction;
      (d) Adapt instruction to diverse learners using a variety of techniques;
      (e) Evaluate instructional materials, instruction, and student achievement; and
      (f) Incorporate instructional technology to enhance student performance in science.
   (4) Understanding of the content, processes, and skills of the Earth sciences, biology, chemistry, and physics supporting the teaching of elementary school science as defined by the
Virginia Science Standards of Learning and equivalent course work reflecting each of these core science areas.

(5) Understanding of the core scientific disciplines to ensure:
   (a) The ability to teach the processes and organizing concepts common to the natural and physical sciences; and
   (b) Student achievement in science.

(6) Understanding of the contributions and significance of science including:
   (a) Its social and cultural significance;
   (b) The relationship of science to technology; and
   (c) The historical development of scientific concepts and scientific reasoning.

3. Child and family.
   a. Knowledge and understanding of human growth and development from birth through adolescence and the link between child development and instruction;
   b. The ability to understand children in the context of family, culture, and community;
   c. The ability to establish positive and collaborative relationships with all families as partners in teaching and learning;
   d. The ability to support families in character development through emphasis on respect, responsibility, and moral behavior; and
   e. The ability to support students by cooperatively working with parents and other professionals.

B. Endorsement requirements.

1. The candidate shall have graduated from an approved teacher preparation program in elementary education preK-6; or

2. The candidate for the elementary education preK-6 endorsement must have a degree in the liberal arts and sciences (or equivalent) and completed course work which covers the elementary education preK-6 competencies and fulfills the following 60-semester-hour requirements:
   a. English (must include composition, oral communication, and literature): 12 semester hours;
   b. Mathematics: 12 semester hours;
   c. Science (including a laboratory course): 12 semester hours;
   d. History (must include American history and world history): 9 semester hours;
   e. Social science (must include geography and economics): 6 semester hours;
   f. Arts and humanities: 6 semester hours; and
   g. Computer/technology: 3 semester hours.

8 VAC 20-21-150. Middle education 6-8.

A. The program in middle education 6-8 with two areas of concentration will ensure that the candidate has demonstrated the following competencies:

1. Methods.
   a. Understanding of the needed knowledge, skills, and processes to support learners in achievement of the Virginia Standards of Learning for grades 6-8;

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National Council for Accreditation of Teacher Education

Program Standards
For Elementary Teacher Preparation

NOTE: These standards are for use by institutions as they respond to the NCATE accreditation requirement for program review (and are subject to modification by specific agreements under NCATE-state partnerships).

- If your program submission for elementary teacher preparation is due September 15, 2000, you may elect to use these standards or to follow those previously in effect that were adopted in the fall of 1989.
- If your program submission is due February 1, 2001, or thereafter, the standards contained in this paper must be applied.

Approved by the Specialty Areas Studies Board
October 16, 1999 and February 5, 2000

The Program Standards are also available at NCATE’s Web site, www.ncate.org and the web site for the Association for Childhood Education International (ACEI), www.udel.edu/bateman/acei

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This edition of the Program Standards for Elementary Teacher Preparation was completed March 7, 2000 and replaces all earlier editions, including those that have previously appeared at the NCATE web site. While there are a few editorial changes that do not affect the substance of the standards or the requirements for submission, the following modifications are important for institutions preparing elementary program review submissions:

- Submission dates—References to submission dates for a context statement and candidate proficiency information have been made consistent with NCATE practice (that is, 18 months in advance of an initial visit or 12 months in advance of a continuing visit). The revised language appears in the “Synopsis,” page 5, and in Part II on institutional responsibilities, pages 36 and 38).

- Phase-in period—The description of minimum material that must be provided for review during the phase-in period has been revised. The new description on page 42 provides an explicit requirement to include a summary of performance data already available, as well as the plan for an assessment system.

- Qualities of sound assessment systems—Section B of the Appendix has a new introduction. The NCATE Specialty Areas Studies Board has adopted “Principles for Performance-Based Assessment Systems in Professional Education Programs.” Since these are meant to be for general use by institutions participating in NCATE program reviews and unit accreditation, they have been inserted as an introduction to the views of the elementary standards Drafting Committee about the qualities of sound assessment systems and evidence. The new text begins on page 47 and extends through the top of page 49.

EJE, NCATE, March 7, 2000
Synopsis

DESIGN OF PROGRAM STANDARDS

The Program Standards for Elementary Teacher Preparation contain standards for teacher candidates as they complete an elementary teacher preparation program in an NCATE accredited school, college or department of education. The standards, detailed in Part I of this paper, are grouped in five major categories:

- development, learning, and motivation
- curriculum
- instruction
- assessment, and
- professionalism

These closely follow the ten “model standards” for teacher licensure from the Interstate New Teacher Assessment and Support Consortium (INTASC), a project of the Council of Chief State School Officers. The INTASC models were made part of the NCATE “unit” accreditation standards in 1995. These Program Standards elaborate on those from INTASC for development, learning, and motivation; add detail on curriculum for the subject content of elementary teaching; and make collaboration with families a separate part of professionalism from collaboration with colleagues and the community. The intent is to align NCATE program standards with the work of INTASC and trends in state teacher licensure practices, and also to build on the moves toward the performance-based accreditation system that NCATE is developing.

The contents of these program standards for preparation of elementary teacher candidates reflect recent versions of standards for students and standards for teachers that have been prepared by national projects (such as the National Research Council science standards) or education associations (such as the National Council of Teachers of Mathematics standards). They differ from previous NCATE program standards in that they describe what teacher candidates should know and be able to do so that students learn, rather than what topics should be included in the teacher preparation coursework or the nature of field experiences offered to candidates.

The standards, and their accompanying supporting explanations, exhibit four

* References to the title are frequently shortened to Program Standards in this paper.
complementary attributes for teacher candidates.

- First, many of them describe knowledge that candidates should possess about subject content, pedagogy, child development and learning, motivation, instruction, assessment and the qualities of a professional.

- A second group describes abilities that candidates should master to apply that knowledge effectively in the classroom and other professional teaching situations, including collaboration with colleagues.

- Third, some standards and explanations describe dispositions usually associated with candidates who go on to successful teaching careers.

- And, fourth, some sentences and phrases describe teacher candidates' ability to have positive effects on student learning—the purpose of education.

The Program Standards include all four of these attributes within the phrase “what teacher candidates should know and be able to do so students learn,” or, alternatively, “teacher candidates know their subject and can teach so students learn.”

What makes the new approach to program review performance-based is the evidence that institutions are asked to provide. The essential feature is that institutions demonstrate—with assessment information—that candidates are proficient in the full scope of the standards, including evidence of positive effects on student learning. Teacher preparation units are no longer required to provide syllabi or to construct a matrix specifying the content of courses and experiences. This shift also builds on the 1995 NCATE unit standards. Current unit standards require that institutions monitor and assess the progress of candidates, establish and publish criteria or outcomes for exit, and provide candidates appropriate academic and professional advisement from admission through completion of their professional education programs. These new Program Standards make use of information from candidate monitoring and assessment.

As detailed in Part II, institutions seeking national recognition of their elementary preparation program are expected to offer information from candidate assessments and monitoring that demonstrates candidates' mastery of the knowledge and skills included in the standards. That information would sample assessment results for candidates in a program—summarizing those results for the candidates as a group, rather than displaying performance of individuals—in a way that fairly represents the standards, including each of the four attributes described above. A context statement assists reviewers' understanding of the program through complementary information, including the unit's reasoned arguments for its actions in two critical areas: (1) opportunities the program provides so that candidates can learn and practice the content of standards, and (2) how the faculty have confidence in their judgments that candidates have mastered the institution's expectations for program completers.

In the Appendix of the Program Standards, the Drafting Committee sets outs its overriding view that student learning is the goal of teacher preparation. The Committee links its strategy for performance-based program review in teacher education with current state K-12 reforms, with state licensing and the Interstate New Teacher Assessment and Support Consortium, and with certification of accomplished teachers by the National
Board for Professional Teaching Standards. All are founded on the concept of setting explicit standards and measuring performance in relation to those standards. As applied to teacher preparation, the standards express what teacher candidates—as they complete their preparation program—should know and be able to do so that children learn.

State licensure tests, taken by candidates at program completion or during induction years, can serve as important sources of candidate proficiency information. Currently some licensure tests measure subject content knowledge, and a few examine knowledge of pedagogy in the content area. Such assessments are also important because they are used by states for accountability purposes in teacher preparation. But while these tests can provide necessary information about candidate knowledge, they are not sufficient, alone, to inform about proficiencies across all the standards set for candidates—knowledge, teaching, dispositions, and ability to have positive effects on student learning.

How, then, will decisions be made in the NCATE performance-based program review while state licensing requirements continue to evolve? In short, decisions will be made through comparisons: information on candidate proficiencies from an elementary preparation program will be compared with exemplars of such proficiencies identified through professional judgment.

As the Drafting Committee sees it, NCATE and the specialty organizations will identify and evaluate numerous examples of assessment exercises, each with explicit descriptions indicating the level of proficiency that is appropriate to expect of candidates completing their program. These examples, which the Committee calls “benchmarks,” will be available on the NCATE and specialty organization web sites, both alerting faculty to the expectations for program review, and guiding individuals who conduct those reviews. The Committee anticipates that institutions will gather candidate proficiency information from a variety of sources: the teacher preparation courses and field experiences, including samples of student work in classes where candidates teach; and also from external origins such as arts and sciences courses, state licensure exams and employer evaluations.

Institutions will establish rubrics or criteria by which to judge candidates, then provide sampled and summarized results for the NCATE program review. Program reviewers will make holistic comparisons between the overall results from the institution and the proficiency “benchmark” levels.

The Appendix also expresses understandings of Committee members about what the current assessment state-of-the-art makes it possible to achieve in responsible assessments of elementary teacher candidate proficiencies. A sound system for performance evidence:

- Results from planned, purposeful, and continuing evaluation of candidate proficiencies, drawing on diverse sources;
- Represents the scope of the standards for elementary teacher preparation;
- Measures the different “attributes” of standards in appropriate and multiple ways;
- Results from rigorous and systematic efforts by the institution to set performance levels and judge accomplishments of its candidates;
• Provides information that is credible—accurate, consistent, fair and avoiding bias;
• Makes use of appropriate sampling and summarizing procedures.

And, of course, institutions with sound assessment systems use the data to improve programs and teaching, and to assist individual candidates.

CONTENT OF THE STANDARDS

What should elementary teacher candidates know and be able to do to have positive effects on student learning? This is the text of the standards for elementary teacher candidates excerpted from the pages in Part I.

DEVELOPMENT, LEARNING AND MOTIVATION

1. Development, Learning and Motivation—Candidates know, understand, and use the major concepts, principles, theories, and research related to development of children and young adolescents to construct learning opportunities that support individual students' development, acquisition of knowledge, and motivation.

CURRICULUM

2a. Central concepts, tools of inquiry, and structures of content—Candidates know, understand, and use the central concepts, tools of inquiry, and structures of content for students across the K-6 grades and can create meaningful learning experiences that develop students' competence in subject matter and skills for various developmental levels;
2b. English language arts—Candidates demonstrate a high level of competence in use of English language arts and they know, understand, and use concepts from reading, language and child development, to teach reading, writing, speaking, viewing, listening, and thinking skills and to help students successfully apply their developing skills to many different situations, materials, and ideas;
2c. Science—Candidates know, understand, and use fundamental concepts in the subject matter of science—including physical, life, and earth and space sciences—as well as concepts in science and technology, science in personal and social perspectives, the history and nature of science, the unifying concepts of science, and the inquiry processes scientists use in discovery of new knowledge to build a base for scientific and technological literacy;
2d. Mathematics—Candidates know, understand, and use the major concepts, procedures, and reasoning processes of mathematics that define number systems and number sets, geometry, measurement, statistics and probability, and algebra in order to foster student understanding and use of patterns, quantities, and spatial relationships that can represent phenomena, solve problems, and manage data;
2e. Social studies—Candidates know, understand, and use the major concepts and modes of inquiry from the social studies—the integrated study of history, geography, the social sciences, and other related areas—to promote elementary students' abilities to make informed decisions as citizens of a culturally diverse democratic society and interdependent world;
2f. The arts—Candidates know, understand, and use—as appropriate to their own understanding and skills—the content, functions, and achievements of dance, music, theater, and the several visual arts as primary media for communication, inquiry, and insight among elementary students;
2g. Health education—Candidates know, understand, and use the major concepts in the subject matter of health education to create opportunities for student development and practice of skills that contribute to good health;
2h. Physical education—Candidates know, understand, and use—as appropriate to their own understanding and skills—human movement and physical activity as central elements to foster active, healthy life styles and enhanced quality of life for elementary students;
2i. Connections across the curriculum—Candidates know, understand, and use the connections among concepts, procedures, and applications from content areas to motivate elementary students,
build understanding, and encourage the application of knowledge, skills, and ideas to real world issues.

INSTRUCTION

3a. Integrating and applying knowledge for instruction—Candidates plan and implement instruction based on knowledge of students, learning theory, subject matter, curricular goals, and community;

3b. Adaptation to diverse students—Candidates understand how elementary students differ in their development and approaches to learning, and create instructional opportunities that are adapted to diverse students;

3c. Development of critical thinking, problem solving, performance skills—Candidates understand and use a variety of teaching strategies that encourage elementary students’ development of critical thinking, problem solving, and performance skills;

3d. Active engagement in learning—Candidates use their knowledge and understanding of individual and group motivation and behavior among students at the K-6 level to foster active engagement in learning, self-motivation, and positive social interaction and to create supportive learning environments;

3e. Communication to foster collaboration—Candidates use their knowledge and understanding of effective verbal, nonverbal, and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the elementary classroom.

ASSESSMENT

4. Assessment for instruction—Candidates know, understand, and use formal and informal assessment strategies to plan, evaluate and strengthen instruction that will promote continuous intellectual, social, emotional, and physical development of each elementary student.

PROFESSIONALISM

5a. Practices and behaviors of developing career teachers—Candidates understand and apply practices and behaviors that are characteristic of developing career teachers;

5b. Reflection and evaluation—Candidates are aware of and reflect on their practice in light of research on teaching and resources available for professional learning; they continually evaluate the effects of their professional decisions and actions on students, parents, and other professionals in the learning community and actively seek out opportunities to grow professionally;

5c. Collaboration with families—Candidates know the importance of establishing and maintaining a positive collaborative relationship with families to promote the academic, social and emotional growth of children;

5d. Collaboration with colleagues and the community—Candidates foster relationships with school colleagues and agencies in the larger community to support students’ learning and well-being.

REQUIREMENTS FOR INSTITUTIONAL SUBMISSIONS

There are two parts to institutional submissions. These replace all requirements for overview information, as well as syllabi and matrices detailing course contents and experiences offered in elementary teacher preparation programs.

Eighteen months prior to an expected Board of Examiners visit for initial unit accreditation, or twelve months prior to a continuing visit, each institution offering an elementary teacher preparation program will submit:

1. A summary description of the context in which the program is conducted. This statement, ranging from 20 to 30 pages, will contain any information that institutional representatives believe reviewers should take into account while judging the quality of the program through candidate performance. The context statement is also to include the institution’s strongest, reasoned case: (a) demonstrating its opportunities for candidates to learn and practice the content of the standards, and (b) showing how faculty have confidence in their judgments that candidates have mastered the institution’s expectations for program completers.
2. Performance material, not exceeding 140 pages including attachments, that summarizes the knowledge and skills proficiencies of elementary teacher candidates as a group. This information constitutes the primary evidence upon which a judgment of national program recognition will be made.

PREFACE

The National Council for Accreditation of Teacher Education (NCATE) is developing a "performance-based" approach to program quality review in accreditation. The pilot area is standards for elementary teacher preparation programs. The concept, in brief, is that "performance" information that describes elementary teacher candidate knowledge and ability to teach—"outputs"—would become the basis for decisions on the quality of elementary teacher preparation programs. The new approach would replace information about course offerings and experiences—"inputs"—as the basis for determining program quality.

The Program Standards for Elementary Teacher Preparation were prepared by a Committee whose work was supported by the Pew Charitable Trusts, the Carnegie Corporation of New York, the MacArthur Foundation, and an anonymous benefactor. In addition, the assessment portions of the standards, in Part II and the Appendix of the paper, were supported in part by the Office of Educational Research and Improvement through the National Partnership for Excellence and Accountability in Teaching. The reader should not assume any endorsement from the federal government of this project.

The Drafting Committee for these standards was comprised of representatives from 19 associations, organizations or projects, fourteen of which are NCATE constituent members, including the following:

- American Alliance for Health, Physical Education, Recreation and Dance/National Association for Sport and Physical Education (AAHPERD)
- American Association for Colleges of Teacher Education (AACTE)
- Association for Childhood Education International (ACEI)
- Association for Teacher Education (ATE)
- Council for Exceptional Children (CEC)
- International Reading Association (IRA)
- National Association for Education of Young Children (NAEYC)
- National Association of Elementary School Principals (NAESP)
- National Council for the Social Studies (NCSS)
- National Council of Teachers of English (NCTE)
- National Council of Teachers of Mathematics (NCTM)
- National Education Association (NEA)
- National Middle School Association (NMSA)
- National Science Teachers Association (NSTA)

Six additional representatives broadened the Committee's expertise and its connections with related NCATE efforts. Two Committee members, experienced in curriculum, teacher preparation, and accreditation issues, came from the Council for Basic Education (CBE) and the National Office for Arts Accreditation in Higher Education (NOAAHE). Two individuals represented the collective developmental work of states on licensure standards and assessments with the Council of Chief State School Officers "Interstate New Teacher Assessment and Support Consortium (INTASC)" project. And, finally, two Committee members represented NCATE's organizational interests in performance standards from a program quality perspective, the Specialty Areas Studies Board (SASB) and the State Partnership Board (SPB) program.

The members of the NCATE elementary program standards Drafting Committee, and their positions during the preparation of the standards, were:

Ron Aregiado, Associate Executive Director of Programs, NAESP, Alexandria, Virginia
Paulette Bracy, Associate Professor, School of Library and Information Sciences, North Carolina
Members of the Committee went to acknowledge and thank John Hattie who has served as a consultant for the Committee's work. While he worked with us, Dr. Hattie was Professor and Chair of Educational Research Methodology at the University of North Carolina at Greensboro. He has recently returned to his native New Zealand to accept the post of Dean of the school of education at the University of Auckland. The results of Dr. Hattie's expertise, mentoring, and congenial good sense are especially prominent in Part II and the Appendix of this paper dealing with performance measurement issues, but are reflected throughout. The Committee and I also went to thank Nelda Owsink and Craig McCellan of the NCATE staff who not only ensured that the Committee's meetings were expertly arranged, but who made lively contributions to the deliberations and assured a valuable flow of information among us.

Emerson J. Elliott, Director
Program Standards Development Project
NCATE
September 27, 1999
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Part I: Standards for Candidates Preparing to Teach Elementary Students

A. INTRODUCTION

A perspective on teaching elementary students

New candidates for elementary teaching must be committed to elementary students and their learning. They must be prepared to act on a belief that all elementary students have potential for learning rigorous content and achieving high standards. The Committee interprets the phrase, "all elementary children" to be inclusive, comprising students of diverse ethnicity, race, language, religion, socioeconomic status, gender, regional or geographic origin, and those with exceptional learning needs.

A consensus has been developing over the past two decades—informed by research and tested through practice—about what qualities of knowledge and skill, or what "performances" the nation expects of teachers. This growing consensus served as the foundation for the 1996 report of the National Commission on Teaching and America's Future, What Matters Most: Teaching for America's Future. It is exhibited in the work of the National Board for Professional Teaching Standards (NBPTS) for recognizing accomplished teachers, and of the Interstate New Teacher Assessment and Support Consortium (INTASC) for teacher licensure. Many efforts of groups, projects, associations, and teacher education institutions to improve the quality, rigor, and content of teacher education programs build on this consensus as well. Put briefly, the consensus is that teacher knowledge is central to student success. The Commission report stated it this way:
What teachers know and do is the most important influence on what students learn. Competent and caring teaching should be a student right.

Research has discovered a great deal about effective teaching and learning: We know that students learn best when new ideas are connected to what they already know and have experienced; when they are actively engaged in applying and testing their knowledge using real-world problems; when their learning is organized around clear, high goals with lots of practice in reaching them; and when they can use their own interests and strengths as springboards for learning. When teachers can work together to build a coherent learning experience for students throughout the grades and within and across subject areas—one that is guided by common curriculum goals and expectations—they are able to engender greater student achievement.

We also know that expert teachers use knowledge about children and their learning to fashion lessons that connect ideas to students' experiences. They create a wide variety of learning opportunities that make subject matter come alive for young people who learn in very different ways. They know how to support students' continuing development and motivation to achieve while creating incremental steps that help students progress toward more complicated ideas and performances. They know how to diagnose sources of problems in students' learning and how to identify strengths on which to build. These skills make the difference between teaching that creates learning and teaching that just marks time.

Needless to say, this kind of teaching requires high levels of knowledge and skill. To be effective, teachers must know their subject matter so thoroughly that they can present it in a challenging, clear, and compelling way. They must also know how their students learn and how to make ideas accessible so that they can construct successful "teachable moments." Research confirms that teacher knowledge of subject matter, student learning, and teaching methods are all important elements of teacher effectiveness.

The Commission went on to say:

To help diverse learners master much more challenging content, teachers must go far beyond dispensing information, giving a test, and assigning a grade. They must themselves know more about the foundations of subject areas, and they must understand how students think as well as when they know in order to create experiences that produce learning. Moreover, as students with a wider range of learning needs enter and stay in school—a growing number whose first language is not English, many others with learning differences, and others with learning disabilities—teachers need access to the growing knowledge that exists about how to teach these learners effectively.
Alignment with INTASC

The NCATE elementary teaching accreditation standards Drafting Committee shared the Commission’s perspective. The Committee sought to make its work compatible with INTASC and the states as they develop licensure standards and performance assessments. Many states have already made use of the INTASC standards, which are developed to be congruent with those of the National Board for Professional Teaching Standards, and several states are participating in INTASC developmental projects for portfolio assessments and a test-of-teacher-knowledge. The Committee learned that states did not want NCATE standards that were incompatible with INTASC and state work—and the Committee wanted to avoid such a result as well. Moreover, institutions did not want to face the prospects of differing or conflicting standards as they attempted to prepare their teacher candidate graduates for state licensure on the one hand and their institution for NCATE accreditation on the other. For these reasons, the Committee decided to build its standards around the INTASC framework as presented in its 1992 publication, Model Standards for Beginning Teacher Licensing and Development: A Resource for State Dialogue.

Developmental foundations

Both INTASC and the National Board for Professional Teaching Standards give prominence in their standards to teachers’ understanding of the developmental needs and emerging abilities of children as a fundamental requirement for effective teaching. Understanding children and young adolescents is the foundation for NCATE curriculum guidelines prepared by the National Association for Education of Young Children (spanning birth through age eight) and by the National Middle School Association (covering grades five through eight). The Committee sought to base the Program Standards, similarly, in developmental concerns. For this reason it has placed a standard on development first among the teacher candidate standards.

K-6 grade span

The Committee has adopted a K-6 span in its standards to serve two purposes:

- first, to make a statement that there is need for elementary standards. The developmental ages to be covered would be too great to expect of new teacher candidates if the NMSA standards were extended down and the NAEYC standards extended up to cover these grades. This Committee action is also compatible with the child developmental emphasis in standards developed by the National Board for Professional Teaching Standards. The Board has organized its standards around ages of students, including: Early Childhood.
Generalist, ages 3-8; Middle Childhood Generalist, ages 7-12; and Early Adolescence Generalist, ages 11-15. With the Committee’s elementary standards, NCATE would have three overlapping sets of generalist standards—for early childhood (NAEYC), elementary, and grades 5-9 (NMSA)—similar to the NBPTS arrangement.

- second, to be practical for use across states with differing licensure grade-span requirements. Many states still license on a K-6 basis, so K-6 standards will frequently be compatible with state practice. But the intentional overlap with NAEYC standards at the younger ages and NMSA standards at the upper elementary level also means that teacher education programs can draw the guidance they need from one or more of the developmentally-based trio of NCATE standards in order to accommodate state licensure grade grouping patterns.

B. STANDARDS

Structure of the standards

In the pages below, each Committee standard begins with a number, or number/letter, designation and is printed in bold face type. The text of these standards is taken principally from language of the INTASC model standards, but (1) elaborates, in the development standard, on INTASC, (2) provides additions, in the curriculum section, emphasizing underlying concepts, structures and modes of inquiry for elementary teaching subject knowledge, and (3) gives separate emphasis to families in the professionalism standard. In framing the standards, the Committee made decisions about the range of knowledge and abilities that candidates should master and also about the structure of the Part I standards:

- The curriculum portion of the standards is built around academic disciplines. The Committee views core academic disciplines as enduring structures to understand knowledge, as means of representing the content of knowledge, and as ways to comprehend substantive issues. The Committee decided that an alternative to organize curriculum standards around problems would not be a useful move because problems change over time. Moreover, problems can best be understood through the lenses provided by traditional disciplines.

- The language of the standards is intentionally written in a common style. Candidates are expected to “know,” as a threshold, but also to “understand” in a more comprehensive, thorough way that permits interpretation of the content in each standard. Candidates must also be able to apply their knowledge and understanding of content to teaching all elementary students so that those students develop as knowledgeable, responsible, and caring individuals.
• The standards are followed by supporting explanations that describe what Drafting Committee members believe is important within each topic, with an emphasis on what elementary students are expected to learn. These paragraphs can guide both candidates and institutions as to NCATE's expectations for the content dimension of candidate information in a performance-based program review.

• Finally, each section of the standards concludes with references to source documents used by the Committee in preparing the Program Standards. The first group of references, below, lists material pertinent to all topics covered by the elementary teacher accreditation standards. For assistance to faculty who are building and strengthening their elementary teacher programs, these and other publications may be identified through the ACEI web site (www.udel.edu/bateman/acei), as well as on the web sites for many of the NCATE constituent organizations whose representatives participated in writing the Program Standards.

Throughout these pages the Committee has chosen definitions for terms to convey specific meanings. The phrases “all children,” “elementary students” and “K-6 students” are meant to be inclusive, comprising children of diverse ethnicity, race, language, religion, socioeconomic status, gender, regional or geographic origin, and children with exceptional learning needs. They are also intended to be inclusive of young adolescents who are enrolled in upper elementary grades. The term “specialists” is interpreted broadly by the Committee to include teaching specialists, special educators, teachers of English as a second language, librarians, counselors and other school resource personnel. To avoid confusion, students preparing to teach are referred to consistently as “candidates” or “teacher candidates,” while elementary pupils are referred to as students, elementary students, or children.

Connections among the standards

The Committee urges that institutions prepare elementary teaching candidates to find and make connections among the standards. The text in standard 2.i emphasizes such connections within the curricular subject areas. The standards and explanations also incorporate numerous references to instruction that are specific to curricular areas, as well as references throughout to relationships among developmental knowledge and instruction. In fact, there are overlapping and close relationships among all the standards across development, curricular, instructional, assessment, and professionalism topics. Readers will also find emphasis on these connections in Part III on qualities of performance evidence.
Source Documents for the Program Standards

The following publications were used by the Drafting Committee in shaping the form and content of standards in Part I:

- *Preparation of Early Childhood Teachers*, Association for Childhood Education International, position paper, no date

DEVELOPMENT, LEARNING, AND MOTIVATION

Standard

1. Development, learning, and motivation—Candidates know, understand, and use the major concepts, principles, theories, and research related to development of children and young adolescents to construct learning opportunities that support individual students' development, acquisition of knowledge, and motivation.

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Supporting explanation

Candidates for elementary teaching base their teaching and related professional responsibilities on a thorough understanding of developmental periods of childhood and early adolescence. In curriculum planning, instruction, and assessment of student learning, they consider, accommodate, and integrate the physical, social, emotional, cognitive, and linguistic developmental characteristics of children and young adolescents. Candidates draw on developmental knowledge to plan curriculum that is achievable but also challenging for children at various developmental levels. They draw upon an in-depth knowledge of child and young adolescent development and learning to understand students' abilities, interests, individual aspirations, and values, and they adapt curriculum and teaching to motivate and support student learning and development. Candidates for elementary teaching understand that the ways in which cultures and social groups differ are important and affect learning. They recognize when an individual student's development differs from typical developmental patterns and collaborate with specialists to plan and implement appropriate learning experiences that address individual needs. Candidates know that all children can learn when developmental factors are recognized, respected, and accommodated, and they demonstrate that knowledge in their practice. They consider diversity an asset and respond positively to it.

Source documents for Development, Learning, and Motivation

*NAEYC Position Statement on Developmentally Appropriate Practice in Early Childhood Programs Serving Children from Birth through Age 8, National Association for Education of Young Children, 1997*

*NMSA/NCATE-Approved Curriculum Guidelines Handbook, National Middle School Association, 1997*

*DRAFT Standards for Teachers of Middle Childhood, Indiana Professional Standards Board, 1996*

*Promoting Social and Emotional Learning: Guidelines for Educators, Maurice J. Elias et al., Association for Supervision and Curriculum Development, 1997*
Standard

2a. Central concepts, tools of inquiry, and structures of content—Candidates know, understand, and use the central concepts, tools of inquiry, and structures of content for students across the K-6 grades and can create meaningful learning experiences that develop students' competence in subject matter and skills for various developmental levels;

Standard

2b. English language arts—Candidates demonstrate a high level of competence in use of the English language arts and they know, understand, and use concepts from reading, language and child development, to teach reading, writing, speaking, viewing, listening, and thinking skills and to help students successfully apply their developing skills to many different situations, materials, and ideas;

Supporting explanation

Candidates are adept at teaching the fundamentals of the English Language Arts. They model effective use of English, including its syntax, lexicon, history, varieties, literature, and oral and written composing processes. Candidates understand how elementary children develop and learn to read, write, speak, view, and listen effectively. They use their knowledge and understanding of language, first and second language development, and the language arts to design instructional programs and strategies that build on students' experiences and existing language skills and result in their students becoming competent, effective users of language.

They teach students to read competently and encourage students' enjoyment of reading through multiple instructional strategies, technologies, and a variety of language activities. Candidates teach children to read with a balanced instructional program that includes an emphasis on use of letter/sound relationships (phonics), context (semantic and syntactic), and text that has meaning for students. In addition, candidates teach students a variety of strategies to monitor their own reading comprehension. They are also familiar with, able to use, and recommend to students many reading materials based on different topics, themes, and a variety of situations and consisting of different types, including stories, poems, biography, non-fiction, many categories of literature written for children, and texts from various subject areas. As a part of teaching students how to read, candidates encourage elementary students' understanding of their individual responses to what they read and sharing those responses. They help students think critically about what they read.
Candidates provide both instruction in and opportunities for elementary students to develop effective writing and speaking skills so that they can communicate their knowledge, ideas, understanding, insights, feelings, and experiences to other students and to parents, teachers, and other adults. They provide their students with many different writing and speaking experiences in order to teach the skills of writing and speaking. They enable students to explore the uses of different types of writing and speaking with different audiences and in different situations. Candidates help students develop their capacities to listen so that they understand, consider, respond to, and discuss spoken material, including non-fiction, stories, and poems.

Candidates know what preconceptions, error patterns, and misconceptions they may expect to find in students' understanding of how language functions in communication, and they are able to help students correct their misunderstandings of the development and uses of language. Candidates use formative and summative assessment to determine the level of students' competence in their understanding of and use of language. They use the results of such assessment to plan further instruction.

**Source documents for English Language Arts**


*Standards for the English Language Arts*. National Council of Teachers of English and the International Reading Association, 1996

*Standards for Reading Professionals*. International Reading Association, 1998

*Preventing Reading Difficulties in Young Children*. Committee on the Prevention of Reading Difficulties in Young Children, Catherine E. Snow, M. Susan Burns, and Peg Griffin, editors; National Research Council, 1998
Standard

2c. Science—Candidates know, understand, and use fundamental concepts in the subject matter of science—including physical, life, and earth and space sciences—as well as concepts in science and technology, science in personal and social perspectives, the history and nature of science, the unifying concepts of science, and the inquiry processes scientists use in discovery of new knowledge to build a base for scientific and technological literacy;

Supporting explanation

Candidates have a broad general understanding of science and they teach elementary students the nature of science, and the content and fundamentals of physical, life, earth and space sciences, and their interrelationships. They are familiar with, and teach, the major concepts and principles that unify all scientific effort and that are used in each of the science disciplines: (1) systems, order, and
organization; (2) evidence, models, and explanation; (3) change, constancy, and measurement; (4) evolution and equilibrium; and (5) form and function. Candidates engage elementary students in the science inquiry process that involves asking questions, planning and conducting investigations, using appropriate tools and techniques to gather data, thinking critically and logically about relationships between evidence and explanations, constructing and analyzing alternative explanations, and communicating scientific arguments and explanations. They introduce students to understandings about science and technology and to distinctions between natural objects and objects made by humans by creating experiences in making models of useful things, and by developing students’ abilities to identify and communicate a problem, and to design, implement, and evaluate a solution. They know naive theories and misconceptions most children have about scientific and technological phenomena and help children build understanding. Candidates understand the use of assessment through diverse data-collection methods as ways to inform their teaching and to help students learn scientific inquiry, scientific understanding of the natural world, and the nature and utility of science.

Source documents for science

*National Science Education Standards.* National Academy Press, especially chapters 3, Science Teaching Standards, 4, Standards for Professional Development for teachers of Science, and 6, Science Content Standards, 1996


*Benchmarks for Science Literacy.* Project 2061, American Association for the Advancement of Science, Oxford University Press, 1993

*The Future of Science in Elementary Schools: Educating Prospective Teachers.* Senta A. Raizen and Arie M. Michelson, editors, The National Center for Improving Science Education, 1994

*NCATE Program Standards.* "Programs for Initial Preparation of Teachers of Science," prepared by the National Science Teachers Association, approved by National Council for Accreditation of Teacher Education, 1998

*Technology for All Americans: A Rationale and Structure for the Study of Technology.* International Technology Education Association, 1996

*Standards for Technology: Content for the Study of Technology,* International Technology Education Association, March, 1999
Standard

2d. Mathematics—Candidates know, understand, and use the major concepts, procedures, and reasoning processes of mathematics that define number systems and number sense, geometry, measurement, statistics and probability, and algebra in order to foster student understanding and use of patterns, quantities, and spatial relationships that can represent phenomena, solve problems, and manage data;

Supporting explanation

Candidates are able to teach elementary students to explore, conjecture, and reason logically using various methods of proof; to solve non-routine problems; to communicate about and through mathematics by writing and orally using everyday language and mathematical language, including symbols; to represent mathematical situations and relationships; and to connect ideas within mathematics and between mathematics and other intellectual activity. They help students understand and use measurement systems (including time, money,
temperature, two and three dimensional objects using non-standard and standard customary and metric units); explore pre-numeration concepts, whole numbers, fractions, decimals, percents and their relationships; apply the four basic operations (addition, subtraction, multiplication, and division) with symbols and variables to solve problems and to model, explain, and develop computational algorithms; use geometric concepts and relationships to describe and model mathematical ideas and real-world constructs; as well as formulate questions, and collect, organize, represent, analyze, and interpret data by use of tables, graphs, and charts. They also help elementary students identify and apply number sequences and proportional reasoning, predict outcomes and conduct experiments to test predictions in real-world situations; compute fluently; make estimations and check the reasonableness of results; select and use appropriate problem-solving tools, including mental arithmetic, pencil-and-paper computation, a variety of manipulatives and visual materials, calculators, computers, electronic information resources, and a variety of other appropriate technologies to support the learning of mathematics. Candidates know and are able to help students understand the history of mathematics and contributions of diverse cultures to that history. They know what mathematical preconceptions, misconceptions, and error patterns to look for in elementary student work as a basis to improve understanding and construct appropriate learning experiences and assessments.

Source documents for mathematics


*Curriculum and Evaluation Standards for School Mathematics*, NCTM, 1989


*Assessment Standards for School Mathematics*, NCTM, 1995

*NCATE Program Standards*, "Programs for Initial Preparation of Teachers of Mathematics," prepared by the National Council of Teachers of Mathematics, approved by the National Council for Accreditation of Teacher Education, 1998
Standard

2e. Social studies—Candidates know, understand, and use the major concepts and modes of inquiry from the social studies—the integrated study of history, geography, the social sciences, and other related areas—to promote elementary students' abilities to make informed decisions as citizens of a culturally diverse democratic society and interdependent world;

Supporting explanation

The social studies include history, geography, the social sciences (such as anthropology, archaeology, economics, political science, psychology, and sociology) and other related areas (such as humanities, law, philosophy, religion, mathematics, science and technology). Candidates are able to use knowledge, skills, and dispositions from social studies to organize and provide integrated instruction in grades K-6 for the study of major themes, concepts and modes of
inquiry drawn from academic fields that address: (1) culture; (2) time, continuity, and change; (3) people, places, and environment; (4) individual development and identity; (5) individuals, groups, and institutions; (6) power, governance, and authority; (7) production, distribution, and consumption; (8) science, technology, and society; (9) global connections; and (10) civic ideals and practices.

Candidates use their knowledge of social studies to help students learn about academic fields of knowledge, as well as major themes that integrate knowledge across academic fields. They develop experiences to help elementary students learn about the historical development of democratic values; the basic principles of government and citizenship in a democratic republic; the past, present, and future; spatial relations; the development of nations, institutions, economic systems, culture, and cultural diversity; the influences of belief systems; and the humanities. Candidates are able to help students read, write, listen, discuss, speak, and research to build background knowledge; examine a variety of sources (e.g., primary and secondary sources, maps, statistical data, and electronic technology-based information); acquire and manipulate data; analyze points of view; formulate well-supported oral and written arguments, policies, and positions; construct new knowledge and apply knowledge in new settings. They use formative and summative assessments in planning and implementing instruction.

Source documents for social studies.

NCSS Standards for Social Studies Teachers, National Council for the Social Studies, 1998


National Standards for History, National Center for History in the Schools, 1996

Geography for Life: National Geography Standards, The Geographic Education Standards Project, National Geographic Society, 1994


National Standards for Civics and Government, Center for Civic Education, 1994
Standard

2f. The arts—Candidates know, understand, and use—as appropriate to their own knowledge and skills—the content, functions, and achievements of dance, music, theater, and the several visual arts as primary media for communication, inquiry, and insight among elementary students;

Supporting explanation

Candidates understand distinctions and connections between arts study and arts experiences. They recognize that arts instruction must be sequential. Candidates encourage the kind of study and active participation that leads to competence and appreciation. Consistent with their own knowledge and skills in the arts disciplines, they work alone, with arts specialist teachers, and/or with other qualified arts professionals enabling students: (1) to communicate at a basic level in the four arts disciplines—dance, music, theater, and the visual arts— including knowledge and skills in the use of basic vocabularies, materials, traditional and technology-based tools, techniques, and thinking processes of each arts discipline; (2) to develop and present basic analyses of works of art from structural, historical, and cultural perspectives; (3) to have an informed acquaintance with exemplary works of art from a variety of cultures and historical periods; and (4) to relate basic types of arts knowledge and skills within and across the arts disciplines, and to make connections with other disciplines. Candidates understand that student competence at a basic level serves as the foundation for more advanced work. They understand that there are many routes to competence, that elementary students may work in different arts at different times, that their study may take a variety of approaches, and that their abilities may develop at different rates.

Source document for the arts

National Standards for Arts Education: What Every Young American Should Know and Be Able to Do in the Arts, Consortium of National Arts Education Associations (American Alliance for Theatre & Education, Music Educators National Conference, National Art Education Association, and National Dance Association), 1994
Standard

2g. Health education—Candidates know, understand, and use the major concepts in the subject matter of health education to create opportunities for student development and practice of skills that contribute to good health;

Supporting explanation

Candidates understand the foundations of good health, including the structure and function of the body and its systems and the importance of physical fitness and sound nutrition. They help students understand the benefits of a healthy lifestyle for themselves and others as well as the dangers of diseases and activities that may contribute to disease. Teacher candidates are alert to major health issues concerning children and the social forces that affect them, and of the need to impart information on these issues sensitively. They address issues in ways that help students recognize potentially dangerous situations, clarify misconceptions, and find reliable sources of information.

Source document for health education

National Health Education Standards: Achieving Health Literacy, Joint Committee on National Health Education Standards (Association for the Advancement of Health Education, American School Health Association, American Public Health Association), American Cancer Society, 1995
Standard

2h. Physical education—Candidates know, understand, and use—as appropriate to their own understanding and skills—human movement and physical activity as central elements to foster active, healthy lifestyles and enhanced quality of life for elementary students;

Supporting explanation

Candidates understand physical education content relevant to the development of physically educated individuals. They structure learning activities to ensure that students demonstrate competence in many movement forms, and can apply movement concepts and principles to the learning and development of motor skills. Teacher candidates know that physical inactivity is a major health risk factor in our society and recognize the critical importance of physically active lifestyles for all students. They help students develop knowledge and skills necessary to achieve and maintain a health-enhancing level of physical fitness. Teacher candidates appreciate the intrinsic values and benefits associated with physical activity. They are able to structure movement experiences that foster opportunities for enjoyment, challenge, self-expression, and social interaction, and that elicit responsible personal and social behavior and respect for individual differences among people in physical activity.

Source documents for physical education

Moving Into the Future; National Standards for Physical Education. National Association for Sport and Physical Education, 1995

National Standards for Beginning Physical Education Teachers. Beginning Teacher Standards Task Force of the National Association for Sport and Physical Education, the American Alliance for Health, Physical Education, Recreation and Dance, 1995

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21. Connections across the curriculum—Candidates know, understand, and use the connections among concepts, procedures, and applications from content areas to motivate elementary students, build understanding, and encourage the application of knowledge, skills, tools, and ideas to real world issues.

Supporting explanation

In their instruction, candidates make connections across the disciplines and draw on their knowledge of developmental stages to motivate students, build understanding, and encourage the application of knowledge, skills, and ideas to lives of elementary students across fields of knowledge and in real world situations. Candidates help elementary students learn the power of multiple perspectives to understand complex issues. Through personal actions and teaching, they demonstrate scholarly habits of mind, including: (1) a desire to know, (2) constructive questioning, (3) use of information and systematic data, (4) acceptance of ambiguity where it exists, (5) willingness to modify explanations, (6) a cooperative manner in responding to questions and solving problems, (7) respect for reason, imagination, and creativity and (8) honesty.
INSTRUCTION

Standard

3a. Integrating and applying knowledge for instruction—Candidates plan and implement instruction based on knowledge of students, learning theory, subject matter, curricular goals, and community;

Supporting explanation

Candidates understand learning theory, subjects taught in elementary schools.
(described in sections 2a through 2i of the Program Standards), curriculum development, and student development and know how to use this understanding in planning instruction to meet curriculum goals. They are able to help students appreciate and be engaged in the subject matter. Candidates select and create learning experiences that are appropriate for curriculum goals, meaningful to elementary students, and based upon principles of effective teaching (e.g. that activate students' prior knowledge, anticipate preconceptions, encourage exploration and problem-solving, and build new skills on those previously acquired). They use a variety of resources, including technology and textbooks, and look beyond their classroom to determine how numerous information resources in both print and electronic form might benefit their students. Candidates understand and use appropriate technology to help students become capable technology users through communication; through access, management, analysis and problem solving with information; and through collaborative and self-directed learning. They collaborate with specialists to promote learning in all areas of the curriculum for all elementary students.

Source documents for planning and implementing instruction

*Draft Standards for Teachers of Middle Childhood, Indiana Professional Standards Board, 1996*

Standard

3b. Adaptation to diverse students—Candidates understand how elementary students differ in their development and approaches to learning, and create instructional opportunities that are adapted to diverse students;

Supporting explanation

Candidates understand and can identify differences in approaches to learning and performance, including different learning styles, and ways students demonstrate learning. They understand how elementary students' learning is influenced by individual experiences, talents, disabilities, and prior learning, as well as language, culture, family, and community values. Candidates know how to seek assistance and guidance from specialists and other resources to address elementary students' exceptional learning needs and understand the importance of collaboration with specialists and families. They identify and design instruction appropriate to K-6 students' levels of development, learning styles, strengths, and needs, using teaching approaches that are sensitive to the multiple experiences of students. Candidates plan instructional tasks and activities appropriate to the needs of students who are culturally diverse and those with exceptional learning needs in elementary schools. They are able to apply knowledge of the richness of contributions from diverse cultures to each content area studied by elementary students.

Standard

3c. Development of critical thinking, problem solving and performance skills—Candidates understand and use a variety of teaching strategies that encourage elementary students' development of critical thinking, problem solving, and performance skills;

Supporting explanation

Candidates understand cognitive processes associated with various kinds of learning and how these processes can be stimulated. They also understand principles and techniques, advantages and limitations, associated with appropriate teaching strategies (e.g. cooperative learning, direct instruction, inquiry, whole group discussion, independent study, interdisciplinary instruction). Candidates know how to enhance learning through use of a wide variety of materials as well as collaboration with specialists, other colleagues, and technological resources, and through multiple teaching and learning strategies that will promote development of critical thinking, problem solving, and performance capabilities.
Standard

3d. Active engagement in learning—Candidates use their knowledge and understanding of individual and group motivation and behavior among students at the K-6 level to foster active engagement in learning, self motivation, and positive social interaction and to create supportive learning environments;

Supporting explanation

Teacher candidates understand principles of effective classroom management as well as human motivation and behavior from the foundational sciences of psychology, anthropology, and sociology. They use a range of strategies and can collaborate with specialists to promote positive relationships, cooperation, conflict resolution, and purposeful learning in the classroom. They create learning communities in which elementary students assume responsibility for themselves and one another, participate in decisionmaking, work collaboratively and independently, and engage in purposeful learning activities. They understand and use appropriate and effective interpersonal and small group communication techniques to create an effective learning environment.

Standard

3e. Communication to foster learning—Candidates use their knowledge and understanding of effective verbal, nonverbal, and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the elementary classroom.

Supporting explanation

Candidates understand communication theory, language development, and the role of language in learning among elementary students, and they also understand how cultural and gender differences can affect communication in the classroom. They model effective communication strategies in conveying ideas and information and in asking questions (e.g. monitoring the effects of messages; restating ideas and drawing connections; using visual, aural, and kinesthetic cues; being sensitive to nonverbal cues given and received). They use oral and written discourse between themselves and their students, and among students, to develop and extend elementary students' understanding of subject matter. Candidates know how to use a variety of media communication tools, including audio-visual aids and computer-based technologies, to enrich learning opportunities.
ASSESSMENT

Standard

4. Assessment for instruction—Candidates know, understand, and use formal and informal assessment strategies to plan, evaluate, and strengthen instruction that will promote continuous intellectual, social, emotional, and physical development of each elementary student.

Supporting explanation

Candidates know that assessment is an essential and integral part of instruction. It defines the beginning point; helps identify objectives, materials and effective teaching methods or techniques; and informs the need to re-teach or adapt instruction. They understand the characteristics, uses, advantages, and limitations of different types of assessment appropriate for evaluating how K-6 students learn, what they know, and what they are able to do in each subject area. Candidates recognize that many different assessment tools and strategies, accurately and systematically used, are necessary for monitoring and promoting learning for each student. Elementary teacher candidates appropriately use a variety of formal and informal assessment techniques (e.g. observation, portfolios of elementary student work, teacher-made tests, performance tasks, projects, student self-assessments, peer assessment, and standardized tests) to enhance their knowledge of individual students, evaluate students' progress and performances, modify teaching and learning strategies, and collaborate with specialists on accommodating the needs of students with exceptionalities. Candidates use formative and summative assessments to determine student understanding of each subject area and take care to align assessments with instructional practice. They are aware that technology can facilitate appropriate forms of assessment and provide evidence across multiple dimensions of student performance. They use technology to improve the efficiency and effectiveness of assessment processes and in management of instruction. Candidates also monitor their own teaching strategies and behavior in relation to student success, modifying plans and instructional approaches accordingly.

Source document for assessment

PROFESSIONALISM

Standard

Sa. Practices and behaviors of developing career teachers—Candidates understand and apply practices and behaviors that are characteristic of developing career teachers;

Supporting explanation

While synthesis of knowledge is a lifetime process for a professional, by the end of teacher preparation candidates ready to enter the classroom as elementary generalist teachers should be: [1] working independently on a variety of disciplinary and pedagogical problems and responsibilities by combining as appropriate their knowledge and skills in (a) child development; (b) English language arts, science, mathematics, social studies, the arts, health and physical education, (c) instructional technique and learning technologies, and (d) assessment; [2] focusing and defending independent analyses and value judgments about disciplinary content and teaching methodologies, their various potential relationships, and their applications to specific circumstances; [3] acquiring the intellectual tools to work with evolving issues and conditions as time and situations change, including the ability to make wise decisions according to time, place, and population; [4] identifying, accessing, and using technology-based resources in support of their continuing professional development; [5] demonstrating awareness of and commitment to the profession's codes of ethical conduct; and [6] understanding basic interrelationships and interdependencies among the various professions and activities that constitute the disciplines, content, and processes of elementary education.

Source documents for professional competence

Code of Ethics of the Education Profession, National Education Association Representative Assembly, adopted in 1975

Code of Ethics, American Federation of Teachers, adopted in 1971

Code of Ethical Conduct and Statement of Commitment, S. Feeney and K. Kipnis, NAEYC, 1992
**Standard**

5b. Reflection and evaluation—Candidates are aware of and reflect on their practice in light of research on teaching and resources available for professional learning; they continually evaluate the effects of their professional decisions and actions on students, parents, and other professionals in the learning community and actively seek out opportunities to grow professionally;

**Supporting explanation**

Candidates understand methods of inquiry that provide them with a variety of self-assessment and problem solving strategies for reflecting on their practice, its influences on K-6 students' growth and learning, and the complex interactions between them. They know major areas of research on teaching and of resources available for professional learning (e.g. professional literature, colleagues, professional associations, professional development activities). They use classroom observation, information about students, and research as sources for evaluating the outcomes of teaching and learning and as a basis for experimenting with, reflecting on, and revising practice. Candidates apply their knowledge of current research and national, state, and local guidelines relating to the disciplines taught in elementary school.

**Standard**

5c. Collaboration with families—Candidates know the importance of establishing and maintaining a positive collaborative relationship with families to promote the intellectual, social, emotional, and physical growth of children;

**Supporting explanation**

Candidates understand different family beliefs, traditions, values, and practices across cultures and within society and use their knowledge effectively. They involve families as partners in supporting the school both inside and outside the classroom. Candidates respect parents' choices and goals for their children and communicate effectively with parents about curriculum and children's progress. They involve families in assessing and planning for individual children, including children with disabilities, developmental delays, or special abilities.

**Source document for collaboration with families**

*National Standards for Parent/Family Programs, National PTA, 1998*
5d. Collaboration with colleagues and the community—Candidates foster relationships with school colleagues and agencies in the larger community to support students' learning and well-being.

Supporting explanation

Candidates understand schools as organizations within the larger community context and the operations of relevant aspects of the systems in which they work. They also understand how factors in the elementary students' environments outside of school may influence the students' cognitive, emotional, social, and physical well-being and, consequently, their lives and learning. Candidates participate in collegial activities designed to make the entire school a productive learning environment and develop effective collaborations with specialists.

Source document for collaboration with colleagues and the community

*Promoting Social and Emotional Learning: Guidelines for Educators, Maurice J. Elias et al.*

*Association for Supervision and Curriculum Development, 1997*
Part II: Institutional Responsibilities

A. INTRODUCTION

This Part of Program Standards for Elementary Teacher Preparation describes information that institutions are expected to submit for program review under NCATE accreditation. The focus is on assessment evidence that demonstrates elementary teacher candidate proficiencies, accompanied by appropriate contextual information that will assist ACE/NCATE program reviewers. This “performance-based” approach contrasts with an overview statement and matrix format displaying descriptions of course offerings and experiences that have previously served as the primary evidence for NCATE program reviews.

It is the responsibility of program faculty to make the case that candidates completing elementary teacher preparation programs are meeting the standards. Faculty in every institution conduct extensive assessment activities and, through external sources, have access to additional information about the performances of their candidates. As they respond to the material for program review described in this Part of the Program Standards, each teacher preparation institution and all faculty involved in elementary teacher education should make full use of evaluative information that is readily available about candidate—and former candidate—proficiencies. Faculty may find it useful to re-evaluate the relevance and adequacy of all this assessment information. They should build on the institution’s own assessments, already in place, and in ways that are suited to the institution’s mission and overall program goals. There are many alternatives through which faculty can provide experiences that will enable candidates to learn and practice the content expressed in the standards. Similarly, there are multiple ways to build the monitoring of candidate progress into the elementary teacher preparation program.

Program quality judgments will be based on evidence that the program’s candidates, as a group, demonstrate proficiency in the standards. Both components of courses or experiences offered by the institution, and characteristics of the assessment and evaluation system, can advance the preparation of teacher candidates. They are essential “inputs” or processes created by institutions so that candidates have opportunities to learn and practice the content and skills of the standards. However, the emphasis in performance-based program review is on evidence demonstrating that candidates know elementary school subjects and can teach them effectively to elementary students.

The program review submission for elementary teacher preparation programs must include a statement of context for the program (see section B.1) together with information demonstrating candidate knowledge and skills relating to the Program Standards for Elementary Teacher Preparation (see section B.2). A reviewers’ report will be prepared that includes findings, analyses, and conclusions as follows:
• Description of findings about the institution's background, policies and practices as they bear on the elementary teacher preparation program,

• Analysis of the institution's summaries of evidence about candidate outcomes in relation to elementary teaching standards, including evidence of candidate effects on student learning, and description of issues arising from the evidence,

• Using the foregoing findings and analyses, evaluation of program quality,

• Identification of areas of concern or weakness, and

• Notation of particular strengths of the elementary preparation program.

The reviewers' interest is in the quality of the program as evidenced by candidate proficiencies, not the format of the submission. Submissions are expected to have some common elements, but other features may differ from institution to institution, depending on the specific education unit mission, approaches to preparation of elementary teacher candidates, and characteristics of assessment and evaluation activities.

The program standards for elementary teaching preparation in Part I, together with the performance-based evidence submissions in Part II, represent a significant change from previous elementary guidelines. For that reason, they are to be used by all institutions applying for initial review, and also for all accredited institutions' next continuing review. The details of the review process may differ from state to state, however, depending on the provisions of any applicable NCATE State Partnership agreement.

B. INSTITUTIONAL SUBMISSION

The institutional submission includes both a context statement and a summary description of evidence indicating that candidates have developed proficiencies in standards for elementary teacher candidates.

B.1 Context Statement

Institutional Program Review Submission for Elementary Teacher Preparation:
Eighteen months* prior to an expected Board of Examiners visit for initial unit accreditation, or twelve months prior to a continuing visit, each institution offering an elementary teacher preparation program will submit a summary description of the context in which the program is conducted. This statement, ranging from 20 to 30 pages, will contain any information that institutional representatives believe

* All program submissions are due at NCATE on either February 1 or September 15. "Eighteen months" means the February or September date nearest to eighteen months, or three semesters, before the scheduled BOE visit. "Twelve months" means the submission is due on the February or September date closest to one year, or two semesters, before the BOE visit.
Each institution has unique attributes that influence the elementary teacher preparation program. It is important that these attributes be considered when performance materials relating to the Program Standards for Elementary Teacher Preparation are judged. The context statement should be concisely written as a summary of key points, not an extended, nuanced, cross-referenced paper with numerous attachments. Among the contents that might be expected in the context statement are the following:

- Basic factual information on the program such as grades or ages covered, number of candidates enrolled and completing the program each year, and the degree level;

- Relevant policies and practices affecting the institution's elementary teacher preparation, including the relationship of the framework for the elementary teacher program with the conceptual framework used for unit accreditation;

- The unit's own evaluation of its elementary program strengths, candidate proficiencies, and overall performance in relation to its mission and goals and in the context of the Program Standards for Elementary Teacher Preparation;

- Quality assurance processes used for elementary teacher preparation, the continuing efforts to assure credibility—accuracy, consistency, fairness, and avoidance of bias—of the assessment and evaluation system, and the manner in which results of assessments are used to evaluate and improve programs and teaching; and

- Any unique state requirements for K-6 students that may impinge on implementation of the NCATE Program Standards for Elementary Teacher Preparation or on performance of elementary teacher candidates, with an explanation of how the unit accommodates differences between NCATE and state standards.

As an integral part of the context statement, the institution should provide up to 10 pages explaining the strengths and qualities of the elementary teacher preparation program, including courses and experiences the institution offers candidates. This information should explain how the candidates are provided opportunities to learn and practice the knowledge and skills contained in standards for elementary teacher candidates and describe the basis for faculty judgment that candidates are prepared to fulfill beginning teaching responsibilities. It is not to be provided in the form of a matrix and syllabi, as NCATE has requested previously. Instead, the institution should provide its explanation in narrative form, making its strongest, reasoned case for the institution's actions on two issues:
- Opportunities provided so that candidates can learn and practice the content of standards for elementary teacher candidates as they complete the program—for example, making a reasoned case might include a description of the major emphases of the program in relation to the Program Standards, a discussion of how the courses and field experiences are aligned to reinforce each other, a statement on how a capstone clinical experience creates an environment for candidates to observe student learning as a result of their own efforts, or a discussion of linkages the unit makes with arts and sciences faculty to align instruction in subject content courses with standards for new teachers.

- How faculty have confidence in their judgments that candidates have mastered the institution's expectations for program completers—for example, a reasoned case might be developed around features of the institution's assessment system, the particular qualifications and experiences of the faculty as judges of teaching, or the nature of the state teacher induction program and success of the unit's elementary candidates in that program.

### B.2 Performance-based evidence

| Institutional Program Review Submission for Elementary Teacher Preparation:  
Eighteen months prior to an expected Board of Examiners visit for initial unit accreditation, or twelve months prior to a continuing visit, each institution offering an elementary teacher preparation program will submit performance material, not exceeding 140 pages including attachments, that summarizes the knowledge and skills proficiencies of elementary teacher candidates as a group. This information constitutes the primary evidence upon which a judgment of national program recognition will be made. |

The performance material must be comprehensive in its breadth, yet concise and deep in its contents. The intent is to inform reviewers about candidate proficiencies in relation to the standards included in Part I of Program Standards for Elementary Teacher Preparation. Even though the upper limit of this material is set at 140 pages, it may be possible to convey the necessary information in 50 to 75 pages. This would be possible, especially, if an institution regularly synthesizes data from its monitoring of candidate progress and puts the results into forms useful for discussions about how the program can be strengthened.

Sound evidence usually exhibits several qualitative characteristics. It:

- Results from planned, purposeful, and continuing evaluation of candidate proficiencies, drawing on diverse sources;

* See the explanation of "eighteen months" and "twelve months" provided for the footnote on page 36.
Monitoring of candidate performance is embedded in the elementary preparation program and conducted on a continuing basis. This monitoring is planned in response to faculty decisions about the points in the elementary preparation program best suited to gathering candidate performance information, consistent with the institution’s own context and mission.

All information about candidates’ proficiencies, from all sources, is drawn on by the unit for continuous evaluation of candidate progress and program success. Excerpts, summaries and samples from this array of information are provided for use by NCATE in its program quality reviews. Institutions will usually begin to plan their assessment system around activities that are the direct responsibility of the teacher preparation unit. Examples of assessments that might be used or created within the program include end-of-course evaluations but also tasks used for instructional purposes such as projects, journals, observations by faculty, comments by cooperating teachers, samples of student work, and other information that would commonly be available for faculty use in determining the adequacy of the candidate’s accomplishments in a course.

The monitoring information from the elementary teacher preparation program can be complemented by evaluations originating from external sources that supply information on candidate proficiencies. Examples from outside the unit are candidate performance evaluations during induction years and follow-up studies; performance on state licensure exams that assess candidates’ knowledge of their subject content and of pedagogy, and especially ones constructed to evaluate classroom teaching and effects on student learning; academic subject knowledge end-of-course examinations, essays, or other demonstrations of achievement.

- Represents the scope of the standards for elementary teacher preparation;

  Candidate performance evidence is congruent with the knowledge and skill standards in Part I, or equivalent ones the program sets for elementary teacher candidates.

  Institutions determine the best way to demonstrate that all aspects of the standards are covered, but avoid treating each individual statement from the Part I standards and supporting explanations in a fractionated or serial fashion. Instead, faculty think through how all their existing assessment information can be marshaled, and what additional information is needed, to demonstrate candidate proficiency across the standards.

- Measures the different “attributes” of standards in appropriate and multiple ways;
The standards for elementary teacher candidates have different attributes, each of which should be measured in appropriate ways. The four attributes are:

- Knowledge that candidates should possess about subject content, pedagogy, child development and learning, motivation, instruction, assessment and the qualities of a professional;
- Abilities to apply that knowledge effectively in the classroom and other professional teaching situations, including collaboration with colleagues;
- Dispositions usually associated with candidates who go on to successful teaching careers; and
- Candidates’ ability to have positive effects on student learning.

One conclusion about the current state-of-the art in teacher assessment is that no single test or measurement of teacher candidates is sufficient by itself to represent these different attributes and the full scope of the standards. Multiple measures provide wide opportunities for candidates to demonstrate their accomplishments in relation to the standards. The Committee anticipates that institutions will draw on the extensive range of available assessment forms, including multiple choice (which may be useful to gauge proficiencies in standards calling for candidate knowledge) and also observations, reflections, teaching demonstrations, analytic work, student work samples, and other forms of evaluative information demonstrating proficiency in teaching.

- Results from rigorous and systematic efforts by the institution to set performance levels and judge accomplishments of its candidates;

Faculty establish written and shared explanations of what is valued in a candidate’s response to an assessment—the qualities by which levels of performance can be differentiated—that serve as anchors for judgments about the degree of candidate success. The terms “rubrics” and “criteria” are frequently used in assessment to designate these explanations for levels of performance. These may be stated in generic terms or may be specific to particular assessment tasks. They may define acceptable levels of performance for the institution and one or more levels below (such as borderline, or unacceptable) and above (such as exemplary), or they may be in the form of criteria defining the institution’s expectations for success. The rubrics or criteria are “public,” that is shared with candidates and across the faculty. Faculty teach, advise, and prepare candidates for success in meeting critical external performance expectations, as expressed, for example, in state licensure test pass scores (when they are challenging) and in statements defining acceptable proficiency levels for NCATE/specialty organization “benchmarks.”
The institution judges individual candidate proficiencies, and also summarizes and analyzes the proportions of new teacher candidates who reach levels expressed in the rubrics or criteria. These results are used both for advisement of individual candidates, and also for strengthening of the courses and experiences offered by the institution to prepare elementary teacher candidates. The summary of results from the faculty judgments in applying the rubrics or criteria are used for the NCATE submission. Examples of candidate work are attached to the institutional submission where that is a useful way to assist reviewers' understanding of the levels of proficiency reached by candidates.

- Provides information that is credible—accurate, consistent, fair and avoiding bias;

The institution gathers information on the accuracy (or validity) and consistency (or reliability) of its assessments. Accuracy is an expectation that the assessment information measures what is important for the decision to be made and that it represents the performances, competencies, and dispositions that are intended (that is, included in standards for elementary teacher candidates). Consistency is an expectation that successive samples of performances from the same candidate are reasonably related. Assessment systems must also be fair, avoiding bias and providing equitable treatment. These are matters that require professional judgment and are often determined through peer review, evaluations by external experts, or formal validation studies.

- Makes use of appropriate sampling and summarizing procedures.

In preparing the elementary program submission, the institution samples and summarizes information about candidate proficiencies.

Sampling refers both to representing the domain of the standards and representing the full range of the program's candidates. The candidate sample might be taken from the cohort of teacher candidates completing the program in a specific academic year and previous completers so that information about performance of candidates from their entire preparation experience and into employment can be available for demonstration of candidate proficiency. Of course, anonymity of individual candidates and the students of those candidates must be protected.

Candidate proficiency results are summarized through averages, spread of scores, and distributions of rubric scores. Summary results are requested because the NCATE interest is in making decisions about program quality, rather than decisions about individual candidates. These summaries are made meaningful through illustrations such as samples of exam questions, examples of written responses, and analytic materials intended to inform
reviewers of the proficiencies that candidates achieve in relation to the standards.

Of course, institutions that have sound evidence systems use the data to advise individual candidates and to strengthen teaching, courses, experiences, and programs.

These qualities of assessment evidence are not, themselves, the requirement for submission. The submission is developed to describe the results of the assessment evidence.

As a reference for faculty, the Drafting Committee has created an Appendix to this paper that contains additional detail, examples, and qualitative descriptions of assessments in teacher preparation. The topics addressed in the Appendix include the Committee's perceptions of student learning and performance-based program review in the current education reform era, and the evolution of a performance orientation to NCATE accreditation. In addition, each of the six topics on sound evidence, noted above, is elaborated.

C. THE PHASE-IN PERIOD FOR PERFORMANCE-BASED EVIDENCE

During the initial years when the new performance-based approach for NCATE elementary teacher preparation program review is in place, there may be widely varying capability across institutions to produce and use candidate proficiency information. As state licensing requirements become more performance-based, which appears to be the trend, there will be growing pressures on institutions to prepare candidates for success in meeting new proficiency requirements. Over a few years, then, institutions can be expected to develop and routinely employ evaluations of candidate performance in teacher preparation.

In the meantime, NCATE is developing a transition plan for implementation of NCATE 2000, its new performance-based accreditation for teacher preparation units. That transition plan, for which the full text is available on the NCATE web site at www.ncate.org, sets a schedule for all units to follow in development and implementation of their assessment systems. Faculty from institutions applying for program review of elementary teacher preparation should assume the same implementation timelines as those announced for the unit transition plan. In brief, by the Fall of 2001 and Spring 2002 there should be, at a minimum:

- a plan for an assessment system with timelines and details about components and management, collaboratively developed by the professional community, and
- a summary of performance data already available (such as results from state licensure tests or other sources) that can demonstrate candidate proficiencies in relation to standards.
By the Fall of 2004 and Spring of 2005, the assessment system should be implemented, evaluated and refined. The website provides descriptions for the intervening years and additional details.

Appendix: Perceptions of Performance-Based Program Review and Assessment Evidence

A. THE COMMITTEE’S PERCEPTIONS

This Appendix to the Program Standards for Elementary Teacher Preparation has been prepared as an encouragement for faculty and program heads in elementary teaching preparation programs to develop their own strong performance evidence systems. Such systems provide information that can serve to judge the proficiencies of candidates and improve the institution’s own performance. A sampling and summary of that information can also provide necessary information for NCATE’s performance-based program review.

In these introductory pages of the Appendix, the Drafting Committee makes a statement about the significance of student learning in preparation of elementary teachers, and the challenge of developing and implementing a performance-based program review as part of the NCATE accreditation process. The second part of the Appendix is structured around the qualities of sound assessment systems listed in Part II, and provides additional, and in some cases more technical, detail.

A.1 Student learning and performance-based program review

Student learning is the goal. The process for quality review of teacher preparation programs should focus clearly on preparation of new elementary teacher candidates who help students learn. The previous practice, basing program review decisions on course offerings and experiences of candidates, is remote from elementary student learning, and only indirectly—although instrumentally—related to what teachers of elementary students need to know and be able to do to foster student learning.

The overall approach for performance-based program review adopted by the Committee follows the same strategy that underlies work of the National Board for Professional Teaching Standards in certifying accomplished teachers, efforts of the Interstate New Teacher Assessment and Support Consortium in developing models for teacher licensure, and the current K-12 reforms in most states—that is, set standards and measure performance in relation to those standards. Programs will be judged by their success in...
producing new elementary teacher candidates who can demonstrate that they know their subject and can teach so that students learn.

One might posit an “ideal” measurement system for a performance-based NCATE program review: find candidate results on commonly used evaluations that provide measures of subject knowledge and teaching accomplishment expected of new elementary teacher candidates. Such a system would undergird consistent decisions about program quality and permit fair comparisons across institutions. It would reflect consensus among professionals about the levels of proficiencies that should be demonstrated by candidates on these commonly administered and multi-dimensional evaluations. Of course, no such “ideal” has been realized. In a nation of 50 sovereign states and 1300 colleges, departments and schools of education, the level of congruence implied by this description may never be achieved and, perhaps may not even be desirable.

What do we have instead of an “ideal?” Current teacher licensure assessments examine only part of the knowledge and skills that new teachers should acquire. State licensure tests (1) assess basic skills most frequently, (2) often examine content knowledge, and (3) sometimes measure pedagogical knowledge. The mix of components in licensure testing varies from state to state. Moreover, even when common tests are adopted, states set their own “pass” scores. There are some pilot projects that attempt to demonstrate teaching proficiencies of prospective teachers as part of the licensing or induction system, but most states have not even considered such a dimension among their licensing requirements. Only a few states and institutions have attempted to gather evidence that teacher candidates have positive effects on student learning. In summary, current testing for state licensure is a critical element in state accountability practices, one in which candidates must succeed if they are to enter teaching careers. These tests can provide necessary information about candidate knowledge, but they are not sufficient, alone, to inform about proficiencies across all the standards set for candidates—knowledge, teaching, dispositions, and ability to have positive effects on student learning.

The Committee is optimistic that higher quality teacher candidate assessments and at least some greater comparability across these evaluation instruments will be achieved over the next five to ten years. Many states are already grappling with this issue and concluding that performance-based licensure is the way to ensure that new teachers are competent. But a particularly compelling reason for the Committee’s optimism in this regard is found in the large advances in measurement of teaching competencies that have occurred over the past decade. These are partly due to investments in private sector testing but are most visible in the combined developmental efforts of the State of Connecticut, the National Board for Professional Teaching Standards and the Interstate New Teacher Assessment and Support Consortium. Another development over this same period is found in the State of Oregon, which asks that teacher candidates demonstrate “student progress in learning” as one of five standards for an initial teaching license. For many years Western Oregon University has been developing assessment technology to assess student learning during teacher preparation.
How, then, will decisions be made in the NCATE performance-based program review while state licensing requirements continue to evolve? In short, decisions will be made through comparisons: information on candidate proficiencies from an elementary preparation program will be compared with exemplars of such proficiencies identified through professional judgment.

As the Drafting Committee sees it, NCATE and the specialty organizations will identify and evaluate numerous examples of assessment exercises, each with explicit descriptions indicating the level of proficiency that is appropriate to expect of candidates completing their program. These examples, which the Committee calls “benchmarks,” will be available on the NCATE and specialty organization web sites, both alerting faculty to the expectations for program review, and guiding individuals who conduct those reviews. The Committee anticipates that institutions will gather candidate proficiency information from a variety of sources: the teacher preparation courses and field experiences, including samples of student work in classes where candidates teach; and also from external origins such as arts and sciences courses, state licensure exams and employer evaluations. Institutions will establish rubrics or criteria by which to judge candidates, then provide sampled and summarized results for the NCATE program review. Program reviewers will make holistic comparisons between the overall results from the institution and the proficiency “benchmark” levels.

Every part of accreditation makes use of professional judgment, including the current program review of courses and experiences. Web site display of the benchmark examples will permit a forum for debate about professional judgments on what should be expected of new teacher candidates. By organizing this debate in search of a professional consensus, NCATE will be able to determine both what performances are “good enough” in relation to the elementary standards and how professional colleagues will know they are good enough.

### A.2 Evolution of performance concepts in NCATE

States are adopting subject content standards stating what students in grades K-12 should know and be able to do. States are also creating examination systems and establishing levels of achievement that are expected for graduation. It is not unreasonable that a similar re-examination might be necessary in teacher preparation programs that have as their goal the provision of competent teachers for every child’s classroom.

Many faculty members in institutions that meet the 1995 NCATE unit accreditation standards will find this Appendix material on assessments and monitoring of candidate performance familiar. NCATE’s standard II.C, on assessing the progress of candidates, includes accompanying indicators that state:

> The progress of candidates at different stages of programs is monitored through authentic performance-based assessments using systematic procedures and timelines.
Assessment of a candidate's progress is based on multiple data sources that include grade point average (GPA), observations, the use of various instructional strategies and technologies, faculty recommendations, demonstrated competence in academic and professional work (e.g. portfolios, performance assessments, and research and concept papers), and recommendations from the appropriate professionals in schools.

NCATE's 1995 standard ILD on ensuring the competence of candidates extends the performance concept with the following indicators:

The unit establishes and publishes a set of criteria/outcomes for exit from each professional education program.

A candidate's mastery of a program's stated exit criteria or outcomes is assessed through the use of multiple sources of data such as a culminating experience, portfolios, interviews, videotaped and observed performance in schools, standardized tests, and course grades.

The Program Standards for Elementary Teacher Preparation are an application and extension of the 1995 NCATE expectations for unit monitoring and assessments. Moreover, they are an integral part of the new NCATE 2000 performance-based standards for teacher education units.

Under the performance-based program review, NCATE uses results from elementary teacher candidate assessments as evidence to evaluate an institution's elementary teacher preparation program. Assessments employed in preparation of elementary teacher candidates should provide opportunities for candidates to demonstrate what they know and can do.

Some faculty members may not be familiar with the 1995 NCATE standards or the coming NCATE 2000 unit standards. They may find that both the elementary standards and the forthcoming NCATE 2000 unit standards will encourage them to consider how well-focused their elementary preparation activities are in a performance-based context. They may even consider the possibility of making significant revisions in their instructional programs, or in the way they make use of assessments and evaluations.

Performance-based program review answers the question: "Is the institution preparing elementary teacher candidates with appropriate knowledge, teaching strategies, and dispositions to teach elementary students so those students learn and achieve standards?" Shifting NCATE's program review to a performance-base does not lessen the importance of what institutions do to prepare candidates—to the contrary. It is not responsible to hold candidates accountable for mastery of knowledge and skills in the Program Standards that they have had no opportunities to learn and practice. Of course, opportunities to learn must be in place for both candidates and their students. Successful programs offer candidates occasions to examine relationships between the routines and activities they organize for their students and the kinds of intellectual development and learning these routines foster. Members of the Drafting Committee for the Program Standards recognize (1) that teacher candidates are required to make many on-the-spot
judgments about what their students are actually learning and about what that implies for the teacher's next decisions, and (2) that student work is often unpredictable and classroom activities can be complicated. Preparing candidates to make on-the-spot judgments, to deal with unpredictable situations, and to teach content not merely for exposure, but for understanding and conceptual meaning—as many K-12 student content standards imply—are enormous challenges to any faculty. These challenges will continue to influence every decision about course structure, course content, field experiences, and advisement provided by the institution.

B. A SOUND SYSTEM FOR PERFORMANCE EVIDENCE

This section of the Appendix is constructed to assist faculty as they contemplate the implications of performance-based program review in their own institution. It begins with a statement of principles for performance-based assessment systems from the NCATE Specialty Areas Studies Board (SASB). That statement reads as follows:

Principles for Performance-Based Assessment Systems in Professional Education Programs

Assessing what professional educator candidates know and can do is critical to implementing the performance-based standards of the National Council for Accreditation of Teacher Education (NCATE) and its affiliated national professional specialty organizations. Given the complexities of teaching and other educational professions; the range of knowledge, skills, and dispositions to be assessed; the multiple purposes for which assessment results are used; and the stakes associated with the outcomes, assessment in professional education programs and units needs to include multiple measures implemented on a systematic and ongoing basis as part of a comprehensive system. This document outlines principles set forth by the NCATE Specialty Areas Studies Board for performance-based assessment systems at the program level.

Although assessment systems will vary across programs and units, they generally should:
(a) address the knowledge, skills, and dispositions to be acquired by professional educator candidates as set forth in program goals;
(b) be consistent with the standards of relevant national and state accrediting/approval bodies;
(c) have multiple means for measuring candidate performance and impact; and
(d) provide on-going, systematic information useful for decision-making.

It is particularly critical that assessment systems provide credible results that are collected and used in a fair, valid manner consistent with their intended purpose(s).

An appropriate assessment system for a program or unit has the following characteristics:

1. The system is driven by a conceptual framework and program values that espouse assessment as a vehicle for both individual and program self-evaluation and improvement. Assessment is planned and implemented by key stakeholders in a manner consistent with the method of inquiry in the discipline and is considered a means to an end rather than an end in itself.

2. The system includes components that work together in a synergistic manner to address the knowledge, skills, and dispositions of candidates across program goals, objectives and curriculum consistent with the performance-based standards of the respective national professional specialty. Assessment is a goal-oriented process linked to program purposes/goals and national standards.
3. Multiple measures are planned and administered on a systematic, ongoing basis throughout the program beginning with the admission process. The system includes quantitative and qualitative measures useful for formative and summative assessment. One or more measures designed to yield evidence of positive candidate impact on students are included in the system.

4. The system includes one or more measures that have been created, reviewed, and/or scored by specialty professionals external to the program. Such professionals include those with relevant specialized expertise whose primary responsibility is not to the program/unit, such as field-based master teachers, clinical teachers, intern supervisors, and/or supervisors/employers of program candidates/graduates.

5. The system is clearly delineated. Measures and associated criteria or rubrics (including minimal proficiency levels), as well as policies and practices for obtaining and using results, are described in program documents in a manner that candidates and other stakeholders can understand. Candidates are made aware of program standards and assessment requirements to which they will be held and are provided with models and/or examples of performance and the instruction and support needed to attain such levels.

6. The assessment methods and corresponding criteria included in the system are sufficiently comprehensive and rigorous to make important decisions about the proficiencies of candidates and to safeguard those they may potentially serve. Critical decision-making points are delineated in the system. Decisions that are made reflect the application of relevant criteria and use of results in a manner that discriminates acceptable versus unacceptable performance.

7. The system includes policies and procedures for the gathering, use, storage, and reporting of individual results. Such policies address the rights of individuals (e.g., those afforded candidates by the Family Educational Rights and Privacy Act; confidentiality/privacy of survey responses). Individual candidate results are reported in a clear manner that acknowledges the source(s) and limitations of the data, individual strengths, and areas of needed or potential improvement.

8. The system includes a structure and procedures for sampling, analyzing, summarizing, and reporting aggregated results. Data are gathered on an ongoing basis and are summarized in a manner that reflects pass rates, the range of performances, and/or the "typical" or "average" performance (e.g., mean, median, or modal performance) as appropriate to the types of measures. Summaries of results are provided to key program stakeholders in a clear manner that acknowledges the source(s) and limitations of the data, data collection and reporting time frame, program strengths, and areas of needed or potential improvement.

9. The program and its assessment system foster the use of results for individual candidate and program improvement. Assessment results are regularly reviewed in relation to program goals and objectives as well as to relevant state and national standards and stimulate changes designed to optimize success.

10. The system has a mechanism and procedures for evaluating and improving itself and its component assessment methods. Evidence of the reliability and validity of the system and its component measures is gathered and used to make decisions about their ongoing use and/or revision. Evidence should address the ability of the system to comprehensively assess performance in a credible manner that is valid, fair, and unbiased.

In the remainder of this Appendix, the Drafting Committee has provided an elaboration of the six qualities of sound evidence listed in the Part II requirements for institutional submission. These are consistent with the Specialty Areas Studies Board principles, but represent those aspects of assessment systems of special concern to the Committee. To restate them, and to note their relationship with the SASB principles, the Committee
describes sound evidence that is derived from assessment systems exhibiting several qualitative characteristics. The evidence:

- Results from planned, purposeful, and continuing evaluation of candidate proficiencies, drawing on diverse sources (SASB principle 1);
- Represents the scope of the standards for elementary teacher preparation (SASB principle 2 and the first part of principle 6);
- Measures the different “attributes” of standards in appropriate and multiple ways (SASB principle 3);
- Results from rigorous and systematic efforts by the institution to set performance levels and judge accomplishments of its candidates (SASB principle 5 and the last part of principle 6);
- Provides information that is credible—consistent and accurate for its intended use (SASB principle 10 and also the privacy rights portion of principle 7);
- Makes use of appropriate sampling and summarizing procedures (SASB principle 8).

The Committee has not prepared these notes as a how-to-do-it manual. The intent, rather, is to disclose to readers the understandings of Committee members about what the current assessment state-of-the-art makes it possible to achieve in responsible assessments of elementary teacher candidate proficiencies.

B.1 Results from planned, purposeful, and continuing evaluation of candidate proficiencies, drawing on diverse sources

Sound assessment systems are integrated with learning experiences throughout the teacher candidates’ development and are not merely a series of unrelated “off-the-shelf” measures. They are embedded in the elementary preparation program and conducted on a continuing basis. Candidate monitoring is planned in response to faculty decisions about the points in the elementary preparation program best suited to gathering candidate performance information, consistent with the institution’s own context and mission. Typically such information is gathered at candidate entry, in coursework, in connection with field experiences associated with teaching methods courses, prior to the start of practice teaching and at completion of the program. The Drafting Committee is primarily concerned that institutions prepare elementary teacher candidates to have a positive and meaningful effect on student learning. It discourages testing or use of performance measures that are administered merely to supply information for NCATE program review.

Institutions will usually begin their assessment planning around activities within the education unit. Examples of types of education unit assessments include end-of-course
evaluations; tasks used for instructional purposes such as projects, journals, observations by faculty, comments by cooperating teachers, samples of student work from the candidate's teaching; and other information that would commonly be available for faculty use in determining the adequacy of the candidate's accomplishments in a course. Monitoring information from the elementary teacher preparation program can be complemented by candidate performance data originating from external sources. Examples are candidate performance evaluations during induction years and follow-up studies; performance on state licensure exams that assess candidates' knowledge of their subject content and of pedagogy, especially ones constructed to evaluate classroom teaching and effects on student learning; and academic subject knowledge end-of-course examinations, essays, projects, or other demonstrations of achievement.

Together, all information about candidates' proficiencies, from all sources, can be drawn on by the unit for continuous evaluation of candidate progress and program success. Excerpts, summaries and samples from this array of information can be provided for use by NCATE in its program quality reviews.

B.2 Represents the scope of the standards for elementary teacher preparation:

In sound assessment systems, candidate performance evidence is congruent with the knowledge and skill standards in Part I, or equivalent ones the program sets for elementary teacher candidates.

Institutions determine the best way to demonstrate that all aspects of the standards are covered, but avoid treating each individual statement in the Part I standards and supporting explanations in an individual, serial, and fractionated way. Instead, faculty think through how all their existing assessment information can be marshaled, and what additional information they should gather, to demonstrate candidate proficiency across the standards.

Too often in citing the results of tests, both educators and the lay public report results—number scores or the proportion of test takers who "passed"—absent any reference to the content and appropriateness of the test instrument itself. It is better professional practice to align tests with instruction and to be explicit about situations where there is lack of fit. Test takers should not be held accountable for performance on assessments for which their instructional experiences have failed to prepare them. The usefulness and value of information derived from tests are the key determinants in decisions to use or exclude them from an institution's performance measurement system. That usefulness and value depend, in turn, on the relationship of the tests to the instructional goals and anticipated candidate learning.

B.3 Measures the different "attributes" of standards in appropriate and multiple ways

The standards for elementary teacher candidates have different attributes, each of which
should be measured in appropriate ways. The attributes are:

- **Knowledge that candidates should possess about subject content, pedagogy, child development and learning, motivation, instruction, assessment and the qualities of a professional;**

- **Ability to apply that knowledge effectively in the classroom and other professional teaching situations, including collaboration with colleagues;**
  - **Dispositions usually associated with candidates who go on to successful teaching careers; and**

- **Candidates’ ability to have positive effects on student learning.**

Sound evidence systems construct assessment exercises that appropriately demonstrate skills described in the standards. However, one conclusion about the current state-of-the-art in teacher assessment is that no single test or measurement of teacher candidates is sufficient by itself to sample that range of skills. Multiple measures provide wide opportunities for candidates to demonstrate their accomplishments in relation to the standards. Through multiple measurements, institutions are able to combine the characteristic of “face validity” found in performance assessments with the strong psychometric properties of more traditional evaluation instruments.

Sometimes the workhorses of testing, multiple choice tests, are most appropriate. They are particularly appropriate when content knowledge and understanding, or pedagogical knowledge, are under investigation. These tests, built on decades of psychometric development, are efficient and highly reliable. Moreover, they have evolved in recent years to include vignettes with follow-up questions, and sometimes written responses of varying length, permitting more sophisticated analyses of knowledge and analytic ability.

Still, multiple-choice tests are not appropriate to measurement of other skills, such as candidate classroom instruction and other teaching abilities. The state of Connecticut, the National Board for Professional Teaching Standards, and the Interstate New Teacher Assessment and Support Consortium have been leaders in development of assessments of teaching. The methodology they have pioneered, frequently described as “teaching portfolios,” includes creation of evidence of positive effects on student learning. In documenting the act of teaching the portfolios contrast with measuring knowledge about teaching. The methodology can be adapted for use in field experiences and clinical teaching of elementary teacher candidates. Some states and a few institutions are making such adaptations. In outline, a teacher candidate portfolio would ask the candidate to do tasks similar to the following:

- **Describe the students in the class, along with the school and community, to establish a context for the teaching.**
• Identify three or four particular students with different learning needs for follow-up in greater detail, and describe the specific abilities and needs of these students.

• Plan a unit or set of lessons around a specific concept to move the students in the class beyond their current understanding. Describe the expectations for student learning and the subject content that the lessons are to teach. (This reveals the depth of subject content understanding of a particular topic on the part of the candidate.) Summarize the instructional approach and say, specifically, what students will be asked to do.

• Teach the unit and provide videotaped clips of sufficient length to capture different situations (e.g., lecture to the class, class discussion, small group with candidate interactions) including candidate interactions with the identified students.

• Show samples of student work for the class, and for the identified students, and analyze that work.

• Evaluate the student learning for the class with appropriate instruments and analyze the responses for the identified students specifically.

• Reflect on the experience, especially with regard to those aspects of the teaching and assessment that worked as expected, those that did not, and what candidate actions might be taken at various points to improve student learning.

Western Oregon University has developed a methodology for “teacher work sampling” containing several steps similar to the “tasks” in this list. However, Western places more emphasis on identifying learning outcomes to be accomplished in the sample of teacher work, aligning instruction and assessment so that all students will be monitored, and on the relationship of pre and post instructional measures. While the INTASC, Board and Western Oregon methodologies serve as examples of comprehensive assessments of teaching, adaptable for capstone evaluations of teacher candidate proficiencies, institutions have many opportunities throughout the course of the elementary preparation program to gather and synthesize information on candidate performances.

The remainder of section B.3 provides additional comments about each of the four attributes of the standards, excerpts examples of each attribute from the standards and supporting explanations of Part I, and lists illustrative types of assessments that might be used to examine proficiencies for each attribute. Note, however, that the types of assessments are frequently repeated across the illustrations for different attributes. For example, lesson plans, videotapes, and vignettes are included several times. Note, also, that high quality assessments will frequently provide information about candidate knowledge and skills in relation to several standards, as the “portfolio” outlined above suggests. Even less complex assessments, such as vignette exercises in a methods course, can have this cross-cutting quality. For example, a vignette might ask for essay responses...
to a described situation involving a concept in mathematics, presented in a way that is consistent with the development of children in a third grade classroom in which students represent widely divergent previous knowledge, and where the focus is on appropriateness of both the instruction and the assessment used to evaluate student progress. This multi-dimensional quality of assessments helps to underscore the interconnectedness of teaching—curriculum with development with instruction with assessment.

3.a Teacher candidate knowledge

Effective teaching requires mastery over the subject content that new teacher candidates will impart to their students. "Knowledge" is an area in which measurement tools such as essays, oral examples, multiple-choice tests, and semester projects can be especially useful. It is also an area where standardized tests are available commercially that may be appropriate in circumstances where the content of the tests is aligned with the elementary program instructional experiences.

Part I includes many standards describing what new elementary teacher candidates should know. Note that the language of the Committee is “know and understand,” words used to indicate that knowledge is essential, but to understand implies an ability to analyze, use, build on, or relate that knowledge to other knowledge. Examples are:

- From standard 1—Candidates know (and) understand . . . major concepts, principles, theories, and research related to the development of children and young adolescents . . .
- From standard 2b—Candidates demonstrate a high level of competence in use of the English language arts . . .
- From standard 2d—Candidates know (and) understand . . . major concepts, procedures and reasoning processes of mathematics that define number systems and number sense, geometry, measurement, statistics and probability, and algebra . . .
- From the supporting explanation of standard 3a—Candidates understand learning theory, subjects taught in elementary schools (described in sections 2a through 2i of the Program Standards), curriculum development, and student development . . .
- From standard 4—Candidates know (and) understand . . . formal and informal assessment strategies to plan, evaluate and strengthen instruction that will promote continuous intellectual, social, emotional, and physical development of each elementary student.

Below is an illustrative and diverse list of types of evidence that can be tapped to demonstrate teacher candidate knowledge. Note in all the examples, however, that
particular assessment tasks frequently provide information about candidate proficiency for more than one standard.

| Lesson plans that demonstrate the teacher candidate understands the material being taught |
| Multiple choice tests that probe for information about concept knowledge and applications |
| Project reports or laboratory reports that demonstrate an understanding of concepts and problem-solving ability |
| Videos or feedback to student work demonstrating that teacher candidates can identify naïve interpretations and help develop more appropriate interpretations |
| Vignettes exhibiting naïve interpretations and lesson plans on which the candidate is requested to provide comments indicating how he/she would then proceed in the lesson |
| Transcripts of performance in appropriate coursework (e.g., from courses undertaken in subject specialty) indicating level of accomplishment such as exam scores, projects completed, essays prepared |
| Written essays on the content matter demonstrating abilities to develop a topic, write well, clarify questions |
| Examples of assignments that teacher candidates would prescribe as a consequence of their teaching (and perhaps elementary student work, including teacher feedback) |

3. b Teaching performances

Elementary teachers not only know and understand content but are able to relate it to ideas, information, and knowledge previously learned. They know how to teach using a variety of methods, how to adapt their teaching to the subject being taught, and how to engage diverse students in the subject. Candidates who meet these performance competencies will be able to provide evidence of positive effects on student learning.

Here are some examples of teaching standards from Part I:

- *From standard 2b—Candidates... use concepts from reading, language and child development to teach reading, writing, speaking, viewing, listening, and thinking skills...*  
  - *From the explanation for standard 2i—In their instruction, candidates make connections in their instruction across the disciplines and draw on their knowledge of developmental stages to motive students, build understanding, and encourage application of knowledge, skills, and ideas to lives of elementary students across fields of knowledge and in real world situations.*  
  - *From standard 3a—Candidates plan and implement instruction based on knowledge of students, learning theory, subject matter, curricular goals, and community.*
• From the explanation for standard 3b—Candidates know how to seek assistance and guidance from specialists and other resources to address elementary students' exceptional learning needs. . . .

• From standard 5b—Candidates are aware of and reflect on their practice in light of research on teaching and resources available for professional learning; they continually evaluate the effects of their professional decisions and actions on students, parents, and other professionals in the learning community . . . .

There are many ways to demonstrate that elementary teacher candidates meet the performance aspects of the standards. In addition to the “portfolio” approach described above, here are some illustrative types of teacher performance measures:

<table>
<thead>
<tr>
<th>Elementary student impact</th>
<th>Graduates’ success</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evidence of elementary student learning</td>
<td>State licensure test pass-rates and results on induction year portfolio assessments</td>
</tr>
<tr>
<td>Evidence of “surface” and “deep” elementary student learning</td>
<td>Graduate surveys</td>
</tr>
<tr>
<td>Case studies that candidates are asked to analyze</td>
<td></td>
</tr>
<tr>
<td>Elementary student projects showing evidence of ability to make use of information</td>
<td></td>
</tr>
<tr>
<td>Student essays demonstrating ability to state and elucidate ideas</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Artifacts produced by the teacher candidate</th>
<th>Reflective essays on candidate-prepared lessons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson plans</td>
<td>Written essays</td>
</tr>
<tr>
<td>Teaching aids</td>
<td>Reflections on student work emanating from the lessons</td>
</tr>
<tr>
<td>Videos</td>
<td>Examples of assessments</td>
</tr>
<tr>
<td>Feedback on student work</td>
<td>Journal entries</td>
</tr>
<tr>
<td>Vignettes</td>
<td>Interviews</td>
</tr>
<tr>
<td>Case studies</td>
<td></td>
</tr>
<tr>
<td>Assessment materials</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Attestations of teaching accomplishment</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>By cooperating teachers</td>
<td>Videotapes of classroom instruction</td>
</tr>
<tr>
<td>By students</td>
<td></td>
</tr>
<tr>
<td>By parents</td>
<td></td>
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<tr>
<td>By principals</td>
<td></td>
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<tr>
<td>Summative evaluations</td>
<td></td>
</tr>
<tr>
<td>Transcripts of course performance</td>
<td></td>
</tr>
<tr>
<td>Multiple choice tests</td>
<td></td>
</tr>
</tbody>
</table>

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Dispositions refer to values and commitments and often make the difference between what elementary teacher candidates understand and how they perform in a classroom. Examples of dispositions that are significant in teacher preparation might include:

A belief that all students can learn, a vision of high and challenging standards, a commitment to personal professional development and to a safe and supportive learning environment, an ability to accept responsibility, an understanding of school operation as an integral part of the larger community, an acceptance of families as partners in the education of their children, and a dedication to bringing ethical principles into decision-making processes.

Such values and commitment are important elements in successful teaching and may frequently be of particular relevance at the unit level rather than for individual preparation programs.

One example of dispositions critical to effective teaching was the focus of a paper prepared for the Committee by Mary Kennedy. In stating the importance of “changing one’s conception of teaching,” Dr. Kennedy claims that:

The unusual nature of teacher learning is such that students entering teacher education already “know” a great deal about their chosen field. Moreover, they will use what they already know to interpret any new skills or new theories they acquire during the formal study of teaching. This fact means that the simple acquisition of new skills or theories is not adequate to alter teaching practices. Therefore, the central task of teacher learning must be to change these conceptions.

(Candidates) need to be persuaded that school subjects consist of more than the facts and rules they themselves learned as children. Teachers conceptions of subject matter as fixed, indisputable, and factual, need to be replaced with conceptions that recognize ambiguous concepts and tentativeness, and that acknowledge that even young children are capable of reasoning about and arguing
about ideas in each school subject. Unless teachers envision subject matter as conceptual, they cannot teach it conceptually. And teacher educators need to address and alter teacher candidates' strong desire to control student behavior, for the desire to develop management routines that keep students on task and in line is frequently a stumbling block to implementing conceptual approaches to teaching.

As evidence for her expression of dispositions, Kennedy suggested the following indicators:

| Evidence that teacher candidates adopt conceptual goals for teaching school subjects; |
| Evidence that teacher candidates justify their lesson plans and their approaches to teaching according to the concepts they want students to learn, and that these concepts are included in national subject matter standards; |
| Evidence that teacher candidates are aware of teaching practices such as reciprocal teaching, cognitive apprenticeships, and the writing process, which are defined according to what is learned rather than only according to how teachers behave; and |
| Evidence that programs monitor the teaching practices of cooperating teachers. |

It is difficult to identify measures for such indicators, and, indeed, it is challenging to establish measures of proficiency for any dispositions. Over time, however, institutions in which dispositions are explicit and important will find ways to demonstrate that candidates have achieved them. The Committee encourages faculty in elementary preparation programs, and the leadership of the unit, both to state values and commitments toward which completing elementary candidates should be disposed, and to search for appropriate ways that candidates' achievements in these areas can be exhibited.

There are few explicit references to dispositions in the Part I standards as written by the Committee, largely because of the measurement problems noted above. But here are some:

- From the introduction to Part I—New candidates for elementary teaching must be committed to elementary students and their learning. They must be prepared to act on a belief that all elementary children have potential for learning rigorous content and achieving high standards.
- From the supporting explanation of Standard 1—(Candidates) consider diversity an asset and respond positively to it.
- From the supporting explanation for standard 2e—Candidates are able to use knowledge, skills, and dispositions from social studies to organize and provide integrated instruction in grades K-6.
- From the supporting explanation for standard 2h—Teacher candidates recognize the critical importance of physically active life styles for all students.
Teacher candidates appreciate the intrinsic values and benefits associated with physical activity.

- From the supporting explanation for standard 5b—Candidates respect parents' choices and goals for their children and communicate effectively with parents about curriculum and children's progress.

3.d Positive Effects on Student Learning

Elementary teacher candidates are expected to gather examples of their elementary students' work. Those examples can illustrate that candidates' knowledge and teaching performances result in evidence of positive effects on students' achievement.

The Committee seeks a focus on student learning and it expects that program review submissions will sample and summarize what faculty monitoring has disclosed about learning among students of candidates in the elementary preparation program. It does not expect "representative samples" of work of a candidate's students. Nor does it expect Part I standards to be interpreted as efforts to hold elementary teacher candidates responsible for specific student gains on state achievement tests. In their field experiences, teacher candidates often are placed in other teachers' classes for short periods, are given limited control over the choice of curricula, must adapt to the teaching style of the cooperating teacher, and rarely have students for sufficient time to see other than very short term effects.

But student learning, as noted elsewhere, is the goal. It is appropriate to devise standards that direct attention to student learning. It is also appropriate to know whether teacher candidates can find ways to understand the level of accomplishment of their students, to use that knowledge as a basis for design of instruction for a particular objective, to identify and apply suitable measures of effects on student learning as a result, then finally, to reflect on the whole sequence and hypothesize how the instruction might have been more effective.

Here are some examples of Part I standards that call for positive effects on student learning:

- From standard 2a—Candidates... can create meaningful learning experiences that develop students' competence in subject matter and skills for various developmental levels.
- From the supporting explanation for standard 2b—(Candidates) teach students to read competently... Candidates teach students a variety of strategies to monitor their own reading comprehension... They help students think critically about what they read.
- From standard 2d—Candidates... foster student understanding and use of patterns, quantities, and spatial relationships that can represent phenomena, solve problems and manage data.
- From the supporting explanation for standard 3d—(Candidates) create learning communities in which elementary students assume responsibility for themselves

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and one another, participate in decisionmaking, work collaboratively and independently, and engage in purposeful learning activities.

In the box below some illustrative types of evidence to examine positive effects on student learning are listed:

<table>
<thead>
<tr>
<th>Evidence Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student work indicating material was learned and understood by elementary students</td>
</tr>
<tr>
<td>Student work and reflections on how this work relates to the lesson as taught</td>
</tr>
<tr>
<td>Teacher lesson plan based on understandings of the content domain, and teacher awareness of the common misconceptions that need to be addressed</td>
</tr>
<tr>
<td>Feedback on students' work that illustrates how the student could improve and advance</td>
</tr>
<tr>
<td>Elementary students' expressions that the activities are personally relevant, are connected to previous information learned, are interesting and challenging.</td>
</tr>
<tr>
<td>Examples of elementary student work demonstrating skills in integrating learning and generalizing</td>
</tr>
<tr>
<td>Student scores on achievement tasks throughout the time the teacher has been teaching and indications of how they are used to improve and enhance teaching</td>
</tr>
<tr>
<td>Evidence about the performance of previous teacher candidates (graduates) after they have taught a few years</td>
</tr>
</tbody>
</table>

B.4 Results from rigorous and systematic efforts by the institution to set performance levels and judge accomplishments of its candidates

Institutions that systematically conduct evaluations of candidate proficiencies also determine performance levels by which candidate success can be judged. They address the question: “How good is good enough?” The terms “rubrics” and “criteria” are frequently used to designate levels of performance. Rubrics and criteria are narrative descriptions of what is valued in a candidate’s response to an assessment—the qualities by which levels or elements of performance can be differentiated—and serve as anchors for judgments about the degree of candidate success. They may be stated in generic terms or may be specific to particular assessment tasks. They may define acceptable levels of performance for the institution and one or more levels below (such as borderline, or unacceptable) and above (such as exemplary), or they may be in the form of criteria defining the institution’s conditions or expectations for success”. The rubrics or criteria are “public,” shared with candidates and across the faculty.

Institutions with sound assessment evidence systems judge individual candidate proficiencies, and also summarize and analyze the proportions of new teacher candidates who reach levels or conditions expressed in the rubrics or criteria. These results are used both for advisement of individual candidates, and also for strengthening of the courses and experiences offered by the institution to prepare elementary teacher candidates. The
summary of results from the faculty judgments in applying the rubrics or criteria are used for the NCATE submission.

B.5 Provides information that is credible—accurate, consistent, fair and avoiding bias

The Committee has specified in Part II that the program and unit needs to demonstrate the “credibility” of their assessment information. That term was intended as less technical than the traditional “valid and reliable” (or accurate and consistent) but was expected to encompass those qualities, along with fairness, and avoiding bias.

Accuracy, or validity, is an expectation that the assessment information measures what is important for the decision to be made and represents the performances, competencies, and dispositions that are intended (that is, included in standards for elementary teacher candidates). Institutions with sound assessment systems gather and make use of defensible evidence that their assessment activities validly portray the proficiencies of their elementary teacher candidates. Linn and Miller (1986) made the following important comment about validity:

It is widely agreed that validity is the most important consideration in the evaluation of the use of a test. Validity is always a matter of degree. It is not a single all-or-none concept. Rather, the concern is with the degree to which the accumulated evidence supports a particular test use. Many forms of evidence may be relevant in evaluating the validity of a particular test use, and it is not possible to give a simple prescription for the forms or adequacy of the evidence in the abstract. Professional judgment is required to determine the forms of evidence that are most appropriate in a given situation and to judge the adequacy of the support for the intended purpose.

A core concept to the notion of validity is representativeness, that is, the degree to which the assessment task models the construct, and the degree to which it samples the universe of the construct. When choosing assessment procedures for whatever purpose—evaluating candidate achievement, determining program or course effectiveness, preparing for NCATE program approval—it is necessary to address the extent to which the assessments “represent” the performances, competencies, and dispositions, such that the process does not lead to:

- Construct under-representation (the assessment does not capture the important aspects of the construct), or
- Construct irrelevance (the assessment measures something other than what was intended by the construct).

Consistency, or reliability, in institutional assessment systems is an expectation that successive samples of performances from the same candidate are reasonably related. Assessment systems must also be fair; for example, they must be based in opportunities to learn provided by the curriculum and those, in turn, must reflect the standards for
teacher candidates. They should avoid bias, providing equitable treatment for all candidates. Making judgments about these matters requires professional expertise and is often determined through peer review, evaluations by external experts, or formal validation studies.

B.6 Makes use of appropriate sampling and summarizing procedures

In preparing the elementary program submission, the institution samples and summarizes information about candidate proficiencies.

Sampling refers both to representing the domain of the standards and representing the full range of the program's candidates. The candidate sample might be taken from the cohort of teacher candidates completing the program in a specific academic year and previous completers so that information about performance of candidates from their entire preparation experience and into employment can be available for demonstration of candidate proficiency. Of course, anonymity of individual candidates and the students of those candidates must be protected.

Candidate proficiency results can be summarized through averages, spread of scores, and distributions of rubric scores. Summary results are requested because the NCATE interest is in making decisions about program quality, rather than decisions about individual candidates. These summaries are made meaningful through illustrations such as samples of exam questions, examples of written responses, and analytic materials intended to inform reviewers of the proficiencies that candidates achieve in relation to the standards.

In demonstrating candidate proficiencies as the basis for program review, the guide is: ask enough, but not too much. Two key assumptions underlie the discussion of sampling evidence:

- It is reasonable to assume that all institutions will be able to demonstrate excellence. The key issue is whether this excellence is present among all, or most, of its teacher candidates. Merely asking an institution to provide evidence of excellence is insufficient, as there may be pockets of excellence, as opposed to excellence across all, or a sufficient number of, students. Thus, attention needs to be given not only the nature and level of performances desired, but the satisfactory sampling of this excellence.

- Given that the aim of Program Standards for Elementary Teacher Preparation is to raise expectations, then considering only teacher candidates within an institution who are at the "cut-score" point of excellence may lead to overemphasis of the minimally qualified candidate at the expense of considering and promoting the very best.

It is not necessary to sample all aspects of the standards. Sampling some of the standards relative to some of the students in a systematic way is advantageous. The amount and
degree of sampling may be related to prior performance by the institution. For example, institutional programs previously designated as "nationally recognized" may require less sampling, whereas those considered "borderline" in previous program reviews may require more sampling.

Whatever sampling methods are used, a series of performance indicators could be constructed to evaluate the quality of the assessments, such as:

- Which content knowledge and skills are intended to be assessed by the performance assessments(s)?

- How adequately do the assessment procedures cover knowledge and performances?

- What evidence is provided to demonstrate that faculty appropriately assess candidate work at levels expressed in the institution's rubrics for "acceptable" proficiency?

- What is the level/depth of the very best, as well as marginally acceptable, candidate work, with perhaps a sample of other work?


2. A publication that both describes and evaluates this topic is Grading Teachers, Grading Schools: Is Student Achievement a Valid Evaluation Measure? Edited by Jason Millman, Corwin Press, Inc., 1997. Among the examples of teacher and school evaluation in this book is the Oregon "Teacher Work Sample Methodology" as it has been created and nurtured by Western Oregon University.

3. Defining an Ideal Teacher Education Program, Mary M. Kennedy, Michigan State University, April, 1997, pp. 13 and 15.

4. Two specific approaches for evaluating levels of performance—or judging how good is good enough—came to the attention of the Committee in the course of its work. These are "SOLO" and "scoring rubrics."
These two methods provide some sense of convergence about establishing levels of performance, while each of may be more applicable to particular standards or institutional interests.

a. SOLO taxonomy.

The "Structure of the Observed Learning Outcomes" model, or SOLO, describes four consistent sequences, or levels. These levels are ordered in terms of various characteristics: from the concrete to the abstract; an increasing number of organizing dimensions; increasing consistency; and the use of organizing or relating principles. "SOLO" was developed to assess qualitative outcomes, which may be applied to evaluate learning quality in a wide variety of school and college situations, in most subject areas. The four levels are:

- **Unistructural**: One aspect of a task is picked up or understood serially, and there is no relationship between facts or ideas
- **Multistructural**: Two or more aspects of a task are picked up or understood serially, but are not interrelated
- **Relational**: Several aspects are integrated so that the whole has a coherent structure and meaning
- **Extended abstract**: The coherent whole is generalized to a higher level of abstraction

Here is an example of a performance standard based on the SOLO taxonomy: *It is expected that elementary teacher candidates know the content material to be taught, and can teach that content to elementary students in an integrated and coherent way.*


b. Scoring rubrics

A second approach to setting levels of performance that can define how good is good enough is through scoring rubrics for each assessment in relation to the associated standard(s). The example here is based on work of the National Board for Professional Teaching Standards.

Elementary teacher candidates can be classified on, at least, three levels:

- **Accomplished teacher candidates**: Elementary teacher candidates have accurate and deep understanding of the content relevant to each standard as exemplified in their performances as teachers—for example,
  The "accomplished" or level 3 performance provides clear, convincing, and consistent evidence that the elementary teacher candidate has knowledge of the content described in each standard, has the proficiencies to apply that knowledge to teaching situations, has enthusiasm and attitudes appropriate to successful teaching, and can have a positive impact on the learning of all his/her students with respect to the content specified in the standard.

- **Satisfactory teacher candidates**: Elementary teacher candidates demonstrate accurate understanding of the content relevant to each standard as exemplified in their performances as teachers—for example,
  The "satisfactory" or level 2 performance provides clear evidence that the elementary teacher candidate has knowledge of the content described in each
standard, has the proficiencies to apply that knowledge to teaching situations, has enthusiasm and attitudes appropriate to successful teaching, and can have a positive impact on the learning of all his/her students with respect to the content specified in the standard.

- **Unsatisfactory teacher candidates**: Elementary teacher candidates demonstrate limited and surface understanding of the content relevant to each standard as exemplified in their performances as teachers—for example, the “unsatisfactory” or level 1 performance provides limited or little or no evidence that the elementary teacher candidate has knowledge of content described in each standard, has the proficiencies to apply that knowledge to teaching situations, has enthusiasm or attitudes appropriate to successful teaching, or can have a positive impact on the learning of all his/her students with respect to the content specified in the standard.

An example of a performance standard based on scoring rubrics is: *It is expected that elementary teacher candidates have sufficient knowledge about the content material to be taught to elementary students that they would be classified at Level 2. Satisfactory teacher candidates.*
INTRODUCTION

This guidance paper is for institutions preparing to submit program reports for review by ACEI under Program Standards for Elementary Teacher Preparation¹. The guidance is in effect for all program reports due in the Spring of 2001 and thereafter, until it is modified or replaced by ACEI.

The paper was prepared, in affiliation with the Association for Childhood Education International (ACEI), to reflect deliberations and decisions by a “Transition Team” made up of representatives from:

- the Elementary Program Standards Drafting Committee², which prepared the Program Standards for Elementary Teacher Preparation,

- the Association for Childhood Education International (ACEI) which has conducted the NCATE program reviews in elementary teacher preparation for many years, and

- the Specialty Areas Studies Board (SASB), the NCATE board with responsibility for approval of specialty standards and program review processes.

This Team’s charge evolved from the elementary Program Standards that were written as part of NCATE’s shift to performance-based program reviews and performance-based unit accreditation. Several institutions—public and private, large and small—volunteered to participate in a piloting of the standards and compiling of performance evidence that would demonstrate whether candidates achieved the knowledge and skills described in the standards. The Transition Team responsibilities were to (1) observe, from program reports, whether the new Program Standards are understood by faculty, (2) determine whether additional guidance about the form and nature of the elementary teacher preparation program report would be useful, (3) develop criteria and procedures for review of program reports, and (4) reach judgments, in affiliation with ACEI, for “national recognition” of the pilot projects.

The guidance contained in this paper results from the Team’s meetings in December 1999 and September 2000, and its experience with ten program report submissions from seven institutions. The intent of this paper is to describe key aspects of the performance-based elementary teacher preparation program review so as to facilitate two needs:

- One is to facilitate faculty development and use of candidate performance information for program improvement and individual counseling purposes that can also serve as the basis for performance-based program review; and

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¹ The final version of the Program Standards for Elementary Teacher Preparation is dated March 7, 2000, reflecting approval actions by SASB in October 1999 and in February 2000. These are available at the NCATE website (http://ncate.org/standard_programstds.htm) in downloadable form.

² There were twenty members of the Drafting Committee including representatives of the subject content fields (English, reading, mathematics, science, social studies, health and physical education, the arts) as well as early education and child development, teacher organizations, teacher education, elementary and middle school education, education of children with disabilities, and the “INTASC” project.
Another is to provide general assistance on the contents of an elementary program report, and the review that will be conducted by ACEI, so that faculty can use their program report preparation time efficiently and effectively.

The guidance is provided in the form of answers to five questions:

I. PRINCIPLES—How is “performance-based” elementary program review different from the previous NCATE/AEI program review? (below, on this page)

II. EVIDENCE—What should be included in a performance-based program report? (see page 3)

III. REVIEWS—How will a performance-based program report be judged? (see page 10)

IV. TRANSITION—What are the expectations for evidence if the reviews are scheduled before an institution has an assessment system fully in place? (see page 12)

V. GOOD ASSESSMENT SYSTEMS—What are characteristics of assessment systems that can provide sound evidence of candidate proficiencies in the standards? (see page 14)

The questions are repeated, together with Transition Team answers, below.

PRINCIPLES

I. HOW IS “PERFORMANCE-BASED” ELEMENTARY PROGRAM REVIEW DIFFERENT FROM THE PREVIOUS NCATE/AEI PROGRAM REVIEW?

The Program Standards for Preparation of Elementary Teachers represent a new approach to program review in NCATE’s accreditation system. Three statements express the “paradigm shift” represented by the new standards and program review:

• First, the standards describe what teacher candidates should know and be able to do so that students learn. This contrasts with the previous course-based approach in which guidelines described what should be covered in courses and experiences in the program. Readers should especially notice the emphasis that the standards place on learning by candidates’ K-6 students.

• Second, the evidence used for decisions about “national recognition” of programs is from assessments and evaluations of candidate proficiencies in relation to those standards. This contrasts with evidence, under the previous course-based approach, that described where particular material is covered in the syllabi and courses.

• Third, it is the responsibility of program faculty to make the case that candidates completing elementary teacher preparation programs are meeting the standards and to demonstrate how well candidates are meeting them.

EVIDENCE

II. WHAT SHOULD BE INCLUDED IN A PERFORMANCE-BASED PROGRAM REPORT?

3 This is a reference to K-6 students in the school settings where candidates have their field experiences. See an extended description of this aspect of the Program Standards for Preparation of Elementary Teachers on pages 56 and 57. Other references to candidates’ abilities to have positive effects on student learning, and information that demonstrates those abilities, appear throughout the Program Standards. See, for example, the fourth point at the top of page 2 and text in the second paragraph below that: references to positive effects that candidates should have on student learning in the content of the standards on pages 4-5, statements of standards and supporting explanations on pages 15-34, and references to planning of candidate assessment information on page 39.
The performance-based evidence submitted for review of elementary programs is made up of (a) a context statement and (b) evidence of candidate proficiencies from assessments. A program report cover sheet is appended to this paper as Attachment A. If an institution offers programs for initial elementary teacher preparation at both the baccalaureate and master's degree levels, and has differing requirements and candidate performance information in those programs, then separate program reports should be submitted. During the phase-in to a fully implemented performance-based candidate information system, the "evidence" section of the program report also includes information on plans for assessments and currently available data demonstrating candidate proficiencies (see additional details in question IV, below, on the transition period).

A. Contextual Information

The context statement called for in the Program Standards for Elementary Teacher Preparation (on pages 36 to 38) creates an opportunity for the program faculty to provide background information that will assist reviewers' understanding of the candidate proficiency information.

The context statement should be brief. It should be concisely written as a summary of key points, not an extended, nuanced, cross-referenced paper with numerous attachments. It should provide a narrative statement about what is important and what is happening in the elementary preparation program. It should set the tone for candidate evidence that comprises the remainder of the program report, and provide background information on factors influencing the environment in which the program exists. Each institution has unique attributes that influence the elementary teacher preparation program. It is important that these attributes be considered when performance materials relating to the Program Standards for Elementary Teacher Preparation are judged. A statement that includes the following elements would help reviewers understand the context in which the program is conducted:

- **Basic factual information** on the program such as grades or ages covered, number of candidates enrolled and completing the program each year, and the degree level.

- **Relevant policies and practices** affecting the institution's elementary teacher preparation. These would help explain how the elementary preparation program is

\[\text{Institutional Program Review Submission for Elementary Teacher Preparation:}\]

Eighteen months prior to an expected Board of Examiners visit for initial unit accreditation, or twelve months prior to a continuing visit, each institution offering an elementary teacher preparation program will submit a summary description of the context in which the program is conducted. This statement, ranging from 20 to 30 pages, will contain any information that institutional representatives believe reviewers should take into account while judging the quality of the program through candidate performance.\[4\]

4 All program submissions are due at NCATE on either February 1 or September 15. "Eighteen months" means the February or September date nearest to eighteen months, or three semesters, before the scheduled BOE visit. "Twelve months" means the submission is due on the February or September date closest to one year, or two semesters, before the BOE visit.

5 The reference to "relevant policies and practices," does not include student handbooks per se. The intent is to identify policies and practices that directly influence the nature of the elementary preparation program. Examples might be policies regarding the particular mission of the institution, its orientation to and use of technology, its relationship with field sites, or the characteristics of the candidates it tries to recruit. If such policies appear in student or faculty handbooks or elsewhere, they should be excerpted, described, or summarized, and the submission

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shaped and how it functions and may, among other things, describe the relationship of elementary teacher program to the conceptual framework used for unit accreditation.

- The elementary program faculty’s evaluation of strengths, candidate proficiencies, and overall performance of the program in relation to its mission and goals and in relation to the Program Standards for Elementary Teacher Preparation.

- A description of assessments used for the elementary teacher candidate preparation, including (a) the program’s planned, purposeful, and continuing evaluation of candidate proficiencies; (b) use of multiple measures to capture various proficiencies of candidates called for in the elementary program standards, (c) actions by the program to set performance levels and judge accomplishments of candidates, (d) efforts to assure credibility—accuracy, consistency, fairness, and avoidance of bias—of the assessments, and (e) the manner in which results of assessments are used to evaluate and improve elementary preparation programs, teaching, and candidate performance.

- Any unique state requirements for K-6 students that may impinge on the implementation of the NCATE Program Standards for Elementary Teacher Preparation or on performance of elementary teacher candidates, with an explanation of how the unit accommodates differences between elementary Program Standards and state standards.

As an integral part of the context statement, the program should provide up to 10 pages explaining the strengths and qualities of the elementary teacher preparation program, including (1) courses and experiences the institution offers candidates, and (2) faculty judgments that candidates are ready to teach. This statement is not to be provided in the form of a matrix and syllabi, as ACEI has requested previously. Instead, the institution should provide its explanation in narrative form, making its strongest, reasoned case for the institution’s actions on two issues:

- Describe how program experiences provide opportunities for candidates to learn and practice the knowledge, skills, and dispositions in the standards.

For example, a reasoned case might be constructed around a description of the major emphases of the program in relation to the Program Standards, a statement detailing how the courses and field experiences are aligned to reinforce each other, a summary of capstone clinical experiences that create an environment for candidates to observe student learning as a result of their own efforts, or a discussion of linkages the program makes with arts and sciences faculty to align instruction in subject content courses with standards for new teachers. Syllabi do not provide information about should explain their effect on the elementary preparation program. When program reports are produced in web-based form, links to appropriate sections of documents can be provided to make such information readily accessible.
candidate proficiencies in the standards and should not be submitted as part of the program report⁶.

- Describe how the program faculty⁷ determine that they make sound judgments about candidates' readiness for licensure and initial teaching.

For example, a reasoned case might be developed around features of the program's assessments, the particular qualifications and experiences of the faculty as judges of teaching, or the nature of the state teacher induction program and success of the unit's elementary candidates in that program. The term "program faculty" in this guideline refers to anyone who participates in judging candidate readiness, or who conducts observations, evaluations, or scoring information used in judging candidates, including teacher education faculty, cooperating teachers, field personnel, and faculty in other departments or colleges.

B. Performance evidence

The principal part of an institution's program report is the aggregation, interpretation, and summarization of evidence demonstrating that elementary teacher candidates have acquired the knowledge and skills described in the elementary Program Standards. It is achievement of candidate proficiencies in the standards that will be the basis for judgments that standards are met and that the program merits national recognition. The performance evidence statement in the Program Standards for Elementary Teacher Preparation (on page 38) reads as follows:

| Institutional Program Review Submission for Elementary Teacher Preparation: |
| Eighteen months⁶ prior to an expected Board of Examiners visit for initial unit accreditation, or twelve months prior to a continuing visit, each institution offering an elementary teacher preparation program will submit performance material, not exceeding 140 pages including attachments, that summarizes the knowledge and skills proficiencies of elementary teacher candidates as a group. This information constitutes the primary evidence upon which a judgment of national program recognition will be made. |

The performance material must be comprehensive in its breadth, yet concise and deep in its contents. The intent is to inform reviewers about candidate proficiencies in relation to the standards included in Part I of Program Standards for Elementary Teacher Preparation. Even though the upper limit of this material is set at 140 pages, it may be possible to convey the necessary information in 50 to 75 pages. This would be possible, especially, if an institution regularly synthesizes data from its monitoring of candidate progress and puts the results into forms useful for discussions about how the program, and candidate performance, can be strengthened.

⁶ When program reports are prepared in web-based form, it would be possible to provide links to syllabi if the faculty want to reference the content candidates have studied or candidate program experiences. While such information might provide context, it would not demonstrate candidate mastery of the standards.

⁷ The term "faculty" here refers to all individuals who make judgments about the attainment and quality of candidate proficiencies, including those teaching in the education program, in arts and sciences, and in school clinical experience settings.

⁸ The explanation of "eighteen months" and "twelve months" provided in footnote 4 also pertains to this paragraph.
Note that during the initial years of experience with performance-based review, it is not necessary for faculty to have candidate proficiency data for every standard. Program reports may provide already available data (e.g., from admissions assessments, state licensure, employer reports, etc.) plus faculty plans for assessment of elementary program candidates, indicating how gaps will be filled and the relationship of that additional assessment information to the elementary standards. See the response for question IV on the transition period to full implementation of performance-based evidence (page 12, below).

In addition, the following guidelines are provided for preparation of program reports under the elementary Program Standards:

1. Organize the program report around the standards
2. Within the nine standards covering topics in the curriculum, provide, as a priority, evidence of candidate knowledge and skill in reading/language arts, mathematics, science, and social studies
3. Aggregate and interpret the data
4. Include descriptions of rubrics or criteria and information resulting from use of rubrics
5. Provide a few samples of candidate work
6. Exhibit use of multiple data sources
7. Make the report accessible for reviewers

The explanation for each of these guidelines follows:

1. **Organize the program report around the standards**

   The purpose of this portion of the program report is to provide evidence of candidate proficiencies in relation to the standards. The narrative should cover all of the 20 standards for elementary teacher candidates, even though a program may have collected stronger evidence for some standards than for others. Since review of the evidence (the aggregated, summarized and interpreted data) for each standard is the basis for reaching judgments as to whether standards are met or not met, this guideline is the most important of all. Evidence that is not structured around the standards is difficult or impossible for reviewers to use.

2. **Within the nine standards covering topics in the curriculum, provide, as a priority, evidence of candidate knowledge and skill in reading/language arts, mathematics, science, and social studies**

   The aggregated and sampled data **must** include candidate proficiency information or plans for assessments, within the curriculum standards (standards 2a through 2i in the Program Standards) that directly address reading/language arts, mathematics, science, and social studies knowledge and teaching skills of candidates. These are standards 2b, 2c, 2d, and 2e.

3. **Aggregate and interpret the evidence**

   The candidate proficiency data should be aggregated and interpreted. Reviewers need to understand what the data say about proficiencies of candidates in relation to the elementary preparation standards. That can be accomplished through summarized descriptions that aggregate and interpret the evidence.
"Aggregate" means to pull the information together, or collect it in one place, and the term may be applied either to aggregations of candidate cohorts or classes, or to aggregations of performance information. The program report should aggregate performance information across the elementary preparation program for candidates—specifying whether the candidates represented in each piece of data are candidates enrolled, candidates completing, or former candidates now employed as teachers. Also, the program report should aggregate, from the program's multiple sources of data, pertinent evidence across the scope of topics covered within each of the elementary Program Standards.

"Interpret" means to give or prove the meaning, explain, or elucidate. The program report should state what the program faculty have learned and concluded about candidate proficiencies from the array of evidence assembled for each standard.

4. Include descriptions of rubrics or criteria and information resulting from use of rubrics

Descriptions of rubrics or criteria used to evaluate candidates' proficiency levels should be included in the program report together with information on the proportion of the program enrollees or completers who attain each level of performance defined by the program. It is not helpful for reviewers to see mean scores alone; reviewers prefer to see the proportion of candidates who achieve at varying levels of proficiency.

5. Provide a few samples of candidate work

A few samples of candidate work should be included, some of which illustrate:
- candidates' work at different levels of performance as defined by the program (such as best in the program, acceptable in the program, and below the institution's standard),
- the variety of ways that proficiencies are assessed in the program,
- different points during a candidate's progress through the program, and
- several of the twenty standards for elementary candidates.

These samples are not intended as a request for sampling candidate work for all of the twenty standards. The intent of the samples is to add depth to the aggregated and interpreted summaries of candidate knowledge and performance by demonstrating the quality of candidate responses, and by illustrating the multiple types of information that the program gathers about candidate proficiencies. Reviewers will understand, of course, that good assessments often provide overlapping information that can inform several standards. Faculty should take advantage of that overlap in their summarizing of candidate proficiencies, and in their selection of samples of candidate work, to include in elementary program reports. Reviewers will also understand that several different assessments may well be needed to provide information demonstrating candidate proficiencies in relation to a single standard—either

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9 Candidates "enrolled" would include, e.g., newly admitted candidates, candidates in courses, and candidates ready for admission to field and clinical experiences.

10 Candidates "completing" would include, e.g., candidates who have completed their clinical practice, candidates who have completed state initial licensing requirements, and candidates whom the institution recommends to the state for licensure. Ordinarily this would comprise a graduating class or cohort.

11 Definitions of proficiency levels, explicit for each assessment or assessment task, should be an embedded part of any candidate work examples provided with the program report.
because each assessment measures only part of a standard, or because a standard has several strands or components that are most appropriately evaluated through differing forms of assessments. (See item 6, immediately below, which makes this point in terms of different “attributes” of standards.) Some standard components can be effectively measured through pencil and paper tests, or essays or reflections; others through such forms as group projects, observations, responses to vignettes or case studies, lesson plans, micro-teaching, analysis of elementary student work, interviews, or video analysis, etc.

6. Exhibit use of multiple data sources

Summaries, aggregations, and interpretations from multiple data sources should be exhibited in the program report. These should illustrate various points during candidates’ preparation program, the scope of the twenty standards, and examples of knowledge and skills achieved by the candidates.

The standards for elementary teacher candidates have different attributes, each of which should be measured in appropriate ways. The four attributes are:

- Knowledge that candidates should possess about subject content, pedagogy, child development and learning, motivation, instruction, assessment and the qualities of a professional;
- Abilities to apply that knowledge effectively in the classroom and other professional teaching situations, including collaboration with colleagues;
- Dispositions usually associated with candidates who go on to successful teaching careers; and
- Candidates’ ability to have positive effects on student learning.

One conclusion about the current state-of-the art in teacher assessment is that no single test or measurement of teacher candidates is sufficient by itself to represent these different attributes and the full scope of the standards. Multiple measures provide wide opportunities for candidates to demonstrate their accomplishments in relation to the standards. Institutions are expected to draw on the extensive range of available assessment forms, including multiple choice (which may be useful to gauge proficiencies in standards calling for candidate knowledge) and also observations, reflections, teaching demonstrations, analytic work, student work samples, and other forms of evaluative information demonstrating proficiency in teaching.

7. Make the report accessible for reviewers

Reviewers have limited time and that time is not effectively spent in trying to find the evidence scattered through a report or provided as part of an undifferentiated set of examples of candidate work or assessment tasks. Here are some tips that will facilitate the reviewers’ work:

LOCATION GUIDES
- Number all pages consecutively
- Provide explicit page references to specify examples to which reviewers should refer for particular standards
• Provide a table that cross-references standards with assessments used, with the aggregation of results, and with pages where the examples can be found
  
  Example—Program reports that provide aggregated information for standards in one volume and referenced examples in a separate volume help the reviewer see both pieces of information simultaneously
  
  Example—Organize material with divider tabs and separate sections (e.g. on the contextual statement, aggregated and summarized evidence, examples of candidate work)

**FORMATTING AND EDITING**

• Cite the text of the standard at the heading of each response
• Provide specific references to documentation in the explanation or narrative for each standard
• Make certain that the writing is legible in facsimiles of candidate work
• Include descriptive information on any standard tests, such as title, scope, congruence with the elementary preparation standards, and passing scores
• In reporting test results, show the range of performance of candidates, not just the mean achievement (e.g. state the proportions of candidates at upper, lower, and two middle quartiles, or at the top, bottom, and middle deciles as well as the mean score).
• Use graphs and charts wherever possible as a way to summarize information efficiently
• For information displayed on tables and charts, provide instructions to reviewers on how an example data statement should be read
• Example—Use pictures where they might assist the reviewer (e.g. illustrating motivation in connection with standard 1, or instructional processes under standard 3)

**REVIEWS**

### III. HOW WILL A PERFORMANCE-BASED PROGRAM REPORT BE JUDGED?

Program quality will be judged by reviewers on the basis of aggregated, interpreted, and sampled evidence that demonstrates candidates, as a group, are proficient in topics covered by the standards. For several of the standards, those proficiencies include evidence of positive effects that candidates have on K-6 student learning.

At least three readers from the ACEI reviewer pool (which includes members and representatives from other specialty organizations) will examine the contextual material and the summary of candidate proficiency evidence that are submitted in the program report, and prepare findings, analyses, and conclusions. These will be consolidated by the ACEI program coordinator and put into standard form for return to the institution. The "template" used for the response to institutions is appended as Attachment B. The review process will be comprised of the following elements:

• An analysis of the evidence demonstrating candidates’ proficiencies in relation to each of the twenty elementary standards. The analysis includes evidence of candidates’ effects on student learning where that is appropriate for a standard, and any issues arising from the analysis;

• A judgment on whether each standard is “met” or “not met.” If the information is insufficient to demonstrate that the standard has been met, the response to the institution provides clear indication of what is insufficient.
• The ACEI judgment that the program merits national recognition or does not. A program that is nationally recognized on the basis of currently available assessment results, together with plans for gathering additional information about candidate performances, retains that designation for five years, until the next continuing accreditation cycle.

• During the initial years of performance-based elementary preparation program review, ACEI will also provide a “national recognition, conditional” designation. When “national recognition, conditional” is applied, it represents an ACEI judgment that currently available assessment results, together with plans for gathering additional information about candidate performances, constitutes a strong case for national recognition. It means that reviewers have determined the program is expected to develop full capacity for demonstrating candidate proficiencies across the elementary preparation standards, and to achieve unqualified “national recognition” within a two year period from the time of designation. Program faculty are expected to provide a supplemental program report within that period as the basis for confirming or denying national recognition.

• If appropriate for the response, findings and understandings of reviewers may be described based on contextual information about the candidate assessments or assessment plan, or factors unique to the program that, in the reviewers' judgments, affect the program faculty's ability to assist their candidates' attainment of proficiencies in the elementary standards.

• An identification of areas of program concerns or weaknesses in specific standards.

• An identification of particular strengths of the elementary preparation program in specific standards.

• Suggested topics of investigation or questions that should be pursued by the BOE team during the site-visit.

TRANSITION

IV. WHAT ARE THE EXPECTATIONS FOR EVIDENCE IF THE REVIEWS ARE SCHEDULED BEFORE AN INSTITUTION HAS AN ASSESSMENT SYSTEM FULLY IN PLACE?

NCATE has established a timeline for transition to the new performance-based accreditation procedures. This is intended to provide a four-year period allowing institutions to plan, develop, pilot, and fully implement assessment systems that generate candidate proficiency information. ACEI is developing its own capability to use candidate proficiency information in program review decisions, and it assumes that institutions will provide such information according to the following NCATE schedule or sooner:

• academic year 2001-2002—plan, currently available data
• academic year 2002-2003—plan, pilot data, currently available data
• academic year 2003-2004—plan, more pilot data, currently available data
• academic year 2004-2005—institutions are to have fully functioning assessment systems that produce data on candidate proficiencies

Further details on the transition timeline are available at the NCATE web site, www.ncate.org.

Thus, by 2004-2005, all NCATE institutions are to have fully functioning assessment systems. By that year, also, ACEI expects all elementary programs to provide full candidate performance evidence to demonstrate that standards are met and that programs merit national recognition.
For years prior to academic year 2004-2005, the following guidance is provided to describe the evidence that should be included in elementary program reports:

- To be sufficient for decision making under the ACEI program review, a performance assessment plan should contain three pieces: (a) a context statement, (b) a summary of performance data currently available, and (c) a description of the program's plan for performance assessments together with proposed measures of candidate proficiencies and stages of implementation.

- The “context statement” is the same as that described under “contextual information” in question II.A, pages 3-6, above.

- Institutions should provide an aggregated and interpreted summary of “currently available data” that demonstrates candidate proficiencies in relation to the standards, such as:
  a) results on state licensure examinations,
  b) results on state induction year examinations,
  c) projects, essays, exam results or other evidence of mastery in the content area(s),
  d) admissions assessments,
  e) evaluations of field-based experiences, and
  f) any other data available at the time the program report is compiled that could demonstrate the degree to which candidates know their content, are able to teach, and can help students learn.

- The “currently available data” should be presented in a user-friendly format, so that the reader can clearly ascertain (1) the time period covered by a given set of data; (2) any codes or abbreviations that may be used or referenced in charts; and (3) the meaning of numerical data, i.e., what constitutes a high, minimally acceptable, or below acceptable level of performance.

- The “assessment plan” part of the submission details the program's proposed and developing assessments of candidate proficiencies and stages of assessment implementation. A plan provides detailed descriptions of the design for collecting, analyzing, summarizing and using candidate assessment information. It also describes key assessment points through the progression of a candidate’s preparation, type of assessments and their source:
  a) “Types” of assessments encompass an array of assessment forms, including multiple choice (which may be useful to gauge proficiencies in standards calling for candidate knowledge); observations by the faculty; reflections; journals; teaching demonstrations; work samples for candidate’s K-6 students; analytic work and other forms of evaluative information demonstrating proficiency; end-of-course evaluations; in-course projects; and comments by cooperating teachers. Information on general education and academic subject knowledge of candidates may be derived from end-of-course examinations, projects, essays, and other demonstrations of achievement. Other forms of assessment include employer surveys; induction year observations, portfolios, and follow-up studies; state licensure exams, especially any of those adapted from INTASC models (e.g., the portfolios for teaching competence or the test of teaching knowledge), and teacher knowledge exams in which content is consistent with the Program Standards or with equivalent state standards.

  b) The term sources is used to identify the places from which assessment information about candidates is obtained, either within the elementary preparation program, elsewhere in the education unit, elsewhere in the institution, or outside the institution. Within the education program refers to course work and field experiences; “elsewhere in the unit” could refer to education psychology, e.g., or other programs or departments. Assessments from the institution would include arts and sciences coursework in the candidate’s field of specialization as well as general education preparation. Assessment sources outside the institution might include state licensure and induction processes or employer information.
The emphasis on multiple measures is related to the multiple knowledge and skills described in the Program Standards. Assessments should be appropriate to the specific standards being addressed. Among other things, the plan should indicate how the program faculty expect to secure information on standards that describe candidate ability to have positive effects on student learning.

The material that answers question V, below, on qualities of good assessment systems, provides a useful summary of the characteristics of a performance evidence system that faculty might take into consideration as they develop plans for assessments.

GOOD ASSESSMENT SYSTEMS

V. WHAT ARE CHARACTERISTICS OF ASSESSMENT SYSTEMS THAT CAN PROVIDE SOUND EVIDENCE OF CANDIDATE PROFICIENCIES IN THE STANDARDS?

Assessment data should be appropriate for the standards, including multiple forms of measurement and measurement at multiple points over a candidate’s progression through a program. In addition, there must be rubrics or criteria that describe levels of performance by which the program judges its candidates. The elements of a good assessment system that would be likely to yield sound evidence of candidate proficiencies are described below, adapted from Program Standards for Elementary Teacher Preparation. Such a system:

- Results from planned, purposeful, and continuing evaluation of candidate proficiencies, drawing on diverse sources.

Monitoring of candidate performance is embedded in the elementary preparation program and conducted on a continuing basis. This monitoring is planned in response to faculty decisions about the points in the elementary preparation program best suited to gathering candidate performance information, consistent with the institution’s own context and mission.

All information about candidates’ proficiencies, from all sources, is drawn on by the elementary preparation program for continuous evaluation of candidate progress and program success. Excerpts, summaries and samples from this array of information are provided for use by ACEI in its program quality reviews. Institutions will usually begin to plan their assessment system around activities that are the direct responsibility of the teacher preparation unit. Examples of assessments that might be used or created within the program include end-of-course evaluations but also tasks used for instructional purposes such as projects, journals, observations by faculty, comments by cooperating teachers, samples of student work, and other information that would commonly be available for faculty use in determining the adequacy of the candidate’s accomplishments in a course.

The monitoring information from the elementary teacher preparation program can be complemented by evaluations originating from external sources that supply information on candidate proficiencies. Examples from outside the program are candidate performance evaluations during induction years and follow-up studies; performance on state licensure exams that assess candidates’ knowledge of their subject content and of pedagogy, and especially ones constructed to evaluate...
classroom teaching and effects on student learning; and academic subject knowledge
end-of-course examinations, essays, or other demonstrations of achievement.

- Represents the scope of the standards for elementary teacher preparation.

Candidate performance evidence is congruent with the knowledge and skill standards
in Part I, or equivalent\(^\text{12}\) ones the program sets for elementary teacher candidates.

Institutions determine the best way to demonstrate that all aspects of the twenty
standards for elementary teacher candidates are covered, but avoid treating
each individual statement in the Part I standards and supporting explanations in
an individual, serial, and fractionated way. Instead, faculty think through how all
their existing assessment information can be marshaled, and what additional
information is needed, to demonstrate candidate proficiency across the standards.

- Measures the different “attributes” of standards in appropriate and multiple ways.

The standards for elementary teacher candidates have different attributes, each of
which should be measured in appropriate ways. The four attributes are:
- Knowledge that candidates should possess about subject content, pedagogy, child
development and learning, motivation, instruction, assessment and the qualities of
a professional;
- Abilities to apply that knowledge effectively in the classroom and other
professional teaching situations, including collaboration with colleagues;
- Dispositions usually associated with candidates who go on to successful teaching
careers; and
- Candidates’ ability to have positive effects on student learning.

One conclusion about the current state-of-the-art in teacher assessment is that no
single test or measurement of teacher candidates is sufficient by itself to
represent these different attributes and the full scope of the standards. Multiple
measures provide wide opportunities for candidates to demonstrate their
accomplishments in relation to the standards. Institutions and program faculty
will draw on the extensive range of available assessment forms, including multiple
choice (which may be useful to gauge proficiencies in standards calling for candidate
knowledge) and also observations, reflections, teaching demonstrations, analytic
work, student work samples, and other forms of evaluative information demonstrating
proficiency in teaching.

- Results from rigorous and systematic efforts by the institution to set
performance levels and judge accomplishments of its candidates.

Faculty establish written and shared explanations of what is valued in a
candidate’s response to an assessment—the qualities by which levels of

\(^\text{12}\) “Equivalent” refers to a determination by ACEI that state standards, under an NCATE/state partnership
agreement, are essentially equivalent to the NCATE/ACEI standards.
performance can be differentiated—that serve as anchors for judgments about the degree of candidate success. The terms "rubrics" and "criteria" are frequently used in assessment to designate these explanations for levels of performance. These may be stated in generic terms or may be specific to particular assessment tasks created for the elementary preparation program. They may define acceptable levels of performance for the program and one or more levels below (such as borderline, or unacceptable) and above (such as exemplary), or they may be in the form of criteria defining the faculty's expectations for success. The rubrics or criteria are "public," that is shared with candidates and across the faculty. Faculty teach, advise, and prepare candidates for success in meeting critical external performance expectations, as expressed, for example, in state licensure test pass scores (when they are challenging).

The elementary preparation program faculty judge individual candidate proficiencies, and also summarize and analyze the proportions of new teacher candidates who reach levels expressed in the rubrics or criteria. These results are used both for advisement of individual candidates, and also for strengthening of the courses and experiences offered by the institution to prepare elementary teacher candidates. The summary of results from faculty judgments in applying the rubrics or criteria is included in the program report submitted for ACEI review. Examples of candidate work are attached to the program report where that is a useful way to assist reviewers' understanding of the levels of proficiency reached by candidates.

- Provides information that is credible—accurate, consistent, fair and avoiding bias.

The program gathers information on the accuracy (or validity) and consistency (or reliability) of its assessments. Accuracy is an expectation that the assessment information measures what is important for the decision to be made and that it represents the performances, competencies, and dispositions that are intended (that is, included in standards for elementary teacher candidates). Consistency is an expectation that successive samples of performances from the same candidate are reasonably related. Assessment systems must also be fair, avoiding bias and providing equitable treatment. These are matters that require professional judgment and are often determined through peer review, evaluations by external experts, or formal validation studies.

- Makes use of appropriate sampling and summarizing procedures.

In preparing the elementary program submission, the program samples and summarizes information about candidate proficiencies.

Sampling refers both to representing the domain of the standards and representing the full range of the program's candidates. When the assessment system is fully in operation, a candidate sample might be taken from the cohort of teacher candidates completing the program in a specific academic year and including...
initial employment evaluations. That would permit information about performance of candidates from their entire preparation experience and into teaching to be drawn on to demonstrate proficiency in the standards. Of course, anonymity of individual candidates and the students of those candidates must be protected. While assessment systems are developing, however, information may not be available on the progress of a single cohort of candidates from admission through exit of the program and into employment. During the transition period, program reports should make clear what group of candidates is being described with each aggregated and summarized set of information surrounding a standard.

Candidate proficiency results are summarized through averages, spread of scores, and distributions of rubric scores. Summary results are requested because the NCATE and ACEI interest is in making decisions about program quality, rather than decisions about individual candidates. These summaries are made meaningful through illustrations such as samples of exam questions, examples of written responses, and analytic materials intended to inform reviewers of the proficiencies that candidates achieve in relation to the standards.

Of course, programs that have sound evidence systems use the data to advise individual candidates and to revise teaching, courses, and experiences so that candidate proficiencies are enhanced.

Attachments

A. Program Report Cover Sheet and Checklist
B. Template for response to program report

For additional information contact:

From ACEI—
- Catheryn Weitman, tel. 305-899-4026; net. cweitman@mail.barry.edu
- Nancy Quisenberry, tel. 618-549-3359; net. nancy@siu.edu

From NCATE—
- Emerson J. Elliott, tel. 202-466-7496; net. emerson@ncate.org
- Boyce Williams, tel. 202-466-7496; net. boyce@ncate.org
## Attachment A

**ELEMENTARY TEACHER PREPARATION**  
**PROGRAM REPORT COVERSHEET**  
For review by the  
**ASSOCIATION FOR CHILDHOOD EDUCATION INTERNATIONAL**

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| Fax ____   
| Email ____ |
| Program name: [insert name of the institutional program] |
| Degree level: [insert]                             |
| Check levels of specialty professional association programs offered: |
| Initial ____  
| Advanced ____ |
| Date of on-site visit ___________________________ |
| List all attachments included with this elementary program report |

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Attachment B

First critique
Second critique
Third critique

NCATE PROGRAM REVIEW
ELEMENTARY TEACHER PREPARATION PROGRAMS

Professional organization: ASSOCIATION FOR CHILDHOOD EDUCATION INTERNATIONAL

Institution submitting program:
Campus: State:
Program: Date of review:
Degree level:

Analysis of the evidence provided:

Standard 1-Development, learning, and motivation
Standard met Standard not met

Standard 2a-Central concepts, tools of inquiry and structure of content
Standard met Standard not met

Standard 2b-English Language Arts
Standard met Standard not met

Standard 2c-Science
Standard met Standard not met

Standard 2d-Mathematics
Standard met Standard not met

Standard 2e-Social studies
Standard met Standard not met

Standard 2f-The arts
Standard met Standard not met

Standard 2g-Health education
Standard met Standard not met

Standard 2h-Physical education
Standard met Standard not met
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<td>Standard 3b-Adaptation to diverse students</td>
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<td>Standard 3c-Development of critical thinking, problem solving, and performance skills</td>
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<td>Standard 3d-Active engagement in learning</td>
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<td>Standard 4-Assessment</td>
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<td>Standard not met</td>
</tr>
<tr>
<td>Standard 5a-Practices and behaviors of developing career teachers</td>
<td>Standard met</td>
<td>Standard not met</td>
</tr>
<tr>
<td>Standard 5b-Reflection and evaluation</td>
<td>Standard met</td>
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</tr>
<tr>
<td>Standard 5c-Collaboration with families</td>
<td>Standard met</td>
<td>Standard not met</td>
</tr>
<tr>
<td>Standard 5d-Collaboration with colleagues and the community</td>
<td>Standard met</td>
<td>Standard not met</td>
</tr>
</tbody>
</table>

Program strengths:

Program Weaknesses:

Summary of the program quality:
Suggestions for the on-site team:

General comments that apply across standards:

<table>
<thead>
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<th>Decision:</th>
<th>The program is nationally recognized</th>
<th>The program is not nationally recognized</th>
</tr>
</thead>
</table>


Appendix F

NCATE 2000 Unit Standards

These standards were adopted by the NCATE Unit Accreditation Board on March 31, 2000, and were ratified by the NCATE Executive Board on May 11, 2000. These standards will be required for all visits, beginning in fall 2001.

CONCEPTUAL FRAMEWORK(S)
The conceptual framework(s) establishes the shared vision for a unit’s efforts in preparing educators to work effectively in P-12 schools. It provides direction for programs, courses, teaching, candidate performance, scholarship, service, and unit accountability. The conceptual framework(s) is knowledge-based, articulated, shared, coherent, consistent with the unit and/or institutional mission, and continuously evaluated.

I. CANDIDATE PERFORMANCE

Standard 1. Candidate Knowledge, Skills, and Dispositions
Candidates preparing to work in schools as teachers or other professional school personnel know and demonstrate the content, pedagogical, and professional knowledge, skills, and dispositions necessary to help all students learn. Assessments indicate that candidates meet professional, state, and institutional standards.

Standard 2. Assessment System and Unit Evaluation
The unit has an assessment system that collects and analyzes data on the applicant qualifications, the candidate and graduate performance, and unit operations to evaluate and improve the unit and its programs.

II. UNIT CAPACITY

Standard 3. Field Experiences and Clinical Practice
The unit and its school partners design, implement, and evaluate field experiences and clinical practice so that teacher candidates and other school personnel develop and demonstrate the knowledge, skills, and dispositions necessary to help all students learn.

Standard 4. Diversity
The unit designs, implements, and evaluates curriculum and experiences for candidates to acquire and apply the knowledge, skills, and dispositions necessary to help all students learn. These experiences include working with diverse higher education and school faculty, diverse candidates, and diverse students in P-12 schools.

Standard 5. Faculty Qualifications, Performance, and Development.
Faculty are qualified and model best professional practices in scholarship, service, and teaching, including the assessment of their own effectiveness as related to candidate performance; they also collaborate with colleagues in the disciplines and schools. The unit systematically evaluates faculty performance and facilitates professional development.

Standard 6. Unit Governance and Resources.
The unit has the leadership, authority, budget, personnel, facilities, and resources, including information technology resources, for the preparation of candidates to meet professional, state, and institutional standards.

Candidates include persons preparing to teach, teachers who are continuing their professional development, and persons preparing for other professional roles in schools such as principals, school psychologists, and school library media specialists. “All students” includes students with exceptionalities and of different ethnic, racial, gender, language, religious, socioeconomic, and regional/geographic origins. Institutional standards are reflected in the unit’s conceptual framework and include candidate proficiencies.


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Appendix G

Dear Fellow Educator:

The following is a list of questions intended to elicit your perceptions about the attributes necessary for entry-level (first year) elementary teachers. Please note that it is not intended for you to spend more than 10 and 15 minutes to complete this form. Your answers do not have to be in complete sentences. You may use phrases, bullets and/or abbreviations. Completion of this survey is voluntary. This information is part of research study that is investigating comparisons between perceptions of school-based educators with standards and regulations affecting teacher preparation.

Your responses to these questions will be strictly confidential. There will not be any attempt by the researcher to identify individual respondents or individual schools involved in this survey process. Thank you for taking time to read and respond with your specific thoughts. When you have completed the questions, please place the survey in the designated envelope in your school’s main office.

Please check current status: Administrator_____ Teacher____
If you are currently a teacher:
What grade(s) do you teach? _____ Number of years of teaching experience ______
How many years have you been in your current position? ______
Please list the subject(s) that you are teaching this year. ________________________________
If you are currently an administrator:
Number of years of teaching experience _____ How many years in your current position? _____

From your perspective:
1) What specific knowledge should entry-level (first year) elementary teachers have about content? ________________________________________________
   ________________________________________________
   ________________________________________________

2) What specific knowledge should entry-level elementary teachers have about pedagogy (teaching methods)? ________________________________________________
   ________________________________________________
   ________________________________________________

3) What specific knowledge should entry-level elementary teachers have about child development and learning? ________________________________________________
   ________________________________________________
   ________________________________________________

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4) What specific abilities should entry-level elementary teachers have in order to apply that knowledge in the classroom and other professional situations? 

__________________________________________________

5a) What does a successful teaching career mean to you? 

__________________________________________________

5b) What specific dispositions (professional characteristics) should entry-level elementary teachers have in order to sustain a long-term teaching career? 

__________________________________________________

6) What specific abilities should entry-level elementary teachers possess in order to have a positive effect on student learning? 

__________________________________________________

7) Additional comments about this issue or this survey:

__________________________________________________
February 21, 2002

Dr. Billy K. Cannaday, Jr., Superintendent
Chesterfield County Public Schools
P.O. Box 10
Chesterfield, Virginia 23832

Dear Dr. Cannaday:

As a part of the requirements for the fulfillment of my Doctoral degree at the College of William and Mary in Williamsburg, I am comparing the perceptions of principals and experienced teachers in elementary schools with the intended outcomes of teacher education programs. The focus of this study is a comparative analysis of the National Council for the Accreditation of Teacher Education (NCATE) Standards and the Virginia Licensure Regulations with these perceptions. Specifically, the comparison will be accomplished through document analysis and survey information gained from elementary educators.

In order to accomplish this, I am requesting permission to survey administrators and teachers in the thirty-six elementary schools in Chesterfield County to gather and assess their perceptions related to the knowledge, abilities and dispositions of entry-level teachers. I am attaching the survey for your review. Please note that it is brief but open-ended containing seven questions related to the characteristics noted above. Because of my affiliation with Chesterfield County Public Schools, I will use a research assistant to send the survey information and coordinate responses and communication with the schools. Their voluntary participation and response to the survey shall constitute their agreement to participate. All survey respondents will be assured anonymity during the entire process. The survey will be conducted during February/March of 2002.

Additionally, results gained from this study will be made available to you or your designated staff as you desire. If you have any questions regarding this proposal, please do not hesitate to contact me. Thank you for your consideration. I look forward to hearing from you.

Sincerely,

Stephen J. Chantry
Appendix I

Dear Educator:

I have been employed to facilitate an aspect of a study being conducted as part of research project from the College of William and Mary in Williamsburg, Virginia. Mr. Stephen J. Chantry is conducting this project under the auspices of Dr. James Stronge, Dr. Jill Surruss and Dr. Virginia Mc Laughlin, Dean of the School of Education. The focus is a comparison of teacher preparation standards with the perceptions of elementary principals and teachers regarding whether those standards reflect the attributes required for teaching. The context for the research is derived from three points of reference: elementary teacher education standards, state regulations for elementary personnel, and elementary educators in the field. By answering the questions on the attached survey, you will provide information that is essential to this project.

Each elementary school in Chesterfield County has received enough surveys for all of the full-time classroom teachers and administrators in the building. Please note that your participation is voluntary. Your completion of this survey will also serve as your acceptance to participate. Please know that your responses will remain confidential and anonymous. Neither your identity nor the identity of the school will be made available to the researchers. I will be the only source of contact with each school involved and this contact will only be for the purpose of gathering the surveys. Once each school principal has returned the completed surveys, I will group them together so that individual school or teacher responses will be indistinguishable.

Thank you for agreeing to participate in this research study. The building principal has my contact information in case you have any questions regarding this process. I have asked that the principal return the completed surveys within two weeks. I am hopeful that you can complete this with specific information and return it promptly. Again, thank you for your help.

Sincerely,

Marie Griffiths Nice
Research Assistant
Appendix J

Survey Response Summaries

The numbers in parenthesis represent teacher responses first, then administrator responses. When there is only one number present or none at all, it represents the teacher responses. This pattern is used throughout all of the summaries and analyses of the surveys until tallies are no longer included.

Question 1: What specific knowledge should entry-level (first year) elementary teachers have about content?

Basic knowledge of subject matter (10-3)
Little about everything (15)
Lots about everything
General Knowledge (11)
Knowledge to locate resources (12-1)
Writing and reading skills (5)
Discipline techniques (19-1)
Understanding of content (9-1)
What content is appropriate to stages of child development (8-2)
Methods of teaching (11-1)
Big Picture
Lots of content (1)
Fundamentals of phonics (10)
Knowledge of different styles (2)
Reading Instruction (2)
Curriculum is like building blocks (2)
K-5 content (3)
History, science, math and grammar (12)
Essentials of Learning (2)
Knowledge of child's social climate (1)
Dealing with parents (2)
Relating information to child (1)
Colleagues are valuable source of information (2)
Familiar with textbook (1)
Varying literature series (1)
"Fillers" (2)
Varying teaching styles/lessons (1)
Reading and math strong (5-3)
Application of standards to daily planning (1)
Interpersonal skills (1)
Minimum of two semesters of each content area (1)
Exposure to special education (1)
Share with fellow teachers (2)
Time is limited (1)
Familiar with SOLs (50-4)

**Question 2:** What specific knowledge should entry-level elementary teachers have about pedagogy (teaching methods)?

Knowledge of and ability to adapt various teaching styles (15-1)
Classroom management (16-2)
Knowledge of children’s needs (5)
General knowledge (5)
Latest trends (2)
Hands on/concrete objects (6-1)
Understanding appropriate stages of development (3)
Assessment/modifications (6)
Teaching to different needs (14-1)
Make it fun (2)
Study/observe more than one teacher (4)
Technology in classroom (2)
Knowledge of what works for you (5)
Lesson designs/plans (10-2)
Strategies for all subjects (6)
Adapting lessons for all students (9-4)
Discipline philosophy (7)
Transitional/scheduling (1)
Organization and time management (6-1)
Bloom’s taxonomy (4)
Phonics knowledge (1)
Multi-sensory memory methods (1)
Managing behavior problems (3-1)
Whole group vs. small group (5)
Concrete to abstract (1)
Experience with special education (4)
Teachers flexibility (3) Formal and informal strategies (1)
Motivational techniques (3)
Positive/eager approach (2)
Cognitive and metacognitive approaches to learning (1)
Individualizing instruction (4)
Bookkeeping and record keeping
“People skills” (1)
Familiar with different methods (17)
Child psychology (1)
Practical methods/exposure earlier (9)
How to set up a classroom (1)
How to lead a discussion (1)
Various resources/research (3)
Knowledge of individual learning styles/backgrounds (2)
Testing procedures (1)
Open to suggestions (2)
Conflict management skills (1)
Active learning strategies (1)
Methodology for all subjects (2)
Cooperative learning (1)
Writing behavioral objectives (1)
Techniques enhance student achievement (2)
Recognize "teachable moments" (0-1)
Make clear objectives (0-1)
How to introduce a lesson (0-1)
How to address diverse groups (0-1)
Variety with reading instruction (1-1)
Adapting tests to special needs (1)
Visual methods/auditory (1-1)
Recognizing reading and writing levels (1)

Question 3: What specific knowledge should entry-level elementary teachers have about child development and learning?

More knowledge the better (3)
Knowledge of developmentally appropriate (22-4)
Recognizing "outside the norm" (5)
General knowledge (6)
Common sense (2)
Focus on reading and writing stages (5)
Boys develop slower than girls
Looking at whole child (social, cogn. etc.) (4)
Observe classrooms sooner (5)
Child psychology (6)
Social issues (3)
Discipline and methods (2)
Physical/learning disabilities
Bilingual education
Knowledge of stages of development (15-2)
Appropriate expectations (9-1)
Children are at different levels (19-2)
Recognizing special needs cases (4)
Needs/wants (3)
"Backgrounds and baggage" (4)
Basic knowledge of special education (6)
Knowledge of various kinds of learners (8)
Behavior modifications (2)
Explore variety of teaching styles (6)
Seek help for what does not work
How to communicate with parents (3)
Know age limitations (4)
Children respond to positive reinforcement
Naturalistic approach to teaching of reading
Recognizing children with disabilities (9)
Developmental characteristics (2)
Benchmarks of learning for age/grade (3)
Behavior/academic development (2)
How to adapt lessons for special needs (2)
Experience (5)
Abnormal psychology
How children learn (0-1)
Knowledge of children interaction
Hands on materials (0-1)
How to arrange room to impact learning (0-1)
Cognitive and emotional components (2-1)
How to enrich/challenge-gifted students
Performance level of each child
How to recognize abuse (2)

Question 4: What specific abilities should entry-level elementary teachers have in order to apply that knowledge in the classroom and other professional situations?

Creativity (3)
Seek help from others (7)
When to try different approach (9)
Make parent partner in learning/How to communicate with parent (8)
"People skills"/be team player (17)
Flexibility (29)
Common sense (3)
Computer skills
Pass the praxis
Successful communication (16-2)
Organized and disciplined (24-1)
Hands on experience (14)
Knowledge of literature in field (3)
Positive attitude (8)
Consistent with children/procedure (4)
Multi task (6)
Understanding of how/when children learn (5-1)
Patience (7)
Sense of humor (2)
Leadership abilities (3)
Planning skills (4-2)
Recognize each child's strengths
Variety of different skills (1-1)
Knowledge of school community (2)
Assessment tools (5-1)
Sensitivity/concern for children (11)
How to help child with parent
How to begin/first month procedures
Time management (5)
Strong work ethic (3)
Classroom arrangement (10)
Teaching student to work independently (2)
Ability to cross over to other subjects (3)
Discipline (0-2)
Good listener (5-1)
Be an actor
Command of grammar and writing
When to use "hands on" over textbook (2)
Recognize "teachable moments"
Professionalism
See the "big picture" (2)
Ability to start over each day
Adjust to change easily (3)
Observation experience (2-1)
Content knowledge (2-2)
Appropriate consequences
A mentor (2)
Self-confidence (2)
Intelligence (2)
Following an IEP
Recognizing abuse
Fairness/Respect (2)
Application to "real life"
Make clear your expectations (3)
Acceptance
Problem-solving skills (0-2)
Think "outside the box" (0-1)
Anticipate problems (2)
Be "everyone" to child

**Question 5A:** What does a successful teaching career mean to you?

Good self-concept for children/good citizens (14)
Excited about learning (16-1)
Growth throughout year (9-1)
Met set goals
Doing what I want to do/love it (13-1)
Surpass expectations
Sense of wonder, joy and accomplishment
Seeing kids succeed (16-3)
Parents tell you kids love school
Making a difference (25-1)
Inspire/challenge both student and self (0-1)
Have fun doing it (5)
Communicating success to parents (1)
Students overcoming difficulties (6)
Helping child be best they can be (8-1)
Preparing child for world (6)
Teaching SOL's effectively/students passing SOL (2)
Creating new ways to help students learn (3)
Helping kids get along with others (4)
Balance personal/professional
Everything
Recognition for what teachers do/respect (6)
Good rapport w/colleagues/parents (6)
Watching kids learn/"light bulb" (3)
Helping kids of all abilities learn (5)
Learning about self from students (1)
Knowing I've done all I can (4)
Meeting kids needs (4)
Trying to be a better teacher
Pride in my job
Confidence in my ability
Dedication
Question 5B: What specific dispositions (professional characteristics) should entry-level elementary teachers have in order to sustain a long-term teaching career?

- Strong work ethic (6-3)
- Listen to parents/act as if own child (10)
- Supportive/caring/friendly/positive (24-2)
- Work well w/other/good manners (38-2)
- Flexibility (38-6)
- Love of learning/teaching (16-2)
- Love for children (17-1)
- Patience and understanding (36-2)
- Discipline (3)
- Consistency (4)
- High but reasonable expectations (9)
- Belief in self (3)
- Good health (2)
- High energy (4)
- Organization skills (17-3)
- Creativity/have fun (4)
- Ability to multi task
- Ability to self evaluate
- Find humor (11-3)
- Willing to try new things (8-1)
- Change in good/adapt to it (6)
- Desire to help/serve others
- Determination/persistence (16)
- Professionalism (8)
- Desire to do best for kids/give more (4)
- Not to take things personally (2)
- Dedication (5)
- Time management
- Honesty (2)
- Good listener
- Good role model (3)
- Classroom management (2)
- Plan lessons for SOL's
- Knowledgeable on content (2)
- Willing to learn with students (8)
- Respect for students/coworkers/administrators (6)
- Multi-tasking (2)
- Balance of personal and professional (2-1)
- Volunteer for committees and workshops
- Look for challenges outside class
- Have children of their own
- Be a mediator
- Desire to make difference (3)
- Responsible (2)
Question 6: What specific abilities should entry-level elementary teachers possess in order to have a positive effect on student learning?

- Patience (16-1)
- Flexible (16-1)
- Create a safe/caring environment (7)
- Willing to work long hours (1-1)
- Organized (5-1)
- Set goals to challenge (8)
- Classroom management/discipline (10)
- Enthusiasm (12)
- Understanding/respect (11-2)
- Education background (4)
- Love children (12-2)
- Set limits (2)
- Enjoy challenge
- Love of learning/teaching (13-2)
- Happy/positive (19-4)
- Praise children (3)
- Team player/people person (4-1)
- Communication skills (3-2)
- Good planning (3)
- Promote success in child (1)
- Discipline/firm (3)
- Motivator (6-1)
- Firm knowledge of child development
- Interest in individual students (5)
- Listener (4-3)
- All kids different/learn differently (9)
- Make learning fun/humor (16)
- Open mind
- Ability to cover SOL’s
- Self-control/role model (3)
- Interest in success (2)
- Strong support in/out of school
- Kindness/caring (6)
- Communication with parents (4)
- Hands on teaching
- Courage (1-1)
- No sarcasm
- Get to student’s level
- Provide good role model (2)
- Willing to change midstream (0-1)
- Show kids human side
- Let others help you
- Assess learning (0-1)
- Problem solving (0-1)
Question 7: Additional comments about this issue or this survey:

Be aware of different cultures and religions and economies (2)
Be open to learning
Take time to talk/listen to students
Kids mature/learn at different rates
Knowledge of developmental reading
Angry teacher/annoyed by survey
Knowledge to prepare grade book
Hands on experience every year (5)
Exposure to special education (2)
Broad range of success in students
Survey too open-ended/broad (5)
Varied student teaching (2)
Survey should've been done in focus group
Thanks (3)
Training for cooperating teachers
New teachers need to be well prepared
More men needed in profession
First year teachers willing to live teaching
Degree in elementary education/not subject area
Got to teach to know teaching (4)
SOL’s/New teachers must know them
Great survey
More help for lost/needy kids
Student teachers need more exposure (1-1)
More class control for 1st years
Good luck to “Teachers to be”
It’s tough (2)
More prepared
Never easy, always changing
Find the great, happy teachers and stick to them
Good grades don’t make good teachers
Teaching so important (2)
Twenty-five minutes to fill out
All need mentors
Appendix K

The tables in Appendix K represent the summaries of terms from the surveys that are listed in Appendix J associated with a second column (to the right) that re-orders and groups these terms. The re-order and grouping is shown in hierarchical order starting with highest number of responses to lowest.

The responses listed in Tables K1 and K2 of Appendix K are derived from the first two survey questions related to specific knowledge of content and pedagogy. The column on the left is a duplication of the summaries listed in Appendix J. On the right side of the column, the re-ordering based on number of like responses and re-grouping, based on similarity of terms and phrases is listed.

Also note that some responses imply a lack of understanding of the question by the respondent. In some cases the response referred to teaching methodology, "discipline techniques," or "methods of teaching" for example, when responding to the question related to content knowledge. Although this occurred to a lesser degree for the second question on the survey referring to knowledge of pedagogy, some respondents noted such things as "phonics knowledge," and "bookkeeping or record keeping." Even though this information doesn't appear to be useful (because of its poor correlation to the intent of the question), it was retained through the continued process of reduction.
Table Ki: (1) What specific knowledge should entry-level (first year) elementary teachers have about content?

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<th>Summaries</th>
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<td>Basic knowledge of subject matter (10-3)</td>
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<tr>
<td>General Knowledge (11)</td>
<td>Understanding of content (9-1)</td>
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<tr>
<td>Knowledge to locate resources (12-1)</td>
<td>K-5 content (3)</td>
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<td>Writing and reading skills (5)</td>
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<td>Discipline techniques (9-1)</td>
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<td>Minimum of two semesters of each content area (1)</td>
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<td>Methods of teaching (11-1)</td>
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<td>Big Picture</td>
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<td>Reading Instruction (2)</td>
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<td>Time is limited (1)</td>
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</tr>
</tbody>
</table>
Table K2: What specific knowledge should entry-level elementary teachers have about pedagogy (teaching methods)?

<table>
<thead>
<tr>
<th>Summaries</th>
<th>Re-Order and Grouping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of and ability to adapt various teaching styles (15-1)</td>
<td>Teaching to different needs (14-1)</td>
</tr>
<tr>
<td>Classroom management (16-2)</td>
<td>Adapting lessons for all students (8-5)</td>
</tr>
<tr>
<td>Knowledge of children’s needs (5)</td>
<td>Knowledge of children’s needs (5)</td>
</tr>
<tr>
<td>General knowledge (5)</td>
<td>Understand appropriate stages of development (3)</td>
</tr>
<tr>
<td>Latest trends (2)</td>
<td>Bloom’s taxonomy (4)</td>
</tr>
<tr>
<td>Hands on/concrete objects (6-1)</td>
<td>Child psychology (1)</td>
</tr>
<tr>
<td>Understanding appropriate stages of development (3)</td>
<td>How to address diverse groups (0-1)</td>
</tr>
<tr>
<td>Assessment/modifications (6)</td>
<td>Knowledde of and ability to adapt various teaching styles (14-2)</td>
</tr>
<tr>
<td>Teaching to different needs (14-1)</td>
<td>Classroom management (16-2)</td>
</tr>
<tr>
<td>Make it fun (2)</td>
<td>Familiar with different methods (17)</td>
</tr>
<tr>
<td>Study/observe more than one teacher (4)</td>
<td>Discipline philosophy (7)</td>
</tr>
<tr>
<td>Technology in classroom (2)</td>
<td>Organization and time management (7)</td>
</tr>
<tr>
<td>Knowledge of what works for you (5)</td>
<td>Strategies for all subjects (5-1)</td>
</tr>
<tr>
<td>Lesson designs/plans (10-2)</td>
<td>Knowledge of what works for you (5)</td>
</tr>
<tr>
<td>Strategies for all subjects (5-1)</td>
<td>Managing behavior problems (3-1)</td>
</tr>
<tr>
<td>Adapting lessons for all students (8-5)</td>
<td>Individualizing instruction (4)</td>
</tr>
<tr>
<td>Discipline philosophy (7)</td>
<td>Motivational techniques (3)</td>
</tr>
<tr>
<td>Transitional/scheduling (1)</td>
<td>Positive/eager approach (2)</td>
</tr>
<tr>
<td>Organization and time management (6-1)</td>
<td>Methodology for all subjects (2)</td>
</tr>
<tr>
<td>Bloom’s taxonomy (4)</td>
<td>Techniques enhance student achievement (2)</td>
</tr>
<tr>
<td>Phonics knowledge (1)</td>
<td>Make clear objectives (0-1)</td>
</tr>
<tr>
<td>Multi-sensory memory methods (1)</td>
<td>Cognitive and metacognitive approaches to learning (1)</td>
</tr>
<tr>
<td>Managing behavior problems (3-1)</td>
<td>Conflict management skills (1)</td>
</tr>
<tr>
<td>Whole group vs. small group (5)</td>
<td>Lesson designs/plans (10-2)</td>
</tr>
<tr>
<td>Concrete to abstract (1)</td>
<td>Various resources/research (3)</td>
</tr>
<tr>
<td>Experience with special education (4)</td>
<td>Transitional/scheduling (1)</td>
</tr>
<tr>
<td>Teachers flexibility (3)</td>
<td>Bookkeeping and record keeping</td>
</tr>
<tr>
<td>Formal and informal strategies (1)</td>
<td>How to set up a classroom (1)</td>
</tr>
<tr>
<td>Motivational techniques (3)</td>
<td>Writing behavioral objectives (1)</td>
</tr>
<tr>
<td>Positive/eager approach (2)</td>
<td>Lesson designs/plans (10-2)</td>
</tr>
<tr>
<td>Cognitive and metacognitive approaches to learning (1)</td>
<td>Various resources/research (3)</td>
</tr>
<tr>
<td>Individualizing instruction (4)</td>
<td>Bookkeeping and record keeping</td>
</tr>
<tr>
<td>Bookkeeping and record keeping “People skills” (1)</td>
<td>How to set up a classroom (1)</td>
</tr>
<tr>
<td>Familiar with different methods (17)</td>
<td>Testing procedures (1)</td>
</tr>
<tr>
<td>Child psychology (1)</td>
<td>Writing behavioral objectives (1)</td>
</tr>
<tr>
<td>Practical methods/exposure earlier (9)</td>
<td>General knowledge (5)</td>
</tr>
<tr>
<td>How to set up a classroom (1)</td>
<td>Technology in classroom (2)</td>
</tr>
<tr>
<td>How to lead a discussion (1)</td>
<td>Phonics knowledge (1)</td>
</tr>
<tr>
<td>Various resources/research (3)</td>
<td>Hands on/concrete objects (6-1)</td>
</tr>
<tr>
<td>Assessment/modifications (6)</td>
<td></td>
</tr>
<tr>
<td>Teacher Education</td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td></td>
</tr>
<tr>
<td>Testing procedures (1)</td>
<td></td>
</tr>
<tr>
<td>Open to suggestions (2)</td>
<td></td>
</tr>
<tr>
<td>Conflict management skills (1)</td>
<td></td>
</tr>
<tr>
<td>Active learning strategies (1)</td>
<td></td>
</tr>
<tr>
<td>Methodology for all subjects (2)</td>
<td></td>
</tr>
<tr>
<td>Cooperative learning (1)</td>
<td></td>
</tr>
<tr>
<td>Writing behavioral objectives (1)</td>
<td></td>
</tr>
<tr>
<td>Techniques enhance student achievement (2)</td>
<td></td>
</tr>
<tr>
<td>Recognize “teachable moments” (0-1)</td>
<td></td>
</tr>
<tr>
<td>Make clear objectives (0-1)</td>
<td></td>
</tr>
<tr>
<td>How to introduce a lesson (0-1)</td>
<td></td>
</tr>
<tr>
<td>How to address diverse groups (0-1)</td>
<td></td>
</tr>
<tr>
<td>Variety with reading instruction (1-1)</td>
<td></td>
</tr>
<tr>
<td>Adapt tests to special needs (0-1)</td>
<td></td>
</tr>
<tr>
<td>Visual methods/auditory (1-1)</td>
<td></td>
</tr>
<tr>
<td>Recognizing reading and writing levels (1)</td>
<td></td>
</tr>
</tbody>
</table>

| Whole group vs. small group (5) |
| Teachers flexibility (3) |
| Make it fun (2) |
| Variety w/reading instruction (1-1) |
| Visual methods/auditory (1-1) |
| Latest trends (2) |
| Concrete to abstract (1) |
| Formal and informal strategies (1) |
| “People skills” (1) |
| How to lead a discussion (1) |
| Active learning strategies (1) |
| Cooperative learning (1) |
| Recognize “teachable moments” (0-1) |
| How to introduce a lesson (0-1) |
| Practical methods/exposure earlier (9) |
| Study/observe more than one teacher (4) |
| Experience with special education (4) |
| Open to suggestions (2) |
| Adapting tests to special needs (0-1) |
| Multi-sensory memory methods (1) |
Table K3 depicts teachers and administrators responses regarding teachers' knowledge about child development and learning. The same procedure as outlined previously has been used here. Interestingly, all responses to this question seemed to relate accurately to the topic queried.

Table K3: What specific knowledge should entry-level elementary teachers have about child development and learning?

<table>
<thead>
<tr>
<th>Summaries</th>
<th>Re-Order and Grouping</th>
</tr>
</thead>
<tbody>
<tr>
<td>More knowledge the better (3)</td>
<td>Knowledge of developmentally appropriate (22-4)</td>
</tr>
<tr>
<td>Knowledge of developmentally appropriate (22-4)</td>
<td>Knowledge of stages of development (15-2)</td>
</tr>
<tr>
<td>Recognizing &quot;outside the norm&quot; (5)</td>
<td>Appropriate expectations (9-1)</td>
</tr>
<tr>
<td>General knowledge (6)</td>
<td>Know age limitations (4)</td>
</tr>
<tr>
<td>Common sense (2)</td>
<td>Developmental characteristics (2)</td>
</tr>
<tr>
<td>Focus on reading &amp; writing stages (5)</td>
<td>Behavior/academic development (2)</td>
</tr>
<tr>
<td>Boys develop slower than girls</td>
<td>How children learn (0-1)</td>
</tr>
<tr>
<td>Looking at whole child (social, cogn. etc.) (4)</td>
<td>Boys develop slower than girls</td>
</tr>
<tr>
<td>Observe classrooms sooner (5)</td>
<td>Children are at different levels (19-2)</td>
</tr>
<tr>
<td>Child psychology (6)</td>
<td>Knowledge of various kinds of learners (8)</td>
</tr>
<tr>
<td>Social issues (3)</td>
<td>Child psychology (6)</td>
</tr>
<tr>
<td>Discipline and methods (2)</td>
<td>Looking at whole child (social, cognitive etc.) (4)</td>
</tr>
<tr>
<td>Physical/learning disabilities</td>
<td>Cognitive and emotional components (2-1)</td>
</tr>
<tr>
<td>Bilingual education</td>
<td>Abnormal psychology</td>
</tr>
<tr>
<td>Knowledge of stages of development (15-2)</td>
<td>Recognizing children w/ disabilities (9)</td>
</tr>
<tr>
<td>Appropriate expectations (9-1)</td>
<td>Basic knowledge of special ed (6)</td>
</tr>
<tr>
<td>Children are at different levels (19-2)</td>
<td>Recognizing special needs cases (4)</td>
</tr>
<tr>
<td>Recognizing special needs cases (4)</td>
<td>Adapt lessons for spec needs (2)</td>
</tr>
<tr>
<td>Needs/wants (3)</td>
<td>Physical/learning disabilities</td>
</tr>
<tr>
<td>&quot;Backgrounds and baggage&quot; (4)</td>
<td>General knowledge (6)</td>
</tr>
<tr>
<td>Basic knowledge of special education (6)</td>
<td>More knowledge the better (3)</td>
</tr>
<tr>
<td>Knowledge of various kinds of learners (8)</td>
<td>Common sense (2)</td>
</tr>
<tr>
<td>Behavior modifications (2)</td>
<td>Focus on reading &amp; writing stages (5)</td>
</tr>
<tr>
<td>Explore variety of teaching styles (6)</td>
<td>Benchmarks of learning for age/grade (3)</td>
</tr>
<tr>
<td>Seek help for what does not work</td>
<td>Performance level of each child</td>
</tr>
<tr>
<td>How to communicate w/ parents (3)</td>
<td></td>
</tr>
<tr>
<td>Know age limitations (4)</td>
<td></td>
</tr>
<tr>
<td>Children respond to positive reinforcement</td>
<td></td>
</tr>
<tr>
<td>Naturalistic approach to teaching of reading</td>
<td></td>
</tr>
<tr>
<td>Recognizing children with</td>
<td></td>
</tr>
</tbody>
</table>

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| disabilities (9)                              | Explore variety of teaching styles (6) |
| Developmental characteristics (2)           | Discipline and methods (2)              |
| Benchmarks of learning for age/grade (3)    | Behavior modifications (2)              |
| Behavior/academic development (2)           | Children respond to positive reinforcement |
| How to adapt lessons for special needs (2)  |                                             |
| Experience (5)                              | Recognizing “outside the norm” (5)      |
| Abnormal psychology                         | “Backgrounds and baggage” (4)            |
| How children learn (0-1)                    | Needs/wants (3)                         |
| Knowledge of children interaction           | Knowledge of children interaction       |
| Hands on materials (0-1)                    |                                             |
| How to arrange room to impact learning (0-1)| Observe classrooms sooner (5)            |
|                                             | Experience (5)                          |
| Cognitive and emotional components (2-1)    |                                             |
| How to enrich/challenge-gifted students     | How to communicate w/ parents (3)        |
| Performance level of each child             | How to recognize abuse (2)               |
| How to recognize abuse (2)                  | Bilingual education                      |
|                                             | Seek help for what does not work         |
|                                             | Hands on materials (0-1)                  |
|                                             | How to arrange room to impact learning (0-1) |
|                                             | How to enrich/challenge-gifted students  |
The fourth question as depicted in Table K4, elicited responses that fell into the categories of abilities as well as knowledge even though the survey question asked about abilities to apply that knowledge in the classroom. In most cases though, the responses reflected personal characteristics or traits necessary for the entry-level teacher. Often these traits were either inherent or attained through experience opportunities as opposed to education or specific training. Examples from the summaries include: "creativity", "flexibility", "problem solver", "positive attitude", and "organized."

Table K4: (4) What specific abilities should entry-level elementary teachers have in order to apply that knowledge in the classroom and other professional situations?

<table>
<thead>
<tr>
<th>Summaries</th>
<th>Re-Order and Grouping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creativity (3)</td>
<td>Successful communication (16-2)</td>
</tr>
<tr>
<td>Seek help from others (7)</td>
<td>&quot;People skills&quot;/be team player (17)</td>
</tr>
<tr>
<td>When to try different approach (9)</td>
<td></td>
</tr>
<tr>
<td>Make parent partner in learning/How to communicate with parent (8)</td>
<td>Seek help from others (7)</td>
</tr>
<tr>
<td>&quot;People skills&quot;/be team player (17)</td>
<td>A mentor (2)</td>
</tr>
<tr>
<td>Flexibility (29)</td>
<td></td>
</tr>
<tr>
<td>Common sense (3)</td>
<td>Flexibility (29)</td>
</tr>
<tr>
<td>Computer skills</td>
<td>Sensitivity/concern for children (11)</td>
</tr>
<tr>
<td>Pass the praxis</td>
<td>Positive attitude (8)</td>
</tr>
<tr>
<td>Successful communication (16-2)</td>
<td>Patience (7)</td>
</tr>
<tr>
<td>Organized and disciplined (24-1)</td>
<td>Multi task (6)</td>
</tr>
<tr>
<td>Hands on experience (14)</td>
<td>Good listener (5-1)</td>
</tr>
<tr>
<td>Knowledge of literature in field (3)</td>
<td>Creativity (3)</td>
</tr>
<tr>
<td>Positive attitude (8)</td>
<td>Common sense (3)</td>
</tr>
<tr>
<td>Consistent with children/procedure (4)</td>
<td>Adjust to change easily (3)</td>
</tr>
<tr>
<td>Multi task (6)</td>
<td>Self-confidence (2)</td>
</tr>
<tr>
<td>Understanding of how/when children learn (5-1)</td>
<td>Intelligence (2)</td>
</tr>
<tr>
<td>Patience (7)</td>
<td>Fairness/Respect (2)</td>
</tr>
<tr>
<td>Sense of humor (2)</td>
<td>Sense of humor (2)</td>
</tr>
<tr>
<td>Leadership abilities (3)</td>
<td>Acceptance</td>
</tr>
<tr>
<td>Planning skills (4-2)</td>
<td>Be &quot;everyone&quot; to child</td>
</tr>
<tr>
<td>Recognize each child's strengths</td>
<td>Be an actor</td>
</tr>
<tr>
<td>Variety of different skills (1-1)</td>
<td>Hands on experience (14)</td>
</tr>
<tr>
<td>Knowledge of school community (2)</td>
<td>Understanding of how/when children learn (6)</td>
</tr>
<tr>
<td>Assessment tools (5-1)</td>
<td>Planning skills (4-2)</td>
</tr>
<tr>
<td></td>
<td>Assessment tools (5-1)</td>
</tr>
<tr>
<td></td>
<td>Time management (5)</td>
</tr>
<tr>
<td></td>
<td>Content knowledge (2-2)</td>
</tr>
<tr>
<td></td>
<td>Make clear your expectations (3)</td>
</tr>
<tr>
<td></td>
<td>Leadership abilities (3)</td>
</tr>
</tbody>
</table>
Sensitivity/concern for children (11)
How to help child with parent
How to begin/first month procedures
Time management (5)
Strong work ethic (3)
Classroom arrangement (10)
Teaching student to work independently (2)
Ability to cross over to other subjects (3)
Discipline (0-2)
Good listener (5-1)
Be an actor
Command of grammar and writing
When to use “hands on” over textbook (2)
Recognize “teachable moments”
Professionalism
See the “big picture” (2)
Ability to start over each day
Adjust to change easily (3)
Observation experience (2-1)
Content knowledge (2-2)
Appropriate consequences
A mentor (2)
Self-confidence (2)
Intelligence (2)
Following an IEP
Recognizing abuse
Fairness/Respect (2)
Application to “real life”
Make clear your expectations (3)
Acceptance
Problem-solving skills (0-2)
Think “outside the box” (0-1)
Anticipate problems (2)
Be “everyone” to child

Knowledge of literature in field (3)
Variety of different skills (1-1)
When to use “hands on” over textbook (2)
Computer skills, Pass the praxis
Recognize “teachable moments”
Appropriate consequences
Application to “real life”
Make parent partner in learning/How to communicate with parent (8)
Knowledge of school community (2)
How to help child with parent
Problem solving skills (0-2)
Organized and disciplined (24-1)
Classroom arrangement (10)
Strong work ethic (3)
Observation experience (2-1)
See the “big picture” (2)
Recognizing abuse
Think “outside the box” (0-1)
How to begin/first month procedures
Command of grammar and writing
Professionalism
Ability to start over each day

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The next two tables in Appendix K (Tables K5 and K6) refer to the two part question on the survey that relate to the career of teaching. Although there were many similarities in the responses for these two, responses to question 5a contained more references to qualities of job satisfaction while responses to question 5b contained more references to adaptability issues while on the job or actually teaching.

Job satisfaction involved such things as student growth and achievement, personal and professional growth, and joy from the job experience. Adaptability issues seemed to refer to characteristics that were necessary in order to respond to the demands and complexities of working in the school organization. These issues included such things as strong work ethic, flexibility, organization, determination and persistence.

<table>
<thead>
<tr>
<th>Summaries</th>
<th>Re-Order and Grouping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good self-concept for children/good citizens (14)</td>
<td>Excited about learning (16-1)</td>
</tr>
<tr>
<td>Excited about learning (16-1)</td>
<td>Good self-concept for children/good citizens (14)</td>
</tr>
<tr>
<td>Growth throughout year (9-1)</td>
<td>Doing what I want to do/love it (13-1)</td>
</tr>
<tr>
<td>Met set goals</td>
<td>Recognition for what teachers do/respect (6)</td>
</tr>
<tr>
<td>Doing what I want to do/love it (13-1)</td>
<td>Have fun doing it (5)</td>
</tr>
<tr>
<td>Surpass expectations</td>
<td>Knowing I've done all I can (4)</td>
</tr>
<tr>
<td>Sense of wonder, joy and accomplishment</td>
<td>Inspire/challenge both student and self (0-1)</td>
</tr>
<tr>
<td>Seeing kids succeed (16-3)</td>
<td></td>
</tr>
<tr>
<td>Parents tell you kids love school</td>
<td>Sense of wonder, joy and accomplishment</td>
</tr>
<tr>
<td>Making a difference (25-1)</td>
<td>Parents tell you kids love school</td>
</tr>
<tr>
<td>Inspire/challenge both student and self (0-1)</td>
<td>Trying to be a better teacher</td>
</tr>
<tr>
<td>Have fun doing it (5)</td>
<td>Pride in my job</td>
</tr>
<tr>
<td>Communicate success to parents (1)</td>
<td>Confidence in my ability</td>
</tr>
<tr>
<td>Students overcoming difficulties (6)</td>
<td>Dedication</td>
</tr>
<tr>
<td>Help child be best he can be (8-1)</td>
<td>Rewarding for both self and students (0-1)</td>
</tr>
<tr>
<td>Preparing child for world (6)</td>
<td>Growth throughout year (9-1)</td>
</tr>
<tr>
<td>Teaching SOL's effectively/students passing SOL (2)</td>
<td>Learning about self from students (1)</td>
</tr>
<tr>
<td>Creating new ways to help students learn (3)</td>
<td>Met set goals</td>
</tr>
<tr>
<td>Helping kids get along with others (4)</td>
<td>Good rapport w/colleagues/parents (6)</td>
</tr>
<tr>
<td>Balance personal/professional</td>
<td>Staying current on methodology</td>
</tr>
<tr>
<td>Everything</td>
<td>Making a difference (25-1)</td>
</tr>
<tr>
<td>Recognition for what teachers do/respect (6)</td>
<td>Seeing kids succeed (16-3)</td>
</tr>
<tr>
<td>Good rapport w/colleagues/parents (6)</td>
<td>Help child be best he can be (8-1)</td>
</tr>
<tr>
<td>Watch kids learn/<em>light bulb</em> (3)</td>
<td>Preparing child for world (6)</td>
</tr>
<tr>
<td>Helping kids of all abilities learn (5)</td>
<td>Helping kids of all abilities learn (5)</td>
</tr>
<tr>
<td>Learn about self from students (1)</td>
<td>Meeting kids needs (4)</td>
</tr>
<tr>
<td>Knowing I've done all I can (4)</td>
<td>Help kids get along with others (4)</td>
</tr>
<tr>
<td>Meeting kids needs (4)</td>
<td>Reaching kids learn/<em>light bulb</em> (3)</td>
</tr>
<tr>
<td>Trying to be a better teacher</td>
<td>Reaching child in every way (0-2)</td>
</tr>
<tr>
<td>Pride in my job</td>
<td>Creating new ways to help students learn (3)</td>
</tr>
<tr>
<td>Confidence in my ability</td>
<td>Teaching SOL's effectively/students passing SOL (2)</td>
</tr>
<tr>
<td>Dedication</td>
<td>Good rapport w/colleagues/parents (6)</td>
</tr>
<tr>
<td>Connecting with children, parents and colleagues (0-1)</td>
<td>Communicate success to parents (1)</td>
</tr>
<tr>
<td>Reaching child in every way (0-2)</td>
<td>Connecting with children, parents and colleagues (0-1)</td>
</tr>
<tr>
<td>Staying current on methodology</td>
<td>Rewarding for both self and students (0-1)</td>
</tr>
</tbody>
</table>
Table K6: What specific dispositions (professional characteristics) should entry-level elementary teachers have in order to sustain a long-term teaching career?

<table>
<thead>
<tr>
<th>Summaries</th>
<th>Re-Order and Grouping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong work ethic (6-3)</td>
<td>Flexibility (38-6)</td>
</tr>
<tr>
<td>Listen to parents/act as if own child (10)</td>
<td>Work well w/other/good manners (38-2)</td>
</tr>
<tr>
<td>Supportive/caring/friendly/positive (24-2)</td>
<td>Patience and understanding (36-2)</td>
</tr>
<tr>
<td>Work well w/other/good manners (38-2)</td>
<td>Supportive/caring/friendly/positive (24-2)</td>
</tr>
<tr>
<td>Flexibility (38-6)</td>
<td>Determination/persistence (16)</td>
</tr>
<tr>
<td>Love of learning/teaching (16-2)</td>
<td>Find humor (11-3)</td>
</tr>
<tr>
<td>Love for children (17-1)</td>
<td>Creativity/have fun (4)</td>
</tr>
<tr>
<td>Patience and understanding (36-2)</td>
<td>Consistency (4) Discipline (3)</td>
</tr>
<tr>
<td>Discipline (3) Consistency (4)</td>
<td>Good role model (3)</td>
</tr>
<tr>
<td>High, reasonable expectations (9)</td>
<td>Ability to multi task (3)</td>
</tr>
<tr>
<td>Belief in self (3)</td>
<td>Honesty (2) Responsible (2)</td>
</tr>
<tr>
<td>Good health (2) High energy (4)</td>
<td>Good health (2) Be a mediator</td>
</tr>
<tr>
<td>Organization skills (17-3)</td>
<td>Organization skills (17-3)</td>
</tr>
<tr>
<td>Creativity/have fun (4)</td>
<td>Strong work ethic (6-3)</td>
</tr>
<tr>
<td>Ability to multi task</td>
<td>Willing to try new things (8-1)</td>
</tr>
<tr>
<td>Ability to self evaluate</td>
<td>Professionalism (8)</td>
</tr>
<tr>
<td>Find humor (11-3)</td>
<td>Dedication (5)</td>
</tr>
<tr>
<td>Willing to try new things (8-1)</td>
<td>Balance of personal and professional (2-1)</td>
</tr>
<tr>
<td>Change is good/adapt to it (6)</td>
<td>Time management</td>
</tr>
<tr>
<td>Desire to help/serve others</td>
<td>Desire to help/serve others</td>
</tr>
<tr>
<td>Determination/persistence (16)</td>
<td>Volunteer for committees and workshops</td>
</tr>
<tr>
<td>Professionalism (8)</td>
<td>Look for challenges outside class</td>
</tr>
<tr>
<td>Desire to do best for kids/give more (4)</td>
<td>Love of learning/teaching (16-2)</td>
</tr>
<tr>
<td>Not to take things personally (2)</td>
<td>Love for children (17-1)</td>
</tr>
<tr>
<td>Dedication (5)</td>
<td>High, reasonable expectations (9)</td>
</tr>
<tr>
<td>Time management</td>
<td>Willing to learn with students (8)</td>
</tr>
<tr>
<td>Honesty (2)</td>
<td>Respect for students/coworkers/administrators (6)</td>
</tr>
<tr>
<td>Good listener</td>
<td>Desire to do best for kids/give more (4)</td>
</tr>
<tr>
<td>Good role model (3)</td>
<td>Desire to make difference (3)</td>
</tr>
<tr>
<td>Classroom management (2)</td>
<td>Listen to parents/act as if own child (10)</td>
</tr>
<tr>
<td>Plan lessons for SOL's</td>
<td>Belief in self (10)</td>
</tr>
<tr>
<td>Knowledgeable on content (2)</td>
<td>Not to take things personally (2)</td>
</tr>
<tr>
<td>Willing to learn with students (8)</td>
<td>Ability to self evaluate</td>
</tr>
<tr>
<td>Respect for students/coworkers/administrators (6)</td>
<td>Good listener</td>
</tr>
<tr>
<td>Multi-tasking (2)</td>
<td>Change is good/adapt to it (6)</td>
</tr>
<tr>
<td>Balance of personal and professional (2-1)</td>
<td>Consistency (4) Discipline (3)</td>
</tr>
<tr>
<td>Volunteer for committees and workshops</td>
<td>Classroom management (2)</td>
</tr>
<tr>
<td>Look for challenges outside class</td>
<td>Knowledgeable on content (2)</td>
</tr>
<tr>
<td>Have children of their own</td>
<td>Plan lessons for SOLs</td>
</tr>
<tr>
<td>Be a mediator</td>
<td>Have children of their own</td>
</tr>
<tr>
<td>Desire to make difference (3)</td>
<td></td>
</tr>
<tr>
<td>Responsible (2)</td>
<td></td>
</tr>
</tbody>
</table>

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The information in table K7 is derived from the sixth question on the survey that was more general, requesting a response regarding abilities necessary to have a positive effect on learning. This question allowed the respondents to summarize or prioritize attributes necessary for teaching. In fact, responses included combinations of aspects related to all of questions two through five with no references to content knowledge from question one.

Table K7: (6) What specific abilities should entry-level elementary teachers possess in order to have a positive effect on student learning?

<table>
<thead>
<tr>
<th>Summaries</th>
<th>Re-Order and Grouping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patience (16-1)</td>
<td>Happy/positive (19-4)</td>
</tr>
<tr>
<td>Flexible (16-1)</td>
<td>Patience (16-1) Flexible (16-1)</td>
</tr>
<tr>
<td>Create safe/caring environment (7)</td>
<td>Understanding/respect (11-2)</td>
</tr>
<tr>
<td>Willing to work long hours (1-1)</td>
<td>Enthusiasm (12)</td>
</tr>
<tr>
<td>Organized (5-1)</td>
<td>Motivator (6-1)</td>
</tr>
<tr>
<td>Set goals to challenge (8)</td>
<td>Listener (4-3)</td>
</tr>
<tr>
<td>Classroom management/discipline (10)</td>
<td>Organized (5-1)</td>
</tr>
<tr>
<td>Enthusiasm (12)</td>
<td>Kindness/caring (6)</td>
</tr>
<tr>
<td>Understanding/respect (11-2)</td>
<td>Self-control/role model (3)</td>
</tr>
<tr>
<td>Education background (4)</td>
<td>Courage (1-1)</td>
</tr>
<tr>
<td>Love children (12-2)</td>
<td>Open mind</td>
</tr>
<tr>
<td>Set limits (2)</td>
<td>Set goals to challenge (8)</td>
</tr>
<tr>
<td>Enjoy challenge</td>
<td>Create safe/caring environment (7)</td>
</tr>
<tr>
<td>Love of learning/teaching (13-2)</td>
<td>Praise children (3)</td>
</tr>
<tr>
<td>Happy/positive (19-4)</td>
<td>Good planning (3)</td>
</tr>
<tr>
<td>Praise children (3)</td>
<td>Interest in individual students (5)</td>
</tr>
<tr>
<td>Team player/people person (4-1)</td>
<td>Set limits (2)</td>
</tr>
<tr>
<td>Communication skills (3-2)</td>
<td>Interest in success (2)</td>
</tr>
<tr>
<td>Good planning (3)</td>
<td>Provide good role model (2)</td>
</tr>
<tr>
<td>Promote success in child (1)</td>
<td>Get to student’s level</td>
</tr>
<tr>
<td>Discipline/firm (3)</td>
<td>Show kids human side</td>
</tr>
<tr>
<td>Motivator (6-1)</td>
<td>Assess learning (0-1)</td>
</tr>
<tr>
<td>Firm knowledge of child development</td>
<td>Problem solving (0-1)</td>
</tr>
<tr>
<td>Interest in individual students (5)</td>
<td>Make learning fun/humor (16)</td>
</tr>
<tr>
<td>Listener (4-3)</td>
<td>Love of learning/teaching (13-2)</td>
</tr>
<tr>
<td>All kids different/learn differently (9)</td>
<td>Love children (12-2)</td>
</tr>
<tr>
<td>Make learning fun/humor (16)</td>
<td>All kids different/learn differently (9)</td>
</tr>
<tr>
<td>Open mind</td>
<td>Willing to change midstream (8)</td>
</tr>
<tr>
<td>Ability to cover SOL’s</td>
<td>Team player/people person (4-1)</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Teacher Education</th>
<th>252</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self-control/role model (3)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Interest in success (2)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Strong support in/out of school</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Kindness/caring (6)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Communication with parents (4)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Hands on teaching</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Courage (1-1)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>No sarcasm</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Get to student's level</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Provide good role model (2)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Willing to change midstream (8)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Show kids human side</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Let others help you</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Assess learning (0-1)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Problem solving (0-1)</strong></td>
<td></td>
</tr>
</tbody>
</table>

| **Communication skills (3-2)** |
| **Education background (4)** |
| **Communication with parents (4)** |
| **Willing to work long hours (1-1)** |
| **Promote success in child (1)** |
| **Enjoy challenge** |
| **Ability to cover SOL's** |
| **Strong support in/out of school** |
| **Hands on teaching** |
| **No sarcasm** |
| **Let others help you** |
The information in the last table in Appendix K (table K8) contains summary comments that respondents were invited to make about the issues covered on the survey or merely the survey instrument. This information is useful primarily for anecdotal information and commentary. In some instances additional information related to some of the previous questions is provided.

Table K8: (7) Additional comments about this issue or this survey.

<table>
<thead>
<tr>
<th>Summaries</th>
<th>Re-Order and Grouping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Be aware of different cultures and religions and economies (2)</td>
<td>Varied student teaching (2)</td>
</tr>
<tr>
<td>Be open to learning</td>
<td>Student teachers need more exposure (1-1)</td>
</tr>
<tr>
<td>Take time to talk/listen to students</td>
<td>Training for cooperating teachers</td>
</tr>
<tr>
<td>Kids mature/learn at different rates</td>
<td>New teachers need to be well prepared</td>
</tr>
<tr>
<td>Knowledge of developmental reading</td>
<td>First year teachers willing to live teaching</td>
</tr>
<tr>
<td>Angry teacher/annoyed by survey</td>
<td>SOL's/New teachers must know them</td>
</tr>
<tr>
<td>Knowledge to prepare grade book</td>
<td>More class control for 1st years</td>
</tr>
<tr>
<td>Hands on experience every year (5)</td>
<td>Good luck to “Teachers to be”</td>
</tr>
<tr>
<td>Exposure to special education (2)</td>
<td>All need mentors</td>
</tr>
<tr>
<td>Broad range of success in students</td>
<td>Be aware of different cultures and religions and economies (2)</td>
</tr>
<tr>
<td>Survey too open-ended/broad (5)</td>
<td>Take time to talk/listen to students</td>
</tr>
<tr>
<td>Varied student teaching (2)</td>
<td>Kids mature/learn at different rates</td>
</tr>
<tr>
<td>Survey should've been done in focus group</td>
<td>Training for cooperating teachers</td>
</tr>
<tr>
<td>Thanks (3)</td>
<td>New teachers need to be well prepared</td>
</tr>
<tr>
<td>Training for cooperating teachers</td>
<td>First year teachers willing to live teaching</td>
</tr>
<tr>
<td>New teachers need to be well prepared</td>
<td>SOL's/New teachers must know them</td>
</tr>
<tr>
<td>More men needed in profession</td>
<td>More class control for 1st years</td>
</tr>
<tr>
<td>First year teachers willing to live teaching</td>
<td>Good luck to “Teachers to be”</td>
</tr>
<tr>
<td>Degree in elementary education/not subject area</td>
<td>All need mentors</td>
</tr>
<tr>
<td>Got to teach to know teaching (4)</td>
<td>Be aware of different cultures and religions and economies (2)</td>
</tr>
<tr>
<td>SOL's/New teachers must know them</td>
<td>Take time to talk/listen to students</td>
</tr>
<tr>
<td>Great survey</td>
<td>Kids mature/learn at different rates</td>
</tr>
<tr>
<td>More help for lost/needy kids</td>
<td>Training for cooperating teachers</td>
</tr>
<tr>
<td>Student teachers need more exposure (1-1)</td>
<td>New teachers need to be well prepared</td>
</tr>
<tr>
<td>More class control for 1st years</td>
<td>First year teachers willing to live teaching</td>
</tr>
<tr>
<td>Good luck to “Teachers to be”</td>
<td>SOL's/New teachers must know them</td>
</tr>
<tr>
<td>It's tough (2)</td>
<td>More class control for 1st years</td>
</tr>
<tr>
<td>More prepared</td>
<td>Good luck to “Teachers to be”</td>
</tr>
<tr>
<td></td>
<td>More help for lost/needy kids</td>
</tr>
<tr>
<td></td>
<td>Degree in elementary education/not subject area</td>
</tr>
<tr>
<td></td>
<td>More prepared</td>
</tr>
<tr>
<td></td>
<td>Never easy, always changing</td>
</tr>
<tr>
<td></td>
<td>Survey too open-ended/broad (5)</td>
</tr>
</tbody>
</table>

Thanks (3)
<table>
<thead>
<tr>
<th>Never easy, always changing</th>
<th>Angry teacher/annoyed by survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Find the great, happy teachers and</td>
<td>Survey should've been done in</td>
</tr>
<tr>
<td>stick to them</td>
<td>focus group</td>
</tr>
<tr>
<td>Good grades don't make good</td>
<td>Great survey</td>
</tr>
<tr>
<td>teachers</td>
<td>Twenty-five minutes to fill out</td>
</tr>
<tr>
<td>Teaching so important (2)</td>
<td>More men needed in profession</td>
</tr>
<tr>
<td>Twenty-five minutes to fill out</td>
<td>It's tough (2)</td>
</tr>
<tr>
<td>All need mentors</td>
<td>Find the great, happy teachers and</td>
</tr>
<tr>
<td></td>
<td>stick to them</td>
</tr>
<tr>
<td>Good grades don't make good</td>
<td>Good grades don't make good</td>
</tr>
<tr>
<td>teachers</td>
<td>teachers</td>
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</table>
Table L1: What specific knowledge should entry-level (first year) elementary teachers have about content?

<table>
<thead>
<tr>
<th>Re-Order and Grouping</th>
<th>First Reduction - Combinations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Familiar w/ SOLs (50-4)</td>
<td>Familiar w/ SOLs(T/A)</td>
</tr>
<tr>
<td>Basic knowledge of subject matter (10-3)</td>
<td>Basic knowledge of subject matter(T/A)</td>
</tr>
<tr>
<td>General Knowledge (11)</td>
<td>General Knowledge(T)</td>
</tr>
<tr>
<td>Understanding of content (9-1)</td>
<td>Content and SOL knowledge(T/A)</td>
</tr>
<tr>
<td>K-5 content (3)</td>
<td></td>
</tr>
<tr>
<td>Essentials of Learning (2)</td>
<td></td>
</tr>
<tr>
<td>Lots of content (1)</td>
<td></td>
</tr>
<tr>
<td>Minimum of two semesters of each content area (1)</td>
<td></td>
</tr>
<tr>
<td>Little about everything (15)</td>
<td>Little about everything(T)</td>
</tr>
<tr>
<td>Lots about everything</td>
<td></td>
</tr>
<tr>
<td>Big Picture</td>
<td></td>
</tr>
<tr>
<td>Hist, sci, math and grammar (12)</td>
<td>History, science, math and grammar(T)</td>
</tr>
<tr>
<td>Fundamentals of phonics (10)</td>
<td>Fundamentals of phonics(T)</td>
</tr>
<tr>
<td>Reading and math strong (5-3)</td>
<td>Reading skills/knowledge(T/A)</td>
</tr>
<tr>
<td>Writing and reading skills (5)</td>
<td></td>
</tr>
<tr>
<td>Reading Instruction (2)</td>
<td></td>
</tr>
<tr>
<td>Methods of teaching (11-1)</td>
<td>Methods of teaching(T/A)</td>
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<tr>
<td>Knowledge of different styles (2)</td>
<td>Variations in teaching styles(T)</td>
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<tr>
<td>Relating information to child (1)</td>
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<tr>
<td>Vary teaching styles/lessons (1)</td>
<td></td>
</tr>
<tr>
<td>What content is appropriate to stages of child development (8-2)</td>
<td></td>
</tr>
<tr>
<td>Knowledge of child's social climate (1)</td>
<td></td>
</tr>
<tr>
<td>Knowledge to locate resources (12-1)</td>
<td>Knowledge to locate resources(T/A)</td>
</tr>
<tr>
<td>Familiar with textbook (1)</td>
<td></td>
</tr>
<tr>
<td>Varying literature series (1)</td>
<td></td>
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<tr>
<td>Applic of standards to planning (1)</td>
<td></td>
</tr>
<tr>
<td>Share with fellow teachers (2)</td>
<td>Communication skills with colleagues(T/A)</td>
</tr>
<tr>
<td>Interpersonal skills (0-1)</td>
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</tr>
<tr>
<td>Discipline techniques (9-1)</td>
<td>Discipline techniques(T/A)</td>
</tr>
<tr>
<td>Curr is like building blocks (2)</td>
<td>Curr is like building blocks(T)</td>
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<tr>
<td>Colleagues source of information (2)</td>
<td>Colleagues source of info(T)</td>
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<tr>
<td>“Fillers” (2)</td>
<td>“Fillers” (T)</td>
</tr>
<tr>
<td>Exposure to special education (1)</td>
<td>Exposure to special education(T)</td>
</tr>
<tr>
<td>Time is limited (1)</td>
<td>Time is limited (T)</td>
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</table>
Table L2: (2) What specific knowledge should entry-level elementary teachers have about pedagogy (teaching methods)?

<table>
<thead>
<tr>
<th>Re-Order and Grouping</th>
<th>First Reduction - Combinations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching to different needs (14-1)</td>
<td>Teaching to different needs (T/A)</td>
</tr>
<tr>
<td>Adapting lessons for all students (8-5)</td>
<td>Adapting lessons for all students (T/A)</td>
</tr>
<tr>
<td>Knowledge of children's needs (5)</td>
<td>Knowledge about student needs and learning stages (T)</td>
</tr>
<tr>
<td>Understand appropriate stages of development (3)</td>
<td></td>
</tr>
<tr>
<td>Bloom's taxonomy (4)</td>
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</tr>
<tr>
<td>Child psychology (1)</td>
<td></td>
</tr>
<tr>
<td>How to address diverse groups (0-1)</td>
<td></td>
</tr>
<tr>
<td>Recognize reading and writing levels (1)</td>
<td></td>
</tr>
<tr>
<td>Knowledge of and ability to adapt various teaching styles (14-2)</td>
<td>Knowledge of and ability to adapt various teaching styles (T/A)</td>
</tr>
<tr>
<td>Classroom management (16-2)</td>
<td>Classroom management (T/A)</td>
</tr>
<tr>
<td>Familiar with different methods (17)</td>
<td>Familiar with different methods (T)</td>
</tr>
<tr>
<td>Discipline philosophy (7)</td>
<td>Understanding various management techniques (T/A)</td>
</tr>
<tr>
<td>Organization and time management (7)</td>
<td>Clear Objectives (A)</td>
</tr>
<tr>
<td>Strategies for all subjects (5-1)</td>
<td></td>
</tr>
<tr>
<td>Knowledge of what works for you (5)</td>
<td></td>
</tr>
<tr>
<td>Managing behavior problems (3-1)</td>
<td></td>
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<tr>
<td>Individualizing instruction (4)</td>
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<tr>
<td>Motivational techniques (3)</td>
<td></td>
</tr>
<tr>
<td>Positive/eager approach (2)</td>
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<tr>
<td>Methodology for all subjects (2)</td>
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<tr>
<td>Techniques enhance student achievement (2)</td>
<td></td>
</tr>
<tr>
<td>Make clear objectives (0-1)</td>
<td></td>
</tr>
<tr>
<td>Cognitive and metacognitive approaches to learning (1)</td>
<td></td>
</tr>
<tr>
<td>Conflicts management skills (1)</td>
<td></td>
</tr>
<tr>
<td>Lesson designs/plans (10-2)</td>
<td>Lesson designs/plans (T/A)</td>
</tr>
<tr>
<td>Various resources/research (3)</td>
<td>Classroom and record-keeping organizational skills (T)</td>
</tr>
<tr>
<td>Transitional/scheduling (1)</td>
<td></td>
</tr>
<tr>
<td>Bookkeeping and record keeping</td>
<td></td>
</tr>
<tr>
<td>How to set up a classroom (1)</td>
<td></td>
</tr>
<tr>
<td>Testing procedures (1)</td>
<td></td>
</tr>
<tr>
<td>Writing behavioral objectives (1)</td>
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</tr>
<tr>
<td>General knowledge (5)</td>
<td>General knowledge (T)</td>
</tr>
<tr>
<td>Technology in classroom (2)</td>
<td>Technology in classroom (T)</td>
</tr>
<tr>
<td>Phonics knowledge (1)</td>
<td>Phonics knowledge (T)</td>
</tr>
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</table>

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<table>
<thead>
<tr>
<th>Hands on/concrete objects (6-1)</th>
<th>Hands on/concrete objects (T/A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment/modifications (6)</td>
<td>Assessment/modifications (T)</td>
</tr>
<tr>
<td>Whole group vs. small group (5)</td>
<td>Whole group vs. small group (T)</td>
</tr>
<tr>
<td>Teachers flexibility (3)</td>
<td>Lessons designs and techniques (T/A)</td>
</tr>
<tr>
<td>Make it fun (2)</td>
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<tr>
<td>Variety w/reading instruction (1-1)</td>
<td>Practical methods/exposure earlier (T)</td>
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<tr>
<td>Visual methods/auditory (1-1)</td>
<td>Study/observe more than one teacher (T)</td>
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<tr>
<td>Latest trends (2)</td>
<td>Experience with special education (T)</td>
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<tr>
<td>Concrete to abstract (1)</td>
<td>Important experiences (T)</td>
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<tr>
<td>Formal and informal strategies (1)</td>
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<tr>
<td>&quot;People skills&quot; (1)</td>
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<tr>
<td>How to lead a discussion (1)</td>
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<td>Active learning strategies (1)</td>
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<td>Cooperative learning (1)</td>
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<tr>
<td>Recognize &quot;teachable moments&quot; (0-1)</td>
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<tr>
<td>How to introduce a lesson (0-1)</td>
<td></td>
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<tr>
<td>Practical methods/exposure earlier (9)</td>
<td></td>
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<tr>
<td>Study/observe more than one teacher (4)</td>
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<tr>
<td>Experience with special education (4)</td>
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<tr>
<td>Open to suggestions (2)</td>
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<tr>
<td>Adapting tests to special needs (0-1)</td>
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<tr>
<td>Multi-sensory memory methods (1)</td>
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Continued on next page
Table L3: What specific knowledge should entry-level elementary teachers have about child development and learning?

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<tr>
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<tr>
<td>Knowledge of developmentally appropriate (22-4)</td>
<td>Knowledge of developmentally appropriate(T/A)</td>
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<tr>
<td>Knowledge of stages of development (15-2)</td>
<td>Knowledge of stages of development(T/A)</td>
</tr>
<tr>
<td>Appropriate expectations (9-1)</td>
<td>Appropriate expectations(T/A)</td>
</tr>
<tr>
<td>Know age limitations (4)</td>
<td>Knowledge of developmental characteristics of the learner(T/A)</td>
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<tr>
<td>Developmental characteristics (2)</td>
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<tr>
<td>Behavior/academic development (2)</td>
<td>Children are at different levels(T/A)</td>
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<tr>
<td>How children learn (0-1)</td>
<td>Knowledge of various kinds of learners(T)</td>
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<tr>
<td>Boys develop slower than girls</td>
<td>Psychological and developmental aspects of the child(T/A)</td>
</tr>
<tr>
<td>Children are at different levels (19-2)</td>
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<tr>
<td>Knowledge of various kinds of learners (8)</td>
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</tr>
<tr>
<td>Child psychology (6)</td>
<td></td>
</tr>
<tr>
<td>Looking at whole child (social, cognitive, etc.) (4)</td>
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<tr>
<td>Cognitive and emotional components (2-1)</td>
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<tr>
<td>Abnormal psychology</td>
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<tr>
<td>Recognizing children w/ disabilities (9)</td>
<td>Basic knowledge of special education(T)</td>
</tr>
<tr>
<td>Basic knowledge of special education (6)</td>
<td>Recognizing children w/ disabilities(T)</td>
</tr>
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<td>Recognizing special needs cases (4)</td>
<td>Knowledge of special needs(T)</td>
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<tr>
<td>Adapt lessons for spec needs (2)</td>
<td>General knowledge(T)</td>
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<td>Physical/learning disabilities</td>
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<td>General knowledge (6)</td>
<td>Focus on reading &amp; writing stages(T/A)</td>
</tr>
<tr>
<td>More knowledge the better (3)</td>
<td>Student achievement and acquisition of content(T/A)</td>
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<tr>
<td>Common sense (2)</td>
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<tr>
<td>Focus on reading &amp; writing stages (5)</td>
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<tr>
<td>Benchmarks of learning for age/grade (3)</td>
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<tr>
<td>Performance level of each child</td>
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<tr>
<td>Explore variety of teaching styles (6)</td>
<td>Explore variety of teaching styles(T)</td>
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<tr>
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<tr>
<td>Discipline and methods (2)</td>
<td>Management of students(T)</td>
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<td>Behavior modifications (2)</td>
<td>Recognizing &quot;outside the norm&quot; (T)</td>
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<td>Children respond to positive</td>
<td>Recognition of special needs(T)</td>
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<tr>
<td>reinforcement</td>
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<td>Recognizing &quot;outside the norm&quot; (5)</td>
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<td>&quot;Backgrounds and baggage&quot; (4)</td>
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<tr>
<td>Needs/wants (3)</td>
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<tr>
<td>Knowledge of children interaction</td>
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</tbody>
</table>

| Observe classrooms sooner (5)        | Experiences(T)                        |
| Experience (5)                       |                                      |
| How to communicate w/ parents (3)    |                                      |
| How to recognize abuse (2)           |                                      |
| Bilingual education                  |                                      |
| Seek help for what does not work     | Bilingual education(T)                |
| Hands on materials (0-1)             | Seek help for what does not work(T)   |
| How to arrange room to impact        | How to communicate w/ parents(T)      |
| learning (0-1)                       | Hands on materials(A)                 |
| How to enrich/challenge-gifted       | How to arrange room to impact         |
| students                              | learning(A)                           |
|                                       | How to enrich/challenge-gifted        |
|                                       | students(T)                           |
|                                       | How to recognize abuse(T)             |

Continued on next page...
Table L 4: (4) What specific abilities should entry-level elementary teachers have in order to apply that knowledge in the classroom and other professional situations?

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<tr>
<th>Re-Order and Grouping</th>
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<tbody>
<tr>
<td>Successful communication (16-2)</td>
<td>Successful communication(T/A)</td>
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<tr>
<td>&quot;People skills&quot;/be team player (17)</td>
<td>&quot;People skills&quot;/be team player(T)</td>
</tr>
<tr>
<td>Seek help from others (7)</td>
<td>Working with people(T/A)</td>
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<tr>
<td>A mentor (2)</td>
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<tr>
<td>Flexibility (29)</td>
<td>Flexibility(T)</td>
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<tr>
<td>Sensitivity/concern for children (11)</td>
<td>Sensitivity/concern for children(T)</td>
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<tr>
<td>Positive attitude (8)</td>
<td>Social, emotional and attitudinal characteristics(T/A)</td>
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<td>Patience (7)</td>
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<td>Multi task (6)</td>
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<td>Good listener (5-1)</td>
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<tr>
<td>Creativity (3)</td>
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<td>Common sense (3)</td>
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<tr>
<td>Adjust to change easily (3)</td>
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<tr>
<td>Self-confidence (2)</td>
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<td>Intelligence (2)</td>
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<tr>
<td>Fairness/Respect (2)</td>
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<tr>
<td>Sense of humor (2)</td>
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<tr>
<td>Acceptance Be &quot;everyone&quot; to child Be an actor</td>
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<tr>
<td>Hands on experience (14)</td>
<td>Hands on experience(T)</td>
</tr>
<tr>
<td>Understanding of how/when children learn (5-1)</td>
<td>Understanding of how/when children learn (T/A)</td>
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<tr>
<td>Planning skills (4-2)</td>
<td>Planning skills(T/A)</td>
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<tr>
<td>Assessment tools (5-1)</td>
<td>Assessment tools(T/A)</td>
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<tr>
<td>Time management (5)</td>
<td>Time management(T)</td>
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<tr>
<td>Content knowledge (2-2)</td>
<td>Content relevance and application(T)</td>
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<tr>
<td>Make clear your expectations (3)</td>
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<tr>
<td>Leadership abilities (3)</td>
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<tr>
<td>Know literature in field (3)</td>
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<tr>
<td>Discipline (0-2)</td>
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<tr>
<td>Variety of different skills (1-1)</td>
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<td>When to use &quot;hands on&quot; (2)</td>
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<td>Computer skills</td>
<td>Pass the praxis</td>
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<td>Recognize &quot;teachable moments&quot;</td>
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<td>Appropriate consequences</td>
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<tr>
<td>Application to &quot;real life&quot;</td>
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<tr>
<td>Make parent partner in learning</td>
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<tr>
<td>How to communicate with parent (8)</td>
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<tr>
<td>Knowledge of school community (2)</td>
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<tr>
<td>How to help child with parent</td>
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<tr>
<td>Problem solving skills (0-2)</td>
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<tr>
<td>Organized and disciplined (24-1)</td>
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<tr>
<td>Classroom arrangement (10)</td>
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<tr>
<td>Strong work ethic (3)</td>
<td></td>
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<tr>
<td>Observation experience (2-1)</td>
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<tr>
<td>See the &quot;big picture&quot; (2)</td>
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<tr>
<td>Recognizing abuse</td>
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<tr>
<td>Think &quot;outside the box&quot; (0-1)</td>
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<tr>
<td>How to begin/first month</td>
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<tr>
<td>Command of grammar and writing</td>
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<tr>
<td>Professionalism</td>
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<tr>
<td>Ability to start over each day</td>
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<table>
<thead>
<tr>
<th>Re-Order and Grouping</th>
<th>First Reduction - Combinations</th>
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<tbody>
<tr>
<td>Excited about learning (16-1)</td>
<td>Excited about learning(T/A)</td>
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<tr>
<td>Good self-concept for children/good citizens (14)</td>
<td>Good self-concept for children/good citizens(T)</td>
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<tr>
<td>Doing what I want to do/love it (13-1)</td>
<td>Doing what I want to do/love it(T/A)</td>
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<tr>
<td>Recognition for what teachers do/respect (6)</td>
<td>Recognition for what teachers do/respect(T)</td>
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<tr>
<td>Have fun doing it (5)</td>
<td>Have fun doing it(T)</td>
</tr>
<tr>
<td>Knowing I've done all I can (4)</td>
<td>Self-satisfaction and personal joy from accomplishments(T/A)</td>
</tr>
<tr>
<td>Inspire/challenge both student and self (0-1)</td>
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<tr>
<td>Sense of wonder, joy, accomplishment</td>
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<tr>
<td>Parents tell you kids love school</td>
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<tr>
<td>Trying to be a better teacher</td>
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<tr>
<td>Pride in my job</td>
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<tr>
<td>Confidence in my ability</td>
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<tr>
<td>Dedication</td>
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<tr>
<td>Rewarding for both self and students (0-1)</td>
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<tr>
<td>Growth throughout year (9-1)</td>
<td>Growth throughout year(T/A)</td>
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<td>Learning about self from students (1)</td>
<td>Personal growth and accomplishments(T)</td>
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<tr>
<td>Met set goals</td>
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<tr>
<td>Surpass expectations</td>
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<tr>
<td>Balance personal/professional</td>
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<tr>
<td>Staying current on methodology</td>
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<tr>
<td>Making a difference (25-1)</td>
<td>Making a difference(T/A)</td>
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<tr>
<td>Seeing kids succeed (16-3)</td>
<td>Seeing kids succeed(T/A)</td>
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<tr>
<td>Help child be best he can be (8-1)</td>
<td>Helping child be best he can be(T/A)</td>
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<tr>
<td>Students overcome difficulties (6)</td>
<td>Students overcoming difficulties(T)</td>
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<tr>
<td>Preparing child for world (6)</td>
<td>Preparing child for world(T)</td>
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<tr>
<td>Helping kids of all abilities learn (5)</td>
<td>Student growth and success(T/A)</td>
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<tr>
<td>Meeting kids needs (4)</td>
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<tr>
<td>Help kids get along with others (4)</td>
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<tr>
<td>Watch kids learn/&quot;light bulb&quot; (3)</td>
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<tr>
<td>Reaching child in every way (0-2)</td>
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<tr>
<td>Creating new ways to help students learn (3)</td>
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<td>Teaching SOLs effectively/students passing SOL (2)</td>
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<td>Rapport w/colleagues/parents (6)</td>
<td>Good rapport</td>
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<td>Communicate success to parents (1)</td>
<td>w/colleagues/parents(T)</td>
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<tr>
<td>Connecting with children, parents and colleagues (0-1)</td>
<td>School-community relationships (T/A)</td>
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Table L6: (5b) What specific dispositions (professional characteristics) should entry-level elementary teachers have in order to sustain a long-term teaching career?

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<tbody>
<tr>
<td>Flexibility (38-6)</td>
<td>Flexibility (T/A)</td>
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<tr>
<td>Work well w/other/good manners (38-2)</td>
<td>Work well w/other/good manners (T/A)</td>
</tr>
<tr>
<td>Patience and understanding (36-2)</td>
<td>Patience and understanding (T/A)</td>
</tr>
<tr>
<td>Supportive/caring/friendly/positive (24-2)</td>
<td>Supportive/caring/friendly/ positive (T/A)</td>
</tr>
<tr>
<td>Determination/persistence (16)</td>
<td>Determination/persistence (T)</td>
</tr>
<tr>
<td>Find humor (11-3)</td>
<td>Find humor (T/A)</td>
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<tr>
<td>Creativity/have fun (4)</td>
<td>Creativity/have fun (T)</td>
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<tr>
<td>Consistency (4)</td>
<td>Consistency (T/A)</td>
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<td>Discipline (3)</td>
<td>Discipline (T)</td>
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<tr>
<td>Good role model (3)</td>
<td>Good role model (T/A)</td>
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<tr>
<td>Ability to multi task (3)</td>
<td>Ability to multi task (T)</td>
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<tr>
<td>Honesty (2)</td>
<td>Honesty (T)</td>
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<tr>
<td>Responsible (2)</td>
<td>Responsible (T)</td>
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<tr>
<td>Good health (2)</td>
<td>Good health (T)</td>
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<tr>
<td>Be a mediator</td>
<td>Be a mediator</td>
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<tr>
<td>Organization skills (17-3)</td>
<td>Organization skills (T/A)</td>
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<tr>
<td>Strong work ethic (6-3)</td>
<td>Strong work ethic (T/A)</td>
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<tr>
<td>Willing to try new things (8-1)</td>
<td>Willing to try new things (T/A)</td>
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<td>Professionalism (8)</td>
<td>Professionalism (T)</td>
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<tr>
<td>Dedication (5)</td>
<td>Dedication (T)</td>
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<tr>
<td>Balance of personal and professional (2-1)</td>
<td>Balance of personal and professional (T/A)</td>
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<td>Time management</td>
<td>Time management</td>
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<td>Desire to help/serve others</td>
<td>Desire to help/serve others</td>
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<tr>
<td>Volunteer for committees and workshops</td>
<td>Volunteer for committees and workshops</td>
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<tr>
<td>Look for challenges outside class</td>
<td>Look for challenges outside class</td>
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<tr>
<td>Love of learning/teaching (16-2)</td>
<td>Love of learning/teaching (T/A)</td>
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<tr>
<td>Love for children (17-1)</td>
<td>Love for children (T/A)</td>
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<tr>
<td>High, reasonable expectations (9)</td>
<td>High but reasonable expectations (T)</td>
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<tr>
<td>Willing to learn with students (8)</td>
<td>Willing to learn w/ students (T)</td>
</tr>
<tr>
<td>Respect for students/coworkers/administrators (6)</td>
<td>Respect for students/coworkers/ administrators (T)</td>
</tr>
<tr>
<td>Desire to do best for kids/give more (4)</td>
<td>Desire to do best for kids/give more (T)</td>
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<tr>
<td>Desire to make difference (3)</td>
<td>Desire to make difference (T)</td>
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<tr>
<td>Listen to parents/act as if own child (10)</td>
<td>Listen to parents/act as if own child (T)</td>
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<tr>
<td>Belief in self (3)</td>
<td>Belief in self (T)</td>
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<tr>
<td>Not to take things personally (2)</td>
<td>Not to take things personally(T)</td>
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<td>Ability to self evaluate</td>
<td>Ability to self evaluate</td>
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<tr>
<td>Good listener</td>
<td>Good listener</td>
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<td>Change is good/adapt to it (6)</td>
<td>Change is good/adapt to it (T)</td>
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<tr>
<td>Consistency (4)</td>
<td>Consistency (T)</td>
</tr>
<tr>
<td>Discipline (3)</td>
<td>Discipline (T)</td>
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<tr>
<td>Classroom management (2)</td>
<td>Classroom management (T)</td>
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<tr>
<td>Knowledgeable on content (2)</td>
<td>Knowledgeable on content (T)</td>
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<tr>
<td>Plan lessons for SOL's</td>
<td>Plan lessons for SOL's</td>
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<tr>
<td>Have children of their own</td>
<td>Have children of their own</td>
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Table L7: What specific abilities should entry-level elementary teachers possess in order to have a positive effect on student learning?

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<td>Happy/positive (19-4)</td>
<td>Happy/positive (T/A)</td>
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<tr>
<td>Patient (16-1)</td>
<td>Patience (T/A)</td>
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<td>Flexible (16-1)</td>
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<tr>
<td>Understanding/respect (11-2)</td>
<td>Courage (T/A)</td>
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<tr>
<td>Enthusiasm (12)</td>
<td>Understanding/respect (T/A)</td>
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<td>Motivator (6-1)</td>
<td>Enthusiasm (T)</td>
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<td>Listener (4-3)</td>
<td>Personal characteristics (T)</td>
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<td>Organized (5-1)</td>
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<tr>
<td>Kindness/caring (6)</td>
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<td>Self-control/role model (3)</td>
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<tr>
<td>Courage (1-1)</td>
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<tr>
<td>Open mind</td>
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<tr>
<td>Set goals to challenge (8)</td>
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<tr>
<td>Create safe/caring environ (7)</td>
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<tr>
<td>Praise children (3)</td>
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<tr>
<td>Good planning (3)</td>
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<tr>
<td>Interest in individual students (5)</td>
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<td>Set limits (2)</td>
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<tr>
<td>Interest in success (2)</td>
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<tr>
<td>Provide good role model (2)</td>
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<tr>
<td>Get to student's level</td>
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<tr>
<td>Show kids human side</td>
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<tr>
<td>Assess learning (0-1)</td>
<td>Problem solving (0-1)</td>
</tr>
<tr>
<td>Make learning fun/humor (16)</td>
<td></td>
</tr>
<tr>
<td>Love of learning/teaching (13-2)</td>
<td></td>
</tr>
<tr>
<td>Love children (12-2)</td>
<td></td>
</tr>
<tr>
<td>All kids different/learn differently (9)</td>
<td></td>
</tr>
<tr>
<td>Willing to change midstream (8)</td>
<td></td>
</tr>
<tr>
<td>Team player/people person (4-1)</td>
<td></td>
</tr>
<tr>
<td>Communication skills (3-2)</td>
<td></td>
</tr>
<tr>
<td>Education background (4)</td>
<td></td>
</tr>
<tr>
<td>Communication with parents (4)</td>
<td></td>
</tr>
<tr>
<td>Willing to work long hours (1-1)</td>
<td></td>
</tr>
<tr>
<td>Promote success in child (1)</td>
<td></td>
</tr>
<tr>
<td>Enjoy challenge</td>
<td></td>
</tr>
<tr>
<td>Ability to cover SOL's</td>
<td></td>
</tr>
<tr>
<td>Strong support in/out of school</td>
<td></td>
</tr>
<tr>
<td>Hands on teaching</td>
<td></td>
</tr>
<tr>
<td>No sarcasm</td>
<td></td>
</tr>
<tr>
<td>Let others help you</td>
<td></td>
</tr>
</tbody>
</table>

| Make learning fun/humor (T) |                                |
| Love of learning/teaching (T/A) |                                |
| Love children (T/A) |                                |
| All kids different/learn differently (T) |                                |
| Willing to change midstream (T) |                                |
| Personal/professional skills and work behaviors (T/A) |                                |
Table L8: Additional comments about this issue or this survey.

<table>
<thead>
<tr>
<th>Re-Order and Grouping</th>
<th>First Reduction - Combinations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varied student teaching (2)</td>
<td>Varied student teaching (T)</td>
</tr>
<tr>
<td>Student teachers need more exposure (1-1)</td>
<td>Student teachers need more exposure (T/A)</td>
</tr>
<tr>
<td>Training for cooperating teachers</td>
<td>Needs for beginning teachers (T/A)</td>
</tr>
<tr>
<td>New teachers need to be well prepared</td>
<td>Be aware of different cultures and religions and economies (T)</td>
</tr>
<tr>
<td>First year teachers willing to live teaching</td>
<td>Awareness/knowledge about all types of students (T)</td>
</tr>
<tr>
<td>SOL's/New teachers must know them</td>
<td>Hands on experience every year (T)</td>
</tr>
<tr>
<td>More class control for 1st years</td>
<td>Got to teach to know teaching (T)</td>
</tr>
<tr>
<td>Good luck to &quot;Teachers to be&quot;</td>
<td>Exposure to special education (T)</td>
</tr>
<tr>
<td>All need mentors</td>
<td>Important experiences (T)</td>
</tr>
<tr>
<td>Be aware of different cultures and religions and economies (2)</td>
<td>Responses to the survey (T/A)</td>
</tr>
<tr>
<td>Take time to talk/listen to students</td>
<td>Advice about the needs/aspects of the profession (T)</td>
</tr>
<tr>
<td>Kids mature/learn at different rates</td>
<td></td>
</tr>
<tr>
<td>Knowledge of developmental reading</td>
<td></td>
</tr>
<tr>
<td>Broad range of success in students</td>
<td></td>
</tr>
<tr>
<td>More help for lost/needy kids</td>
<td></td>
</tr>
<tr>
<td>Hands on experience every year (5)</td>
<td></td>
</tr>
<tr>
<td>Got to teach to know teaching (4)</td>
<td></td>
</tr>
<tr>
<td>Exposure to special education (2)</td>
<td></td>
</tr>
<tr>
<td>Be open to learning</td>
<td></td>
</tr>
<tr>
<td>Knowledge to prepare grade book</td>
<td></td>
</tr>
<tr>
<td>Degree in elementary education/not subject area</td>
<td></td>
</tr>
<tr>
<td>More prepared</td>
<td></td>
</tr>
<tr>
<td>Never easy, always changing</td>
<td></td>
</tr>
<tr>
<td>Survey too open-ended/broad (4-1)</td>
<td></td>
</tr>
<tr>
<td>Thanks (3)</td>
<td></td>
</tr>
<tr>
<td>Angry teacher/annoyed by survey</td>
<td></td>
</tr>
<tr>
<td>Survey should’ve been done in focus group</td>
<td></td>
</tr>
<tr>
<td>Great survey</td>
<td></td>
</tr>
<tr>
<td>Twenty-five minutes to fill out</td>
<td></td>
</tr>
<tr>
<td>More men needed in profession</td>
<td></td>
</tr>
<tr>
<td>It's tough (2)</td>
<td></td>
</tr>
<tr>
<td>Find the great, happy teachers and stick to them</td>
<td></td>
</tr>
<tr>
<td>Good grades don't make good teachers</td>
<td></td>
</tr>
</tbody>
</table>
### Table M1: What specific knowledge should entry-level (first year) elementary teachers have about content?

<table>
<thead>
<tr>
<th>First Reduction - Combinations</th>
<th>Second Reduction - Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Familiar w/ SOLs (T/A)</td>
<td>SOLs (T/A)</td>
</tr>
<tr>
<td>Basic knowledge of subject matter (T/A)</td>
<td>Broad Content Knowledge (T/A)</td>
</tr>
<tr>
<td>General Knowledge (T)</td>
<td>Math, Science, Social Studies, English and Reading (T/A)</td>
</tr>
<tr>
<td>Content and SOL knowledge (T/A)</td>
<td>Pedagogy (T/A)</td>
</tr>
<tr>
<td>Little about everything (T)</td>
<td>Information Access (T/A)</td>
</tr>
<tr>
<td>History, science, math and grammar (T)</td>
<td>Resourceful (T/A)</td>
</tr>
<tr>
<td>Fundamentals of phonics (T)</td>
<td></td>
</tr>
<tr>
<td>Reading skills/knowledge (T/A)</td>
<td></td>
</tr>
<tr>
<td>Methods of teaching (T/A)</td>
<td></td>
</tr>
<tr>
<td>Variations in teaching styles (T)</td>
<td></td>
</tr>
<tr>
<td>Content related to child development (T/A)</td>
<td></td>
</tr>
<tr>
<td>Knowledge of child’s social climate (T)</td>
<td></td>
</tr>
<tr>
<td>Knowledge to locate resources (T/A)</td>
<td></td>
</tr>
<tr>
<td>Communication skills with colleagues (T/A)</td>
<td></td>
</tr>
<tr>
<td>Discipline techniques (T/A)</td>
<td></td>
</tr>
<tr>
<td>Curr is like building blocks (T)</td>
<td></td>
</tr>
<tr>
<td>Colleagues source of info (T)</td>
<td></td>
</tr>
<tr>
<td>&quot;Fillers&quot; (T)</td>
<td></td>
</tr>
<tr>
<td>Exposure to special education (T)</td>
<td></td>
</tr>
<tr>
<td>Time is limited (T)</td>
<td></td>
</tr>
</tbody>
</table>
### Table M2: What specific knowledge should entry-level elementary teachers have about pedagogy (teaching methods)?

<table>
<thead>
<tr>
<th>First Reduction - Combinations</th>
<th>Second Reduction - Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching to different needs (T/A)</td>
<td>Appropriate Pedagogy for the Learner (T/A)</td>
</tr>
<tr>
<td>Adapting lessons for all students (T/A)</td>
<td>Variety in Pedagogy (T/A)</td>
</tr>
<tr>
<td>Knowledge about student needs and learning stages (T)</td>
<td>Organizational/Preparedness (T/A)</td>
</tr>
<tr>
<td>Knowledge of and ability to adapt various teaching styles (T/A)</td>
<td>Content knowledge (T/A)</td>
</tr>
<tr>
<td>Classroom management (T/A)</td>
<td>Practical/Authentic Experiences (T)</td>
</tr>
<tr>
<td>Familiar with different methods (T)</td>
<td></td>
</tr>
<tr>
<td>Understanding various management techniques (T/A)</td>
<td></td>
</tr>
<tr>
<td>Clear Objectives (A)</td>
<td></td>
</tr>
<tr>
<td>Lesson designs/plans (T/A)</td>
<td></td>
</tr>
<tr>
<td>Classroom and record-keeping organizational skills (T)</td>
<td></td>
</tr>
<tr>
<td>General knowledge (T)</td>
<td></td>
</tr>
<tr>
<td>Technology in classroom (T)</td>
<td></td>
</tr>
<tr>
<td>Phonics knowledge (T)</td>
<td></td>
</tr>
<tr>
<td>Hands on/concrete objects (T/A)</td>
<td></td>
</tr>
<tr>
<td>Assessment/modifications (T)</td>
<td></td>
</tr>
<tr>
<td>Whole group vs. small group (T)</td>
<td></td>
</tr>
<tr>
<td>Lessons designs and techniques (T/A)</td>
<td></td>
</tr>
<tr>
<td>Practical methods/exposure earlier (T)</td>
<td></td>
</tr>
<tr>
<td>Study/observe more than one teacher (T)</td>
<td></td>
</tr>
<tr>
<td>Experience with special education (T/A)</td>
<td></td>
</tr>
<tr>
<td>Important experiences (T)</td>
<td></td>
</tr>
</tbody>
</table>
Table M3: (3) What specific knowledge should entry-level elementary teachers have about child development and learning?

<table>
<thead>
<tr>
<th>First Reduction - Combinations</th>
<th>Second Reduction - Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of developmentally appropriate (T/A)</td>
<td>Learning Based on Developmental Stage (T/A)</td>
</tr>
<tr>
<td>Knowledge of stages of development (T/A)</td>
<td>Variances within Stages of Development (T/A)</td>
</tr>
<tr>
<td>Appropriate expectations (T/A)</td>
<td>Special Circumstances (T)</td>
</tr>
<tr>
<td>Knowledge of developmental characteristics of the learner (T/A)</td>
<td>Content knowledge (T/A)</td>
</tr>
<tr>
<td>Children are at different levels (T/A)</td>
<td>Pedagogy (T/A)</td>
</tr>
<tr>
<td>Knowledge of various kinds of learners (T)</td>
<td></td>
</tr>
<tr>
<td>Psychological and developmental aspects of the child (T/A)</td>
<td></td>
</tr>
<tr>
<td>Basic knowledge of special education (T)</td>
<td></td>
</tr>
<tr>
<td>Recognizing children w/ disabilities (T)</td>
<td></td>
</tr>
<tr>
<td>Knowledge of special needs (T)</td>
<td></td>
</tr>
<tr>
<td>General knowledge (T)</td>
<td></td>
</tr>
<tr>
<td>Focus on reading &amp; writing stages (T/A)</td>
<td></td>
</tr>
<tr>
<td>Student achievement and acquisition of content (T/A)</td>
<td></td>
</tr>
<tr>
<td>Explore variety of teaching styles (T)</td>
<td></td>
</tr>
<tr>
<td>Management of students (T)</td>
<td></td>
</tr>
<tr>
<td>Recognizing “outside the norm” (T)</td>
<td></td>
</tr>
<tr>
<td>Recognition of special needs (T)</td>
<td></td>
</tr>
<tr>
<td>Experiences (T)</td>
<td></td>
</tr>
<tr>
<td>Bilingual education (T)</td>
<td></td>
</tr>
<tr>
<td>Seek help for what does not work (T)</td>
<td></td>
</tr>
<tr>
<td>How to communicate w/ parents (T)</td>
<td></td>
</tr>
<tr>
<td>Hands on materials (A)</td>
<td></td>
</tr>
<tr>
<td>How to arrange room to impact learning (A)</td>
<td></td>
</tr>
<tr>
<td>How to enrich/challenge-gifted students (T)</td>
<td></td>
</tr>
<tr>
<td>How to recognize abuse (T)</td>
<td></td>
</tr>
</tbody>
</table>
Table M4: (4) What specific abilities should entry-level elementary teachers have in order to apply that knowledge in the classroom and other professional situations?

<table>
<thead>
<tr>
<th>First Reduction - Combinations</th>
<th>Second Reduction - Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Successful communication</td>
<td>Ability to Work with People (T/A)</td>
</tr>
<tr>
<td>&quot;People skills&quot;/be team player</td>
<td></td>
</tr>
<tr>
<td>Working with people</td>
<td></td>
</tr>
<tr>
<td>Flexibility</td>
<td>Adaptability to the Learner (T/A)</td>
</tr>
<tr>
<td>Sensitivity/concern for children</td>
<td></td>
</tr>
<tr>
<td>Social, emotional and attitudinal characteristics</td>
<td></td>
</tr>
<tr>
<td>Hands on experience</td>
<td>&quot;Real World&quot; Experience for Planning and Assessment (T/A)</td>
</tr>
<tr>
<td>Understanding of how/when children learn</td>
<td></td>
</tr>
<tr>
<td>Planning skills</td>
<td>Problem Solving (A)</td>
</tr>
<tr>
<td>Assessment tools</td>
<td>Organization (T/A)</td>
</tr>
<tr>
<td>Time management</td>
<td></td>
</tr>
<tr>
<td>Content relevance and application</td>
<td></td>
</tr>
<tr>
<td>School/parent community relations</td>
<td></td>
</tr>
<tr>
<td>Classroom arrangement</td>
<td>School/parent community relations (T)</td>
</tr>
<tr>
<td>Strong work ethic</td>
<td></td>
</tr>
<tr>
<td>Command of grammar and writing</td>
<td></td>
</tr>
<tr>
<td>See the &quot;big picture&quot;</td>
<td></td>
</tr>
<tr>
<td>Recognizing abuse</td>
<td></td>
</tr>
<tr>
<td>Think &quot;outside the box&quot;</td>
<td></td>
</tr>
<tr>
<td>How to begin/first month</td>
<td></td>
</tr>
<tr>
<td>procedures</td>
<td></td>
</tr>
<tr>
<td>Command of grammar and writing</td>
<td></td>
</tr>
<tr>
<td>Professionalism</td>
<td></td>
</tr>
<tr>
<td>Ability to start over each day</td>
<td></td>
</tr>
</tbody>
</table>
Table M5: What does a successful teaching career mean to you?

<table>
<thead>
<tr>
<th>First Reduction - Combinations</th>
<th>Second Reduction - Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excited about learning</td>
<td>Enjoyment of Job Experiences</td>
</tr>
<tr>
<td>Good self-concept for children/good citizens</td>
<td>(T/A)</td>
</tr>
<tr>
<td>Doing what I want to do/love it</td>
<td></td>
</tr>
<tr>
<td>Recognition for what teachers do/respect</td>
<td></td>
</tr>
<tr>
<td>Have fun doing it</td>
<td></td>
</tr>
<tr>
<td>Self-satisfaction and personal joy from accomplishments</td>
<td></td>
</tr>
<tr>
<td>Growth throughout year</td>
<td>Personal and Professional Growth</td>
</tr>
<tr>
<td>Personal growth and accomplishments</td>
<td>(T/A)</td>
</tr>
<tr>
<td>Making a difference</td>
<td></td>
</tr>
<tr>
<td>Seeing kids succeed</td>
<td></td>
</tr>
<tr>
<td>Helping child be best they can be</td>
<td></td>
</tr>
<tr>
<td>Students overcoming difficulties</td>
<td></td>
</tr>
<tr>
<td>Preparing child for world</td>
<td></td>
</tr>
<tr>
<td>Student growth and success</td>
<td></td>
</tr>
<tr>
<td>Teaching specific content</td>
<td>Student Growth and Success</td>
</tr>
<tr>
<td></td>
<td>(T/A)</td>
</tr>
<tr>
<td>Good rapport w/colleagues/parents</td>
<td></td>
</tr>
<tr>
<td>School-community relationships</td>
<td></td>
</tr>
<tr>
<td></td>
<td>School/parent community relations</td>
</tr>
<tr>
<td></td>
<td>(T/A)</td>
</tr>
</tbody>
</table>
Table M6: (5B) What specific dispositions (professional characteristics) should entry-level elementary teachers have in order to sustain a long-term teaching career?

<table>
<thead>
<tr>
<th>First Reduction - Combinations</th>
<th>Second Reduction - Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexibility</td>
<td>Flexibility and Perseverance (T/A)</td>
</tr>
<tr>
<td>Work well w/other/good manners</td>
<td></td>
</tr>
<tr>
<td>Patience and understanding</td>
<td></td>
</tr>
<tr>
<td>Supportive/caring/friendly/</td>
<td></td>
</tr>
<tr>
<td>positive</td>
<td></td>
</tr>
<tr>
<td>Determination/persistence</td>
<td></td>
</tr>
<tr>
<td>Find humor</td>
<td></td>
</tr>
<tr>
<td>Personal characteristics</td>
<td></td>
</tr>
<tr>
<td>Organization skills</td>
<td>Getting along with People (T/A)</td>
</tr>
<tr>
<td>Strong work ethic</td>
<td></td>
</tr>
<tr>
<td>Willing to try new things</td>
<td>Personal Characteristics (T)</td>
</tr>
<tr>
<td>Professionalism</td>
<td></td>
</tr>
<tr>
<td>Dedication</td>
<td></td>
</tr>
<tr>
<td>Professional Characteristics</td>
<td>Organization (T/A)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Love of learning/teaching</td>
<td>Dedication to the Student and the Profession (T/A)</td>
</tr>
<tr>
<td>Love for children</td>
<td></td>
</tr>
<tr>
<td>High but reasonable expectations</td>
<td></td>
</tr>
<tr>
<td>Willing to learn with students</td>
<td></td>
</tr>
<tr>
<td>Respect for students/coworkers/</td>
<td></td>
</tr>
<tr>
<td>administrators</td>
<td></td>
</tr>
<tr>
<td>Feelings about teaching and</td>
<td></td>
</tr>
<tr>
<td>children</td>
<td></td>
</tr>
<tr>
<td>Listen to parents/act as if own child</td>
<td></td>
</tr>
<tr>
<td>Belief in self</td>
<td></td>
</tr>
<tr>
<td>Not to take things personally</td>
<td></td>
</tr>
<tr>
<td>Reflective</td>
<td></td>
</tr>
<tr>
<td>Change in good/adapt to it</td>
<td></td>
</tr>
<tr>
<td>Consistency</td>
<td></td>
</tr>
<tr>
<td>Discipline</td>
<td></td>
</tr>
<tr>
<td>Classroom management</td>
<td></td>
</tr>
<tr>
<td>Organizational and experiential prerequisites</td>
<td></td>
</tr>
</tbody>
</table>

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Table M7: (6) What specific abilities should entry-level elementary teachers possess in order to have a positive effect on student learning?

<table>
<thead>
<tr>
<th>First Reduction - Combinations</th>
<th>Second Reduction - Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Happy/positive</td>
<td>Empathetic and Positive Personal Characteristics (T/A)</td>
</tr>
<tr>
<td>Patience</td>
<td></td>
</tr>
<tr>
<td>Flexible</td>
<td></td>
</tr>
<tr>
<td>Understanding/respect</td>
<td></td>
</tr>
<tr>
<td>Enthusiasm</td>
<td></td>
</tr>
<tr>
<td>Personal characteristics</td>
<td></td>
</tr>
<tr>
<td>Set goals to challenge</td>
<td>Organized and Motivated(T/A)</td>
</tr>
<tr>
<td>Create safe/caring environ</td>
<td></td>
</tr>
<tr>
<td>Interest in individual students</td>
<td></td>
</tr>
<tr>
<td>Personal abilities/skills</td>
<td></td>
</tr>
<tr>
<td>with students</td>
<td></td>
</tr>
<tr>
<td>Make learning fun/humor</td>
<td>Enjoyment in all Aspects of the Profession (T/A)</td>
</tr>
<tr>
<td>Love of learning/teaching</td>
<td></td>
</tr>
<tr>
<td>Love children</td>
<td></td>
</tr>
<tr>
<td>All kids different/learn</td>
<td></td>
</tr>
<tr>
<td>differently</td>
<td></td>
</tr>
<tr>
<td>Willing to change midstream</td>
<td></td>
</tr>
<tr>
<td>Personal/professional skills</td>
<td></td>
</tr>
<tr>
<td>and work behaviors</td>
<td></td>
</tr>
<tr>
<td>First Reduction - Combinations</td>
<td>Second Reduction - Themes</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>Varied student teaching</td>
<td>Practical Experiences (T)</td>
</tr>
<tr>
<td>Student teachers need more</td>
<td></td>
</tr>
<tr>
<td>exposure</td>
<td></td>
</tr>
<tr>
<td>Needs for beginning teachers</td>
<td></td>
</tr>
<tr>
<td>Be aware of different cultures</td>
<td>Learner Variances (T)</td>
</tr>
<tr>
<td>and religions and economies</td>
<td></td>
</tr>
<tr>
<td>Awareness/knowledge about all</td>
<td></td>
</tr>
<tr>
<td>types of students</td>
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<tr>
<td>Hands on experience every year</td>
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<td>Got to teach to know teaching</td>
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<tr>
<td>Exposure to special education</td>
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<tr>
<td>Important experiences</td>
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<tr>
<td>Responses to the survey</td>
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<tr>
<td>Advice about the needs/aspects of the profession</td>
<td></td>
</tr>
</tbody>
</table>
Appendix N

Virginia Licensure Regulations for School Personnel Requirements
Summaries

Professional Studies Components

1. Human Growth and development:

   Understand physical, social, emotional an intellectual development.

   Ability to use this knowledge to guide learning experiences.

   Understand developmental disabilities and developmental issues.

2. Curriculum and Instruction:

   Understand the principals of learning.

   Skills in:
   -discipline
   -methodology
   -communication
   -classroom management
   -selection and use of materials
   -evaluation of pupil performance

   Appropriate teaching methods based on student conditions.

3. Foundations of Education:

   Understanding of public education in the United States.

   Legal issues related to teachers and students.

   Understanding the organization and culture of schools.

   Understanding of contemporary issues in education.

4. Reading:

   Understand language acquisition and reading including phonemic awareness.

   Proficiency in comprehension strategies.

   Ability to foster appreciation of literature and reading.
5. Supervised Classroom Experience:

Experience in the classroom full time for 300 hours with at least half of the time in direct teaching activity.

One year teaching experience may be used as an alternate route providing that:
- a licensed teacher assists the beginning teacher.

Elementary Education preK-6

1. Methods:

Knowledge, skills and processes of the Virginia Standards of Learning. (English, mathematics, history and social science, science, and computer/technology)

Ability to integrate content in learning experiences.

Use differentiated instruction based on different stages of development, abilities and achievements.

Use appropriate methods to develop knowledge, intellectual curiosity, and problem solving.

Use classroom management to maintain a positive learning environment.

Modify learning environment to meet individual needs of students including those with disabilities, giftedness, and limited English proficiency.

Use assessments to plan and modify instruction.

Commit to professional growth through reflection, collaboration and continuous learning.

Ability to conduct and use research.

Ability to use technology in instruction and research.

2. Knowledge and Skills:

Knowledge and skills for teaching Virginia SOLs in English and reading.

Use assessment and screening measures for proficiency and to tailor instruction.

Understand needs with language differences and delays.

Ability to promote creative thinking and expression.
Understanding of the role of family in developing literacy.

Ability to create appreciation of the written word.

Proficient in:
- phonics instruction
- cueing systems
- vocabulary development
- structure of the English language
- reading comprehension strategies
- teaching strategies for comprehension
- knowledge and skills for the teaching of writing

Understand mathematics relative to the Virginia SOLs.

Understand the nature of mathematics relative to:
- sequential
- multiple representations
- reasoning
- contributions by different cultures
- role and applications
- influence of technology

Knowledge and skills in history and social science relative to the Virginia SOLs.

Understand the nature of history relative to:
- developing critical thinking skills

Knowledge and skills in science relative to the Virginia SOLs.

Understand the nature of science relative to:
- explaining and predicting
- data analysis
- experimentation

Ability to:
- adapt to diverse learners
- evaluate materials, instruction and student achievement
- incorporate technology

Understand core scientific disciplines.

Knowledge of child and family relative to:
- human growth and development
- the context of family, culture and community
- establishing positive and collaborative relationships
- support families through an emphasis on respect, responsibility, and moral behavior
- supporting students by working with parents and other professionals
Appendix 0

Virginia Licensure Regulations for School Personnel Categories

Professional Studies Components

<table>
<thead>
<tr>
<th>Summaries</th>
<th>Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Human Growth and development:</strong></td>
<td>Human growth and development</td>
</tr>
<tr>
<td>Understand physical, social, emotional and intellectual development.</td>
<td>Developmental disabilities</td>
</tr>
<tr>
<td>Ability to use this knowledge to guide learning experiences.</td>
<td>Learning experiences</td>
</tr>
<tr>
<td>Understand developmental disabilities and developmental issues.</td>
<td></td>
</tr>
<tr>
<td><strong>2. Curriculum and Instruction:</strong></td>
<td>Curriculum and instruction</td>
</tr>
<tr>
<td>Understand the principals of learning.</td>
<td>Principles of learning</td>
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<td>Skills in:</td>
<td>Organization</td>
</tr>
<tr>
<td>- discipline</td>
<td>Teaching methods</td>
</tr>
<tr>
<td>- methodology</td>
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</tr>
<tr>
<td>- communication</td>
<td></td>
</tr>
<tr>
<td>- classroom management</td>
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<tr>
<td>- selection and use of materials</td>
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<tr>
<td>- evaluation of pupil performance</td>
<td></td>
</tr>
<tr>
<td>Appropriate teaching methods based on student conditions.</td>
<td></td>
</tr>
<tr>
<td><strong>3. Foundations of Education:</strong></td>
<td>Legal, contemporary, and historical issues</td>
</tr>
<tr>
<td>Understanding of public education in the United States.</td>
<td>related to public education</td>
</tr>
<tr>
<td>Legal issues related to teachers and students.</td>
<td>School organization and culture</td>
</tr>
<tr>
<td>Understanding the organization and culture of schools.</td>
<td></td>
</tr>
<tr>
<td>Understanding of contemporary issues in education.</td>
<td></td>
</tr>
</tbody>
</table>
4. Reading:

- Understand language acquisition and reading including phonemic awareness.
- Proficiency in comprehension strategies.
- Ability to foster appreciation of literature and reading.

5. Supervised Classroom Experience:

- Experience in the classroom full time for 300 hours with at least half of the time in direct teaching activity.
- One year teaching experience may be used as an alternate route providing that:
  - a licensed teacher assists the beginning teacher.

---

| Proficiency in reading and language arts |
| Appreciation for literature and reading |

Classroom experience
Teaching experience
## Elementary Education preK-6

1. Methods:

- **Knowledge, skills and processes of the Virginia Standards of Learning.**
  * (English, mathematics, history and social science, science, and computer/technology)

- **Ability to integrate content in learning experiences.**

- **Use differentiated instruction based on different stages of development, abilities and achievements.**

- **Use appropriate methods to develop knowledge, intellectual curiosity, and problem solving.**

- **Use classroom management to maintain a positive learning environment.**

- **Modify learning environment to meet individual needs of students including those with disabilities, giftedness, and limited English proficiency.**

- **Use assessments to plan and modify instruction.**

- **Commit to professional growth through reflection, collaboration and continuous learning.**

- **Ability to conduct and use research.**

- **Ability to use technology in instruction and research.**

### Virginia Standards of Learning

- Integration of content
- Differentiation of instruction
- Methods for developing knowledge and thinking skills
- Effective classroom management
- Differentiation of instruction
- Assessment for instructional planning
- Professional growth
- Research skills
- Technology skills
### 2. Knowledge and Skills:

Knowledge and skills for teaching Virginia SOLs in English and reading.

- Use assessment and screening measures for proficiency and to tailor instruction.
- Understand needs with language differences and delays.
- Ability to promote creative thinking and expression.
- Understanding of the role of family in developing literacy.
- Ability to create appreciation of the written word.

**Proficient in:**
- phonics instruction
- cuing systems
- vocabulary development
- structure of the English language
- reading comprehension strategies
- teaching strategies for comprehension
- knowledge and skills for the teaching of writing

Understand mathematics relative to the Virginia SOLs.

Understand the nature of mathematics relative to:
- sequential
- multiple representations
- reasoning
- contributions by different cultures
- role and applications
- influence of technology

### Virginia Standards of Learning

- Assessment for planning instruction
- Diversity of learners
- Thinking skills
- Parental involvement
- Appreciation for learning

**Proficiency in English, language arts and phonics**

- Standards of Learning in mathematics
- Mathematical concepts and reasoning
- Mathematical applications
<table>
<thead>
<tr>
<th>Knowledge and skills in history and social science relative to the Virginia SOLs.</th>
<th>Standards of Learning in history and social science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand the nature of history relative to:</td>
<td>Thinking skills</td>
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<tr>
<td>- developing critical thinking skills</td>
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<tr>
<td>Knowledge and skills in science relative to the Virginia SOLs.</td>
<td>Standards of Learning in science</td>
</tr>
<tr>
<td>Understand the nature of science relative to:</td>
<td>Thinking and problem solving skills related to science</td>
</tr>
<tr>
<td>- explaining and predicting</td>
<td></td>
</tr>
<tr>
<td>- data analysis</td>
<td>Differentiating instruction</td>
</tr>
<tr>
<td>- experimentation</td>
<td>Scientific disciplines</td>
</tr>
<tr>
<td>Ability to:</td>
<td></td>
</tr>
<tr>
<td>- adapt to diverse learners</td>
<td>Human growth and development</td>
</tr>
<tr>
<td>- evaluate materials, instruction and student achievement</td>
<td>Community and parental involvement</td>
</tr>
<tr>
<td>- incorporate technology</td>
<td>Collaboration</td>
</tr>
<tr>
<td>Understand core scientific disciplines.</td>
<td>Values</td>
</tr>
<tr>
<td>Knowledge of child and family relative to:</td>
<td></td>
</tr>
<tr>
<td>- human growth and development</td>
<td></td>
</tr>
<tr>
<td>- the context of family, culture and community</td>
<td></td>
</tr>
<tr>
<td>- establishing positive and collaborative relationships</td>
<td></td>
</tr>
<tr>
<td>- support families through an emphasis on respect, responsibility, and moral behavior</td>
<td></td>
</tr>
<tr>
<td>- supporting students by working with parents and other professionals</td>
<td></td>
</tr>
</tbody>
</table>
Appendix P

NCATE Standards Summaries

**Standard 1:**
Candidates know, understand, and use the major concepts, principles, theories, and research related to development of children and young adolescents.

Construct learning opportunities that:
- support individual students’ development
- acquisition of knowledge
- motivation

**Standard 2a:**
Candidates know, understand, and use the central concepts, tools of inquiry, and structures of content.

Create learning experiences that:
- develop students’ subject matter competence
- skills for various developmental levels

**Standard 2b:**
Candidates know, understand, and use the concepts from reading, language and child development:

To teach skills in:
- Reading
- Writing
- Speaking
- Viewing
- Listening
- Thinking

To help students apply their developing skills:
- In different situations
- Materials
- Ideas

**Standard 2c:**
Candidates know, understand, and use fundamental concepts in science.

To build a base for:
- Scientific literacy
- Technological literacy

**Standard 2d:**
Candidates know, understand, and use the major concepts, procedures, and reasoning processes of mathematics.
To foster understanding and use of:
- Patterns
- Quantities
- Spatial relationships

In order to:
- Represent phenomena
- Solve problems
- Manage data

**Standard 2e:**
Candidates know, understand, and use the major concepts and modes of inquiry from social studies.

To promote abilities:
- To make informed decisions

**Standard 2f:**
Candidates know, understand, and use dance, music, theatre, visual arts.

- For communication
- For inquiry
- For insight

...as appropriate to the students' development.

**Standard 2g:**
Candidates know, understand, and use the major concepts in health education.

To create opportunities for:
- Skills for good health

**Standard 2h:**
Candidates know, understand, and use physical activity.

To foster life styles that are:
- Active
- Healthy

...as appropriate to the students' development.

**Standard 2i:**
Candidates know, understand, and use the connections among concepts, procedures, and applications from content areas.

- To motivate
- Build understanding
- Encourage application

**Standard 3a:**
Candidates plan and implement instruction.

Based on knowledge of:
- Learning theory
- Subject matter
- Curricular goals
- The community

**Standard 3b:**
Candidates understand differences in development and approaches to learning.

Create instruction for diverse students

**Standard 3c:**
Candidates understand and use a variety of teaching strategies.

That encourages development of:
- Critical thinking
- Problem solving
- Performance

**Standard 3d:**
Candidates use their knowledge of motivation and behavior.

To foster engagement in:
- Learning
- Self motivation
- Positive social interaction
- Supportive learning environments

**Standard 3e:**
Candidates use their knowledge of communication techniques.

To foster:
- Inquiry
- Collaboration
- Supportive interaction

**Standard 4:**
Candidates know, understand, and use assessment strategies.

To plan
To evaluate
To strengthen instruction

For the purpose of promoting:
- Intellectual
- Social
- Emotional
- Physical
Standard 5a: Candidates understand and apply characteristics of career teachers.

Standard 5b: Candidates are aware of and reflect on their practice.

In light of research and resources, evaluate effects of decisions on:
- Students
- Parents
- Colleagues/professionals
...and seek out opportunities for growth

Standard 5c: Candidates know the importance of positive relationships with families.

For the purpose of promoting:
- Intellectual
- Social
- Emotional
- Physical

Standard 5d: Candidates foster relationships with colleagues and the community to support students' learning and well-being.
**Appendix Q**

NCATE Standards Summaries and Related Supporting Statements

<table>
<thead>
<tr>
<th>Summary of Standard 1:</th>
<th>NCATE Supporting Statements:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Candidates know, understand, and use the major concepts, principles, theories, and research related to development of children and young adolescents.</td>
<td>Base their teaching on developmental periods of childhood.</td>
</tr>
<tr>
<td>Construct learning opportunities that:</td>
<td>Consider and accommodate developmental characteristics and students’ abilities and interests to plan and adapt curriculum to support learning.</td>
</tr>
<tr>
<td>- support individual students’ development</td>
<td>Understand ways in which cultures and social groups differ.</td>
</tr>
<tr>
<td>- acquisition of knowledge</td>
<td>Recognize when development differs from typical in order to call upon special assistance.</td>
</tr>
<tr>
<td>- motivation</td>
<td>None Available</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Summary of Standard 2a:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Candidates know, understand, and use the central concepts, tools of inquiry, and structures of content.</td>
<td></td>
</tr>
<tr>
<td>Create learning experiences that:</td>
<td>Model effective use of English.</td>
</tr>
<tr>
<td>- develop students’ subject matter competence</td>
<td>Understand how students learn to read, write, speak, view and listen.</td>
</tr>
<tr>
<td>- skills for various developmental levels</td>
<td>Use their knowledge to design instruction that builds on students’ experiences.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Summary of Standard 2b:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Candidates know, understand, and use the concepts from reading, language and child development:</td>
<td></td>
</tr>
<tr>
<td>To teach skills in:</td>
<td>Teach students to read competently and monitor their own reading.</td>
</tr>
<tr>
<td>- Reading</td>
<td>Familiar with many reading materials.</td>
</tr>
<tr>
<td>- Writing</td>
<td>Provide instruction so that students communicate knowledge, ideas, insights and feelings.</td>
</tr>
<tr>
<td>- Speaking</td>
<td>Understand error patterns and help students to correct them.</td>
</tr>
<tr>
<td>- Viewing</td>
<td>Use assessment to plan.</td>
</tr>
<tr>
<td>- Listening</td>
<td></td>
</tr>
<tr>
<td>- Thinking</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>To help students apply their developing skills:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>- In different situations</td>
<td></td>
</tr>
<tr>
<td>- Materials</td>
<td></td>
</tr>
<tr>
<td>- Ideas</td>
<td></td>
</tr>
</tbody>
</table>
Summary of Standard 2c:
Candidates know, understand, and use fundamental concepts in science.

To build a base for:
- Scientific literacy
- Technological literacy

Summary of Standard 2d:
Candidates know, understand, and use the major concepts, procedures, and reasoning processes of mathematics.

To foster understanding and use of:
- Patterns
- Quantities
- Spatial relationships

In order to:
- Represent phenomena
- Solve problems
- Manage data

Summary of Standard 2e:
Candidates know, understand, and use the major concepts and modes of inquiry from social studies.

To promote abilities:
- To make informed decisions

Summary of Standard 2f:
Candidates know, understand, and use dance, music, theatre, visual arts.

For communication
For inquiry
For insight
-as appropriate to the students' development.

NCATE Supporting Statements:
Broad knowledge of science.
Familiar with and teach concepts that unify scientific effort.
Engage students in inquiry.
Develop ability to communicate a problem then design, implement and evaluate a solution.
They know naive theories and common misconceptions and help build understanding.
Use assessment to plan teaching.

Teach students to: explore, conjecture, a reason logically;
To solve non-routine problems;
To communicate through mathematics.
They teach students content.
Know misconceptions and error patterns.

Possess knowledge, skills and dispositions to plan and provide integrated instruction.
Use their knowledge to help students learn about academic fields of knowledge.
Help students read, write, listen, discuss, and research.
Use assessment to plan teaching.

Understand distinctions between arts study and arts experiences.
Understand basic competence is prerequisite to advanced work.
Understand varied routes to competence:
- Student study may involve a variety of approaches.
- Student abilities develop at different rates.
**Summary of Standard 2g:**
Candidates know, understand, and use concepts in health.

To create opportunities for:
- **Skills for good health**

**Summary of Standard 2h:**
Candidates know, understand, and use physical activity.

To foster lifestyles that are:
- Active
- Healthy
- As appropriate to the students' development.

**Summary of Standard 2i:**
Candidates know, understand, and use the connections among concepts, procedures, and applications from content areas.

- To motivate
- Build understanding
- Encourage application

**Summary of Standard 3a:**
Candidates plan and implement instruction.

Based on knowledge of:
- Learning theory
- Subject matter
- Curricular goals
- The community

**NCATE Supporting Statements:**
Understand foundations of good health.
Help students see the benefit of a healthy lifestyle.
Alert to student health issues and dangerous situations and provide information with sensitivity.
Clarify misconceptions.

Understand physical education content.
Structure learning to demonstrate competence in movement forms.
Know that inactivity is a health risk.
Develop students' knowledge and skills to enhance fitness.
Structure experiences that foster enjoyment, challenge, self-expression, interaction, and respect for differences.

Make connections across the disciplines.
Use knowledge of developmental stages to motivate, build understanding, encourage application.
Help students learn multiple perspectives to understand complex issues.
Demonstrate scholarly habits of mind.

Understand learning theory, subject matter, curriculum development and student development to plan instruction.
Provide appropriate experiences that are meaningful and engaging and based on principles of effective teaching.
Use a variety of resources.
Use technology.
Collaborate with specialists.
Summary of Standard 3b:
Candidates understand differences in development and approaches to learning.
Create instruction for diverse students

Summary of Standard 3c:
Candidates understand and use a variety of teaching strategies that encourages development of:
- Critical thinking
- Problem solving
- Performance

Summary of Standard 3d:
Candidates use their knowledge of motivation and behavior to foster engagement in:
- Learning
- Self motivation
- Positive social interaction
- Supportive learning environments

Summary of Standard 3e:
Candidates use their knowledge of communication techniques to foster:
- Inquiry
- Collaboration
- Supportive interaction

NCATE Supporting Statements:
Understand differences in styles of learning and performance and that learning is influenced by experiences, talents, disabilities, experiences, culture, family and values. Use specialists for exceptional learning needs.
Design instruction based on development, learning styles, strengths, and needs. Use teaching approaches that are sensitive to diversity of the students.
Plan instruction based on the diversity and exceptional needs of the students.

Understand cognitive processes. Understand principles and techniques, advantages and limitations of various strategies. Can enhance learning through variety of materials and support of other colleagues.

Understand classroom management and motivation based on psychology, anthropology, and sociology. Use a range of strategies to promote positive relationships, cooperation, conflict resolution and learning. Create learning communities. Understand and use communication to create a learning environment.

Understand communication theory relative to learning. Understand cultural and gender differences affect communication. Model effective communication. Use a variety of media communication tools.
### Summary of Standard 4:
Candidates know, understand, and use assessment strategies:

- To plan
- To evaluate
- To strengthen instruction

For the purpose of promoting:
- Intellectual
- Social
- Emotional
- Physical

### NCATE Supporting Statements:
Know that assessment is integral to instruction.
Understand and use different types of assessment.
Align assessments with instructional practice.
Use technology to improve effectiveness of assessment.
Monitor teaching strategies based on student achievement.

### Summary of Standard 5a:
Candidates understand and apply characteristics of career teachers.

### NCATE Supporting Statements:
Possess knowledge and skills related to child development, content, instructional technique, and assessment.
Analyze teaching methodologies.
Acquire tools to work with evolving issues and conditions.
Able to make wise decisions based on time, place and population.
Identify and access resources for professional development.
Understand interrelationships within the processes of elementary education.

### Summary of Standard 5b:
Candidates are aware of and reflect on their practice:

In light of research and resources evaluate effects of decisions on:
- Students
- Parents
- Colleagues/professionals
...and seek out opportunities for growth

### NCATE Supporting Statements:
Understand methods of inquiry, self-assessment and problem solving.
Know research on teaching and resources for professional learning.
Use information for evaluating and revising practice.
Apply knowledge of current research to instruction.

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### Summary of Standard 5c:
Candidates know the importance of positive relationships with families.

For the purpose of promoting:
- Intellectual
- Social
- Emotional
- Physical

### Summary of Standard 5d:
Candidates foster relationships with colleagues and the community to support students’ learning and well-being.

### NCATE Supporting Statements:
Understand different beliefs, traditions, values, and practices.
Involve families as partners.
Respect parents’ choices and goals.
Communicate with parents.
Involve families in assessing and planning.

Understand schools as organizations.
Understand students’ environments influence cognitive, emotional, social, and physical well-being and learning.
Participate in collegial activities to make the school a productive learning environment.
Appendix R

NCATE Standards Summaries and Related Categories

**Summary of Standard 1:**
Candidates know, understand, and use the major concepts, principles, theories, and research related to development of children and young adolescents...

Construct learning opportunities that:
- support individual students' development
- acquisition of knowledge
- motivation

**Summary of Standard 2a:**
Candidates know, understand, and use the central concepts, tools of inquiry, and structures of content...

Create learning experiences that:
- develop students' subject matter competence
- skills for various developmental levels

**Summary of Standard 2b:**
Candidates know, understand, and use the concepts from reading, language, and child development:

To teach skills in:
- Reading
- Writing
- Speaking
- Viewing
- Listening
- Thinking

To help students apply their developing skills:
- In different situations
- Materials
- Ideas

**Category:**
Development
Learning
Motivation

Curriculum

English
Language Arts
Summary of Standard 2c:
Candidates know, understand, and use fundamental concepts in science.

To build a base for:
- Scientific literacy
- Technological literacy

Summary of Standard 2d:
Candidates know, understand, and use the major concepts, procedures, and reasoning processes of mathematics.

To foster understanding and use of:
- Patterns
- Quantities
- Spatial relationships

In order to:
- Represent phenomena
- Solve problems
- Manage data

Summary of Standard 2e:
Candidates know, understand, and use the major concepts and modes of inquiry from social studies.

To promote abilities:
- To make informed decisions

Summary of Standard 2f:
Candidates know, understand, and use dance, music, theatre, visual arts.

For communication
For inquiry
For insight
-as appropriate to the students' development.

Summary of Standard 2g:
Candidates know, understand, and use concepts in health.

To create opportunities for:
- Skills for good health

Category:
Science
Mathematics
Social Studies
The Arts
Health Education
<table>
<thead>
<tr>
<th>Summary of Standard 2h:</th>
<th>Category:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Candidates know, understand, and use—physical activity—</td>
<td>Physical Education</td>
</tr>
<tr>
<td>To foster life styles that are:</td>
<td></td>
</tr>
<tr>
<td>-Active</td>
<td></td>
</tr>
<tr>
<td>-Healthy</td>
<td></td>
</tr>
<tr>
<td>—as appropriate to the students' development.</td>
<td></td>
</tr>
</tbody>
</table>

| Summary of Standard 2i: | |
|------------------------| |
| Candidates know, understand, and use the connections among concepts, procedures, and applications from content areas— | Connections across the Curriculum |
| -To motivate | |
| -Build understanding | |
| -Encourage application | |

<table>
<thead>
<tr>
<th>Summary of Standard 3a:</th>
<th>Instruction</th>
</tr>
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<tbody>
<tr>
<td>Candidates plan and implement instruction—</td>
<td></td>
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<tr>
<td>Based on knowledge of:</td>
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<tr>
<td>-Learning theory</td>
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<tr>
<td>-Subject matter</td>
<td></td>
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<tr>
<td>-Curricular goals</td>
<td></td>
</tr>
<tr>
<td>-The community</td>
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<table>
<thead>
<tr>
<th>Summary of Standard 3b:</th>
<th>Student Diversity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Candidates understand differences in development and approaches to learning—</td>
<td></td>
</tr>
<tr>
<td>Create instruction for diverse students</td>
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</table>

<table>
<thead>
<tr>
<th>Summary of Standard 3c:</th>
<th>Critical Thinking and Problem Solving</th>
</tr>
</thead>
<tbody>
<tr>
<td>Candidates understand and use a variety of teaching strategies—</td>
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<tr>
<td>That encourages development of:</td>
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<tr>
<td>-Critical thinking</td>
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<tr>
<td>-Problem solving</td>
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<tr>
<td>-Performance</td>
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</tr>
</tbody>
</table>
### Summary of Standard 3d:
Candidates use their knowledge of motivation and behavior—

To foster engagement in:
- Learning
- Self motivation
- Positive social interaction
- Supportive learning environments

### Summary of Standard 3e:
Candidates use their knowledge of communication techniques—

To foster:
- Inquiry
- Collaboration
- Supportive interaction

### Summary of Standard 4:
Candidates know, understand, and use assessment strategies—

To plan
To evaluate
To strengthen instruction

For the purpose of promoting:
- Intellectual
- Social
- Emotional
- Physical

### Summary of Standard 5a:
Candidates understand and apply characteristics of career teachers.

### Summary of Standard 5b:
Candidates are aware of and reflect on their practice—

In light of research and resources, evaluate effects of decisions on:
- Students
- Parents
- Colleagues/professionals

...and seek out opportunities for growth

---

**Category:**

<table>
<thead>
<tr>
<th>Engagement in Learning</th>
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</thead>
<tbody>
<tr>
<td>Communication</td>
</tr>
<tr>
<td>Assessment</td>
</tr>
<tr>
<td>Characteristics of Career Teachers</td>
</tr>
<tr>
<td>Self Reflection and Professional Growth</td>
</tr>
</tbody>
</table>
Summary of Standard 5c:
Candidates know the importance of positive relationships with families.

For the purpose of promoting:
- Intellectual
- Social
- Emotional
- Physical

Summary of Standard 5d:
Candidates foster relationships with colleagues and the community to support students' learning and well-being.

Category:
Collaboration with Families

Collaboration with colleagues and the Community
Vita

Stephen J. Chantry

Birthdate: December 25, 1954

Birthplace: Sidney, NY

Education: Education Specialist - 1993
            The College of William and Mary

            Master in Education - 1979
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