

**Examining the New Layers of Teacher Education:
A Cross-Case Analysis of the High School Induction Process
for Alternatively Certified Teachers**

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(ABSTRACT)

The cross-case analysis described in this study explores the patterns of practice that support the induction needs of Alternatively Certified Teachers (ACTs) in the high school educational environment of a large suburban school district. Bronfenbrenner's (1976) systemic model of the educational environment that envisions a series of nested, interacting sub-systems is utilized as a roadmap for exploration. Data were collected beginning in the macro-system and continuing through the exo-system, meso-system, and micro-system of the educational environment. Interviews with teacher educators at the macro-system level, with central office staff at the exo-system level, with school administrators at the meso-system level, and with ACTs at the micro-system level were the primary means of data collection. Case study schools included three "high-ACT schools" with the largest numbers of ACTs in the district and two "norm-ACT schools" that reflected the average number of ACTs in the remaining five high schools in the district. Observations at teacher induction activities and mentor training sessions and analysis of relevant documents, including mentor program evaluation responses, were used to triangulate the data. Evolving display matrices were the primary strategy for data analysis. Themes were identified at each level of the educational environment. Differences among the sub-systems and between the "high-ACT" and "norm-ACT" schools were described. Findings revealed the following consistent themes within the

levels of the high school environment: (a) the use of creative recruitment practices that include recognition of the value of ACTs as an important resource for finding new teachers; (b) emphasis on the role of personal qualities and teacher beliefs in equipping an individual to make a successful transition to teaching; (c) the pervasive sense of culture shock that ACTs experience; (d) the emphasis on establishing a wide network of formal and informal mentors; and (e) the emphasis on learning the connection between classroom management and good instruction. The study concluded that the general patterns of practice supporting ACTs in the high school educational environment can be organized into the following categories: (a) blending theory and practice by infusing university expertise into the schoolhouse; (b) promoting formal and informal mentoring; and (c) differentiating support to meet the special needs of ACTs.

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Chapter 1

CONTEXT FOR THE STUDY

Mr. Brown, a first-year chemistry teacher, bounded into his high school classroom on a Monday morning in January, filled with enthusiasm for the coming week. Having invested the lion's share of his weekend in developing lesson plans that focused on real-world applications, he knew that he would have a successful week in the classroom. Based on his undergraduate studies, graduate work in the field of chemical engineering, and ten years of experience as a chemical engineer, Mr. Brown was confident he had developed a rich curriculum for his students. The students seemed to be excited by the curriculum, too. After some initial challenges to Mr. Brown's classroom management during the first weeks of school, the students had accepted his leadership and the high performance standards he set for them. It seemed that Mr. Brown's obvious maturity, and specifically his life experience as the father of two adolescent children, provided an effective knowledge base for dealing with teenage behavioral issues. While a substantial pay cut had been a difficult part of the adjustment to teaching, Mr. Brown believed that it was impossible to put a price tag on the internal rewards each day of teaching brought him. Tonight he would attend his methods class at the local university. Receiving feedback on his lesson plans from the professor and from the cohort members in his alternative teacher certification program was always a valuable experience. Mr. Brown was anxious to hear what his cohort members had to say and to compare his experiences with them. He also knew he could count on Mr. Green, his mentor teacher, who dropped in every few days to observe a lesson and offer feedback. Mr. Brown had learned a tremendous amount from this talented veteran teacher whose suggestions usually

addressed the practical problems he was experiencing. Altogether, Mr. Brown was happy and satisfied in his new job and looking forward to completing his licensure requirements while he continued teaching. Clearly, he was ready to make a long-term commitment to high school teaching.

Is Mr. Brown's story fact or fiction or a combination of the two? The answer to this question may depend on one's orientation toward the current national debate regarding teacher preparation. One school of thought in this debate maintains that there are many individuals nation-wide like Mr. Brown, who are ready to take their places in America's classrooms--provided states offer teacher preparation programs that meet their special needs. Dubbed alternative teacher certification (ATC), these programs recruit mature individuals with subject-matter expertise and prior work experience. While ATC programs vary significantly from one another, many afford nontraditional teacher candidates the opportunity to learn to teach while teaching. Meanwhile, those who espouse a second school of thought dismiss the previously described scenario as wishful thinking. They maintain that the new breed of ATC programs constitutes a slippery slope that will produce a cadre of ill-prepared teachers. In place of ATC, they propose measures to professionalize teaching in creative and substantive new ways.

Regardless of one's perspective in this educational debate, it is logical to suggest that ATC is a growing movement with the capacity to impact the next generation of America's teachers. The impact may be felt particularly at the high school level where alternatively certified teachers (ACT) are sought for their subject-matter expertise. Because ATC emphasizes learning to teach by teaching, the institutional response to these special learning needs of ACTs will likely determine the outcome of the induction

process. Therefore, this study will focus on the impact of the total high school educational environment on the new breed of beginning teachers known as ACTs.

Statement of the Problem

Our nation is currently experiencing a period of tremendous focus on the issue of teacher quality--and for important reasons. Recent research findings (Darling-Hammond, 1998) and public opinion polls (Olson, 2000), as well as common sense, support the contention that skillful and knowledgeable teachers are the key to increasing student achievement. Unfortunately, the initial results of the high stakes testing programs in numerous states suggest that many students are not learning successfully. As a result, voices from both within and outside the teaching profession are demanding better teacher preparation. "If the schools are failing, it is argued, then the reason must be that the teachers are failing. And if the teachers are failing, it must be that the teacher preparation programs are failing" (Fraser, 2001, p. 40).

Concurrently, the following demographic factors are producing a critical need for more as well as better teachers: (a) student enrollment is projected to grow by 4% between 1997 and 2009; (b) there are increased job opportunities for women and minorities outside of education; (c) the average age of American teachers is 44, resulting in increased retirements; and (d) one out of five novice teachers leaves the profession after three years (Olson, 2000). Consistent with these findings, the United States Department of Education projects that schools will need to hire about 2 million teachers in the next 10 years. Clearly, the resulting flood of new hires will shape the American teaching force for decades to come. Without question, this is a time of great opportunity to increase the quality of America's teachers.

The goal of licensure is to protect the public from harm. A license, or certificate, "sets a floor for teaching, meaning that a person has the minimum knowledge and skills to enter the classroom" (Bradley, 2000, p. 20). However, some critics of state licensing standards believe that there is little connection between typical licensing requirements and effective teaching. They argue that, rather than serving as "hallmarks of competence" (Bradley, 2000, p.22), low state standards and cumbersome bureaucratic requirements discourage many of the best teacher candidates. According to this line of logic, state regulations should require only evidence of subject-matter expertise and a criminal background check. Believing that teaching lacks an agreed-upon knowledge base, these critics of state licensure systems would free school principals to hire from a broader pool of individuals. As a product of this thinking, an estimated 80,000 teachers have been licensed through alternative certification programs over the last 10 years. The states of New Jersey, California, and Texas are nation-wide leaders in ATC. In New Jersey, for example, ATC produces about 25% of the state's new teachers annually (Olson, 2000).

Meanwhile, other educators have been involved in a movement to professionalize teaching by introducing a quality assurance system intended to raise standards for teacher preparation and increase support for novices. The following elements of the new system have been introduced since the late 1980s: (a) the Interstate New Teacher Assessment and Support Consortium (INTASC) to develop model licensing standards for states to use in reforming the teacher licensing process; (b) collaboration between the National Council for the Accreditation of Teacher Education (NCATE) and the states in the review and accreditation of teacher preparation programs; (c) the National Board for Professional Teaching Standards (NBPTS) that provides advanced certification to

accomplished teachers; and (d) the alignment of standards for initial licensing, accreditation, and advanced certification (Wise, 2001).

Although the ATC movement and the movement to professionalize teaching appear at first to be philosophically opposed to one another, a small but important plot of common ground can be identified. Adherents to both schools of thought agree that the current system of teacher preparation is broken and must be fixed. Consensus also exists that teachers need to know the subjects they teach and that "more learning about how to teach should take place in real schools under the supervision of master teachers" (Olson, 2000, p. 18). Accordingly, this study examines how the high school educational environment supports learning for nontraditional novice teachers who enter teaching through ATC programs.

Theoretical Base/Relationship to Prior Knowledge

As described in Chapter Two, the review of the literature on alternative teacher certification reveals that the body of research related to this area is relatively small and unsystematic. Research studies have examined themes related to ATC including the following: (a) the role of maturity and prior work experience in teacher development; (b) the importance of subject-matter expertise in learning to teach; (c) the teaching perspectives and beliefs of nontraditional teacher candidates; and (d) the impact of ATC on student achievement. In general, findings related to the tenets that support the ATC movement are inconclusive. On the one hand, for example, there is evidence that suggests a positive impact of maturity on the first-year of teaching (Bendixen-Noe & Redick, 1995; Houston, Marshall & McDavid, 1993; Rodriguez & Sjostrom, 1998; Sandlin, Young, & Karge, 1993). On the other hand, studies also suggest that the relationship

between subject-matter knowledge and learning to teach may be more complex than previously recognized (Ebert & Risacher, 1996; McDiarmid & Wilson, 1991).

Furthermore, the propensity of nontraditional novice teachers to serve as agents for instructional change may hinge more on the individual's psychological dispositions and working conditions than on their nontraditional status (Neapolitan, 1996). Finally, studies of the impact of ATCs on student achievement have yielded contradictory results (Darling-Hammond, 1999; Goldhaber & Brewer, 2000).

Many agree that the term "alternative teacher certification" is problematic because programs range from training shortcuts to intensive master's degree programs. As a result, research studies are often fraught with methodological problems related to program definition. Furthermore, there is a gap in information concerning the role of the total educational environment in supporting the special learning needs of this growing group of nontraditional teacher candidates.

Purpose of the Study

The purpose of this study was to conduct a cross-case analysis of one school system's response to the characteristics and learning needs of nontraditional teacher education candidates at the high school level. Through examination of what Bronfenbrenner (1976) described as the ecological nature of the educational environment, I examined the structural layers that support or impede the learning of ACTs in the "micro-system" (p.5) of the high school classroom. Because it envisions the school's ecological environment as a system, or "a nested arrangement of structures, each contained within the next" (p.5), Bronfenbrenner's model provided a useful roadmap for

the exploration of the high school educational environment and for the examination of its impact on the professional development of ACTs.

Research Questions

The overall guiding question for the study was this: How are the patterns of practice used across the total educational environment of the high school currently meeting the induction needs of ACTs? Subordinate questions included the following: (1) How do ACTs describe their induction experience? (2) How do high school instructional supervisors respond to the induction needs of ACTs? (3) How do district-level personnel respond to the induction needs of high school ACTs? and (4) How do teacher educators respond to the induction needs of high school ACTs?

Significance of the Study

While the professional debate concerning teacher preparation unfolds nationwide, thousands of ACTs are entering American classrooms annually. Although research studies have examined ACTs' common characteristics and their impact on student achievement, little information is available concerning how schools are responding to ACTs' induction needs. During the next decade, high school administrators, central office subject specialists, and teacher educators will be called upon to support ACTs in learning to teach by teaching. Given the tremendous demands placed on local school and central office personnel today, the temptation to group all novice teachers together and assume the same induction needs will likely exist. This study's findings and conclusions offer information concerning the special learning needs of this sizable group of novice educators. As such, the study contains insights concerning ways to promote the successful induction of ACTs to high school teaching.

Definitions

Alternative Teacher Certification (ATC) is any route to certification that changes the traditional teacher preparation process and offers early involvement in teaching responsibilities prior to eligibility for state licensure.

Alternatively Certified Teacher (ACT) is any teacher entering the profession through an alternative certification program.

Traditional Teacher Certification (TTC) is a four-year undergraduate teacher preparation program that includes coursework in subject-matter and pedagogy as well as student teaching experience prior to the assumption of teaching responsibilities.

Nontraditional Teacher Candidate is an individual 25 years of age or older who enters teaching through an ATC program.

Limitations/Assumptions

The findings and conclusions developed in this cross-case analysis are based on the examination of patterns of practice in five high schools in a large suburban school district. The schools in the sample include three “high-ACT schools” with the largest concentrations of ACTs in the district and two “norm-ACT schools” that represent the average number of ACTs per school in the district. Descriptive data, including school size, student demographics, and average test scores are included to assist readers in determining the extent to which the cases match their own situations. Interviews and observations with individuals who represent the macro-system and exo-system components of the educational environment of the case study schools provide a picture of the broader context within which the schools operate. Ultimately, however, it will be up to the reader to decide the transferability of the study's findings and conclusions.

Overview of the Dissertation

The dissertation is a qualitative study of the patterns of practice used to respond to the induction needs of ACTs working in high schools. It followed an embedded multiple-case study design. Subunits for investigation included ACTs, their instructional supervisors within the high school, support personnel at the central office level, and representative teacher educators from the college or university level. Interviews, observations, and document analysis were used for data collection. Continuous data collection and analysis supported the findings and conclusions.

Chapter 1 of the dissertation contains an introduction to the topic, a description of the purpose and significance of the study, research questions, operational definitions for key terms, and limitations/assumptions of the study. Chapter 2 contains a review of the related literature concerning ATC. Problems of definition related to ATC, selected issues in teacher education and preparation, and the impact of current cultural forces on the development of the ATC movement are examined. Furthermore, 10 selected research studies are summarized and critically analyzed. Chapter Three contains the methodology for the study including a problem statement, the purpose, research questions, and the significance of the study. The rationale for the study's design and the data collection and analysis procedures are also described. Chapter 4 describes the findings by using Bronfenbrenner's (1976) model as a vehicle for examination of the high school educational environment, the special needs of ACTs, and the patterns of practice that support the induction process. Information from individual cases is used to support the cross-case analysis. Differences between "high-ACT" schools and "norm-ACT" schools are described where they exist. Chapter 5 includes a discussion of the findings, the

study's conclusions, and recommendations for school districts and high school administrators. Implications for future research, personal reflections on the research process, and summary comments conclude the study.

CHAPTER TWO

Review of the Literature

This chapter examines the literature of the last 15 years related to Alternative Teacher Certification (ATC). Chapters 4 and 5 incorporate additional literature that was reviewed during the collection and analysis of data. Studies of ATC are important to the field of education for the following reasons: (a) the United States is facing a growing teacher shortage; (b) intense criticism of traditional teacher preparation has produced a national search for alternatives; and (c) ATC has emerged as a nation-wide response to teacher recruitment needs.

Increases in the school-age population, teacher retirements, increasing job opportunities for women and minorities outside of education, and pressure for class-size reduction are some key factors fueling demand for new teachers. Goldhaber and Brewer (2000) stated that more new teachers will be hired in the next decade than in any decade in our history. In light of these conditions, teacher-preparation institutions will be unable to meet the demand for new teachers if they restrict themselves to traditional approaches to teacher education (Turley & Nakai, 2000). Accordingly, beginning in the mid-1980s, the initiatives of state legislatures across the country spawned a wide variety of alternate pathways into teaching collectively known as ATC. Currently, at least 41 states have some type of ATC, and 25 states report that the number of teachers licensed by alternative routes has increased over the past five years (Center for the Study of Teaching and Policy, 1998). For better or for worse, ATC is destined to have a powerful impact on the quality of America's teaching force in the opening decades of the twenty-first century.

Currently, the field of education is deeply enveloped in a "third wave" of reform characterized by a focus on improving the quality of teaching. Because the general public, and teachers themselves, question the value of traditional teacher education courses, a strong consensus has developed both inside and outside the field regarding the need for new approaches to teacher education. In this connection, ATC has stimulated a significant debate concerning the essential elements of the knowledge base for teaching; the relationship between theory and practice; and the role of experience in learning to teach. This debate has profound implications for both traditional and alternative certification programs. Were support for ATC to evaporate tomorrow, its impact on traditional teacher education would remain historically significant.

Finally, this topic is of personal interest as a result of my experience as an alternatively certified teacher who was prepared in an ACT program that relied heavily on learning from experience. Conducting this study has provided an interesting opportunity to consider the advantages and disadvantages of alternative and traditional approaches to teacher education and how the best of both approaches might be captured as a product of the current rethinking regarding teacher education. Most importantly, professional development for all teachers ultimately demands, at least in part, learning to learn from experience. Therefore, a study of ATC offers insights to on-the-job learning that can be useful to educational administrators in working with both new and experienced teachers.

Purpose of Review

The major purpose of this chapter is to examine professional literature in the field of teacher education related to alternative teacher certification. The framing question for

this review is: What characteristics and needs do alternatively certified teachers bring to the schoolhouse? Identifying what the literature reveals about the learning needs that ATCs bring to the schoolhouse has prepared me to explore how the high school educational environment is responding to these needs. To answer my framing question, I examine the following: (a) theoretical perspectives on ATC; (b) selected issues in teacher education related to ATC; and (c) the impact of political forces, economic realities, and social issues on the development of the ATC movement. Following this, I summarize and evaluate the findings of 10 selected research studies reflecting critical issues and questions related to ATC. Finally, I describe the current status and future needs related to research in the area of ATC.

The review of literature is supported by electronic searches of the database ERIC utilizing search terms including, but not limited to, teacher training, teacher education, and alternative teacher certification. Because the focus of this review is on exploring the dialogue that has occurred since the introduction of landmark ATC programs in New Jersey and Texas in the mid-1980s, a time limit of 1985-2000 was used. Hand searches in texts, book chapters, and journal articles were also conducted. Vicky C. Dill's (1996) list of references in the Handbook of Research on Teacher Education is worthy of special mention. This comprehensive list of resources was particularly helpful in evaluating the thoroughness of my search. In the subsequent review of the literature, I first discuss theoretical issues related to ATC before I analyze and synthesize 10 research studies related to ATC in practice.

A Debate Among the Community of Scholars

The ATC movement is closely connected to a range of issues in teacher education, including the following: (a) concerns about the academic quality of teacher candidates, their maturity, and the demographic diversity they represent; (b) debate about the proper relationship between theory and practice in teacher education; and (c) the role of experience in learning to teach. Therefore, it is important to examine ATC within the broad context of teacher education in general.

In order to acquire a broad base of knowledge about teacher education, research syntheses from the Handbook of Research on Teacher Education were reviewed (Sikula, Buttery, & Guyton, 1996). This text contains 48 chapters authored by 90 individuals representing colleges, universities, and research institutions throughout the United States.

Alternative Teacher Certification, A State-by-State Analysis, 1998-1999 by C. Emily Feistritzer and David C. Chester provided an overview of ATC programs throughout the United States. Published by the National Center for Education Information (NCEI), a private, non-partisan research organization which Dr. Feistritzer heads, this 426 page resource book provides a broad background of information on ATC including the following: (a) descriptions of the evolution of alternative routes for preparing and licensing teachers; (b) teacher licensing practices in the United States; (c) teacher supply and demand projections; (c) results from selected ATC programs; and (d) detailed descriptions of each of the ATC programs in the United States.

Another source for background information on ATC was The Effectiveness of District Intern Programs of Alternative Teacher Certification in California: A Longitudinal Study (1996). The report of the California Commission on Teacher

Credentialing, this 159 page work is currently the largest study that has been completed on district-based preparation and certification programs for teachers. Based on three phases of data collection from 1985-1993, the final report included background information on the program; a comparison of ATC programs nation-wide; conclusions based on data generated by the study; and recommendations based on the conclusions.

A comprehensive overview of ATC was also provided in the chapter "Alternative Teacher Certification" by Vicky S. Dill, published in the previously mentioned Handbook of Research on Teacher Education (1996). Founder of a professional development center at Schreiner College in Kerrsville, Texas, Dr. Dill described the history and research findings related to ATC from its inception in the New Jersey Program in the mid-1980s to the present. The chapter examines the implications of the reform initiatives of the 1980s and the evaluation of new models of teacher education throughout the 1990s.

Predictably, ATC has produced a group of committed advocates and a set of determined opponents. Linda Darling-Hammond, Professor at Stanford University, is prominent among those who view ATC as a dangerous direction for the field of education. Her writings continually reinforce the notion that teacher preparation should remain in the hands of professional teacher educators and reflect the standards established by the National Council for Accreditation of Teacher Education (NCATE), the Interstate New Teacher Consortium (INTASC), and the National Board for Professional Teaching Standards (NBPTS). She visualized these three new sets of professional standards as a "three-legged stool" that will provide a strong foundation for increasing teacher quality. In support of this contention, Darling-Hammond's report Teacher Quality and Student Achievement: A Review of State Policy Evidence (1999) concluded that measures of

teacher preparation and certification are strongly correlated with student achievement in reading and mathematics even after controlling for socio-economic factors.

Martin Haberman, Professor of Education of the University of Wisconsin-Milwaukee, and Trish Stoddart of the University of Michigan are representative of those who believe that ATC holds promise for producing quality teachers for urban schools. Stating that teaching is a "moral craft", Haberman (1994) posited that teacher educators do not know how to produce effective teachers for urban schools. He further believes that the on-site coaching by experienced teachers in ATC programs holds great promise for developing competent urban school teachers.

Another school of thought advocating for ATC is represented by Chester E. Finn, Jr., President of the Thomas B. Fordham Foundation, an organization dedicated to advancing understanding and acceptance of reform strategies related to teacher selection and quality. The Thomas B. Fordham Foundation's policy "manifesto", The Teachers We Need and How To Get More of Them (1999) was signed by a collection of state governors, chief state school officials, scholars, and educators. The principles it espoused included the following: (a) developing results-based accountability systems; (b) ensuring that teachers have mastered their subject matter; (c) removing excessive regulation; (d) de-emphasizing traditional teacher education; and (e) opening the teaching profession to a larger pool of talented and well-educated people. The works of Linda Darling-Hammond and Chester E. Finn, Jr. provide an interesting point-counterpoint on the subject of teacher education and certification.

Theoretical Perspectives on ATC

The three traditional components of professional preparation for teaching are subject matter preparation, pedagogical preparation, and supervised practice. If one considers the extent of variation in quantity, quality, and timing that can be introduced to each of these programming components, the dilemma of defining ATC in a succinct and precise manner quickly becomes apparent. Complicating the situation still further, state standards for traditional teacher preparation vary substantially both within and among certification categories. As a result, while traditional teacher certification programs in some states are more demanding than alternative programs, other states have equivalent standards in both. In fact, variation is so great that alternative certification candidates in some states are subjected to more rigorous professional preparation than regular certification candidates in some other states (Darling-Hammond, 1998). Therefore, using points of comparison with traditional certification as a definitional strategy is fraught with difficulty.

Clearly, arriving at an operational definition for ATC is problematic. It requires examination of the prevailing uses of the terms "license" and "certificate", the distinction between alternative and emergency certification, the range of definitions currently in use, the underlying assumptions that characterize the movement, and the distinctive categories of programs that have been developed under the mantle of ATC.

Confusing Terminology

In attempting to define ATC, a perplexing point that arises is the use of the terms "certification" and "licensure." Most writers agree in defining licensure as an act of the state intended to protect and promote the general welfare. Certification, on the other

hand, can be defined as an act of a profession intended to acknowledge those who demonstrate advanced capabilities. (Fenstermacher, 1990). The use of the term "national certification" to describe the award of a certificate to a teacher by the National Professional Standards Board is consistent with this usage. Currently, many states persist in using the terms "license" and "certificate" synonymously and interchangeably. Although the Carnegie Forum attempted to draw the distinction in the mid-1980s, the confusing interchange of terms continues. A case in point is the fact that alternative certification is actually "alternative licensure"--an act by the state to authorize an individual to teach. (Stoddart & Floden, 1995).

In an attempt to avoid confusion with the National Professional Standards Board Certification, the State of North Carolina has formally differentiated between "license", which certifies that minimum competencies have been met and "certificate" which designated advanced standing within the profession (Bradshaw & Hawk, 1996). However, other states have yet to follow suit and clarify this important distinction. Moreover, by placing certification decisions in the hands of local school districts, some states have created alternatives to the entire concept of certification as an act of the state (Darling-Hammond, 1998).

Another point of confusion surrounds the use of the terms alternative certification and emergency certification. Opponents of ATC have suggested that the line of distinction between these terms is either blurred or non-existent. However, Fenstermacher (1990) maintained that there is a clear distinction. According to Fenstermacher, ATC places an individual in a classroom quickly after varying amounts of study and with some level of supervision. Emergency certification, on the other hand, has the following

characteristics: (a) emergency certification requires little or no advanced preparation; (b) emergency certification may or may not involve a program of supervision and mentoring; and (c) emergency certification limits the individual to a stipulated period of time in the classroom. Smith (1991) noted that New Jersey's ATC program, which led the way for the recent ATC movement, included elimination of emergency certificates as one of the primary reasons for initiating the program.

Range of Definitions

Against this backdrop of confusing terminology, a wide range of definitions for ATC has been proposed. Some have solved the definitional dilemma through the use of very broad definitions. For example, Fenstermacher (1990) defined ATC as an approach to licensing teachers that bypassed the more traditional routes of completing a professional course of study in a teacher training institution. More recently, Bradshaw (1998) stated that ATC can be broadly defined as a method of entry into the teaching profession that does not require the completion of a traditional teacher education program. This type of broad definition focuses on what alternative certification is not, but reveals nothing about its defining characteristics. Similarly, the definition proposed by the United States Department of Education does little to enlighten the situation. The Department of Education defines ATC as "teacher preparation programs that enroll non-certified individuals with at least a bachelor's degree offering shortcuts, special assistance, or unique curricula leading to eligibility for standard teaching credentials." (Bradshaw & Hawk, 1996).

Cornett (1990) introduced some clarity into the discussion by identifying the defining characteristics of ATC. Based on his examination of programs in the 15 member

states of the Southern Regional Education Board (SREB), he maintained that ATC reflects two major components--a limited number of required education courses and required demonstration of competence in order to meet licensure requirements. Dill (1996) notes that a more detailed elaboration of the evolving definition of ATC can be found in the 1989 guidelines of the American Association of Colleges for Teacher Education (AACTE). These guidelines characterized ATC as containing the following features: (a) involvement of the state legislature or state education agency in establishing a process for licensing teachers without prior professional experience; (b) admission of individuals not prepared in traditional programs; (c) school-based nature of the program; and (d) optional involvement by colleges and universities.

Underlying Assumptions Supporting ATC

Stoddart & Floden (1995) offered a useful way of defining ATC by identifying the underlying assumptions or unifying characteristics that support the movement in all its forms. Identifying these underlying assumptions also serves to frame the controversy that has surrounded the emergence of the ATC movement since its inception in the mid-1980s. The assumptions are as follows:

1. If one knows a subject, one can teach it. This assumption has spawned a significant controversy concerning the role of both pedagogical knowledge and pedagogical content knowledge in particular in learning to teach.
2. One learns to teach by teaching. This assumption is the genesis of the debate regarding the role of experience in learning to teach.
3. Mature individuals with prior work experience make better teachers. This line of logic has stimulated a debate concerning the relative value of the pedagogical training

of traditional teacher certification (TTC) versus the work and life experience possessed by ATC candidates.

Categorizing ATC Programs

In an attempt to resolve the debate surrounding definition, Feistritzer and Chester (1998) proposed and implemented a classification system for alternative certification programs in the United States. Their classification system has nine classes or groups of programs. They range from what Feistritzer and Chester define as "true alternative certification" (p. 80) to programs that simply allow persons who have special qualifications, such as well-known authors or Nobel prize winners, to teach certain subjects in which they are uniquely qualified.

Feistritzer and Chester (1998) maintained that "true" alternative certification programs, which they designate as Class A, have the following three characteristics: (a) they are designed for those with a bachelor's degree in a field other than education; (b) they are not restricted to certification areas where there are teaching shortages; and (c) they involve teaching with a trained mentor as well as formal instruction that addresses the theory and practice of teaching. Twelve states, including the Commonwealth of Virginia, have programs that meet these criteria. Interestingly, Feistritzer and Chester, in their definition of true alternative certification, do not differentiate between programs in which training in pedagogy and mentoring occur before a candidate is hired as a teacher and those in which hiring by a school district is a prerequisite to receiving on-the-job training and supportive coursework.

Feistritzer and Chester (1998) create a second level classification for those states that restrict their alternative certification programs to the secondary level, to certain

subject areas, or to areas where shortages exist. Two more classes are designated for programs that are individually designed based on transcript analysis. Within these categories Feistritzer and Chester distinguish between those programs in which the state and/or the local school district are responsible for program design and those in which an institution of higher education has major responsibility for program design. Programs in which institutions of higher education require completion of course work on campus constitute a fifth class of programs according to this framework.

The sixth class of programs, Class F, are basically emergency routes that allow individuals to teach while pursuing traditional certification on evenings and weekends. Class G is a category for programs that allow individuals with a few remaining requirements for traditional certification to begin teaching while they complete the missing courses. The final classes, Class H and Class I, consist of the "special qualification programs" described earlier and those state programs that are still in the discussion stages.

Others have proposed different classification systems for ATC programs. Ovando and Trube (2000) organize ATC programs into the following models: (a) the local school district model; (b) the higher education model; (c) the education service-center model; (d) the Teach for America model which requires only a limited commitment from participants; and (e) the military career transition model.

Linda Darling-Hammond (1998) lent considerable insight to the definitional discussion by observing that there are actually three different phenomenon at work within the ATC movement. Darling-Hammond characterized these phenomenon as follows: (a) alternative ways to meet traditional teacher certification requirements; (b) alternative

standards for certification; and (c) alternatives to state certification itself which places licensing in the hands of local education officials and eliminates the standardization of state certification entirely. Darling-Hammond has introduced the term "alternate route program" to describe programs that change the preparation process, while maintaining traditional certification standards.

Evaluating ATC Programs

The problem of definition is also reflected in the debate over evaluation criteria for ACT programs. Supporters of ATC believe that evaluation should be outcome-based. However, there is no clear consensus as to what the accepted outcome measures should be. Some believe that improvements in the quality of the teacher corps are a useful measure while others propose criteria such as the quantity of candidates, their demographic characteristics, or student achievement. Fenstermacher (1991) maintained that evaluation should be based on the comparison of traditionally and alternatively prepared teachers after five years of experience. It is only at this stage of experience, he believed, that true differences will emerge. Faced with the dilemma of evaluating such a disparate range of programs, Zumwalt (1996) concluded that each alternative certification program should be assessed individually and locally.

After surveying the wide range of programs clustered under the umbrella of ATC, Tom (2000) stated that, "Probably the only characteristic shared by these varied forms of alternative approaches is early involvement in teaching responsibility" (p.20). Clearly, the range of existing ATC programs that emerged in the 1980s and throughout the 1990s has produced an evolving definition of the term as commentators seek to capture the full scope of the movement. However, based on her examination of the ATC movement since

the mid-1980s, Dill (1996) concluded that ATC has actually become synonymous with its underlying purposes. Viewed from this perspective, ATC can be defined simply as a group of programs specially designed to bring talented, mature college graduates into the teaching profession. This observation is also consistent with the decision to focus in this literature review on the characteristics and needs of alternatively certified teachers. Perhaps the panoply of existing programs is simply a manifestation of the search for the most expeditious way to attract and retain bright and talented people in the teaching profession.

Current Issues in Teacher Education

So far in this review, problems related to developing a generally accepted definition for ATC, confusion surrounding the use of the terms license and certificate, the assumptions underlying the ATC movement, and alternative classification systems for ATC have been described. In this section, the impact of ATC on selected issues in teacher education is examined.

Currently there are over 1300 schools, colleges, and departments of education (SCDEs) (Ducharme & Ducharme, 1999). However, Bradshaw (1998) stated that the general public, and teachers themselves, question the value of many of the education courses SCDEs offer. At the beginning of the last decade, Fenstermacher (1990) explained the complaint more fully. According to Fenstermacher, many teachers and members of the public believe that teacher education courses are redundant, lack relevancy, and substitute for more rigorous courses in other fields.

A second problem for SCDE's in recent decades has been their lack of close connections to the schoolhouse. Goodlad (1999) noted that, "Turning of schools of

education of major research universities toward scholarly purposes for their own sake may have strengthened their position within their institutions, but it served simultaneously to disconnect them from the elementary and secondary schools and teacher education" (p.332). Imig (1997) explained that today the ATC movement represents a major effort to move decisions regarding teacher education program quality and the efficacy of beginning teachers to agencies and institutions outside the university. From the perspective of SCDE's, there is an urgent need to answer the following question: What can campus-based programs do that no one else can?

Craft or Profession?

Perhaps the roots of the debate over teacher education can be found in disagreements about the nature of teaching itself. Is teaching a profession with a recognized knowledge base or a craft with a set of maxims and practices that can be learned effectively on the job? Examination of this most basic question reveals a disturbing lack of consensus.

Hazlett (1994) maintained that ATC is based on a vision of teaching as a craft rather than a profession. He explained that heavy emphasis on an apprenticeship model suggests that teaching is a set of techniques to be mastered. Stoddart and Floden (1995) also noted that emphasis on training through experience is more consistent with trades such as carpentry and plumbing. Apprenticeship models set teaching apart from professions such as law and medicine that require a sustained period of focused study prior to supervised practice. Wise (1994) explained that most professions involve a three-stage induction process consisting of study, experience, and examination. In contrast, entry into teaching has been undemanding historically and remains so today.

Despite these observations from teacher educators, there is significant public support for the notion that teaching is primarily intuitive and can best be learned on the job from other teachers (Hawley, 1992). This "art and craft position" rejects the notion of a formal knowledge base for teaching and posits that formal preservice teacher preparation is useless and unnecessary.

Clearly, the case for the professional status of teaching is considerably weakened by the lack of consensus among teacher educators regarding what it means to prepare someone for teaching. Some recent research underscores the consensus problem. Based on a quantitative analysis of survey data from nine teacher education programs, Tatto (1998) concluded that teacher educators' views about professional norms were more strongly influenced by specific program perspectives than they were by generally accepted views across teacher education. In the place of professional norms for teacher education, Tatto found instead strong norms within programs and deeply held social norms driving whatever consensus emerged among programs. Tatto concluded, "The fact that teacher education and teachers can with legitimacy hold opposing ideas regarding education's purposes makes it difficult to agree on how to implement the goals the current reforms call for in actual school settings" (p. 76).

This lack of consensus contributes to the prevailing decline of public confidence in the efficacy of teacher education. However, Marchant (1992) noted insightfully that, "Teachers with inadequate education and experience are more likely to establish practices that allow them to teach rather than enabling students to learn" (p.42). Perhaps recognition of a professional knowledge base for teaching ultimately rests on whether SCDE's can make a compelling case for the distinction between teacher-centered training

that focuses on teacher practices and learner-centered training that develops professional judgment and effective decision-making resulting in increases in student achievement. According to Stoddart and Floden (1995), "The education community stands at a crossroads where the choice lies between investing in an extended professional education for teachers based on an established pedagogical knowledge base or returning to an apprenticeship system" (p.8).

Range of Issues

Stoddart and Floden (1995) observed that the debate between alternative and traditional teacher preparation does not equate to the choice between some professional preparation and none. Instead the debate is centered around decisions regarding the following factors: (a) the timing of professional preparation; (b) the institutional context for teacher education; and (c) the balance of professional knowledge and skills to be learned. Framed in this manner, ATC raises important issues for SCDEs. In this section, the role of subject matter preparation versus pedagogy, the role of experience in the classroom versus preparation in SCDEs, the role of mentorship in beginning to teach, and the special needs of alternatively certified teachers will be described.

Balanced Preparation

ATC raises a question concerning the academic ability and subject matter knowledge that should be required for teacher candidates. Beginning in 1983, the national report A Nation at Risk emphasized the need to recruit more academically able teachers. Standardized testing programs for teachers adopted by most states in the late 1970s and 1980s mirrored this shift in focus to academic competence over pedagogical knowledge (Bradshaw, 1998). As a result of this focus, teacher education institutions must now

reconsider the issue of how much of the undergraduate education ought to be committed to content knowledge and how much to professional course work.

Complicating the dilemma still further are the findings of researchers such as Bradshaw (1998) suggesting that while content knowledge may be a necessary prerequisite, it does not guarantee effective teaching. Hawley (1992) suggested that subject matter knowledge measured by grades or standardized multiple choice tests do not correlate strongly with teacher effectiveness because they are not necessarily measures of understanding. Linda Darling-Hammond (1998) characterized research findings in this area as mixed. She stated that subject matter knowledge is a positive influence on teaching up to an undetermined level of competence but becomes less significant beyond that point. Marchant (1992) also cautioned against an overemphasis on subject matter knowledge explaining that principals and teachers identify classroom management and organizational problems as key concerns more frequently than subject matter knowledge.

Role of Experience

While SCDEs struggle with the issue of balancing subject matter and professional coursework, another pivotal question regarding the role of experience in learning to teach has also emerged as a by-product of ATC. Based on an examination of numerous studies, Dill (1996) concluded that the majority of teachers believe that teacher preparation should combine coursework with fieldwork, a model that is consistent with many ATC program designs. Hawley (1992) agreed that most teachers believe that experience was their best teacher. Furthermore, Wise (1994) observed that policymakers, through the vehicle of ATC, have recognized induction as a phase of teacher preparation and have

therefore publicly confirmed the vital link between theory and practice. However, teacher educators have also identified some important caveats connected with the role of experience in learning to teach. Hawley (1992) noted that research in many areas of endeavor confirms what poor learners many of us are when experience is our only teacher. Accordingly, he recommended that experience-based ATC programs include learning about how to learn to teach as a part of classroom experience.

Feiman-Nemser and Buchanan (1985) also questioned whether experience is as good a teacher of teaching as many believe. In this connection, they outlined three major pitfalls of experience. First, the "familiarity pitfall" results from over-reliance on the most memorable components of one's personal experiences as a student. This personal history and direct experience with schooling make it difficult for novices to see alternatives. Second, the "two worlds pitfall" describes the yawning gap that develops between practices a teacher education student does for college or university requirements, rewarded by grades and course credit, and the application of these practices in the real world of the classroom. Finally, Feiman-Nemser and Buchanan argued that a "cross-purposes pitfall" exists because classrooms are not designed as laboratories for learning to teach. They explained that attending to the requirements for action in a particular setting does not necessarily foster the capacity to learn from other experiences. Collectively, Feiman-Nemser and Buchanan posited, these pitfalls can encourage novices to believe that important aspects of teaching have been internalized and understood. According to this line of reasoning, teaching experience can actually retard learning by creating premature closure in the minds of novices.

Role of Mentorship

Many ATC programs rely on mentorship by experienced teachers as a primary mechanism for fostering learning on the job and effective learning through experience. Zumwalt (1996) noted that, ironically, teachers and administrators who have been criticized for not meeting the needs of students are now being asked to invest time and resources in meeting the needs of novice teachers. Smith (1991) stated that New Jersey's ATC program rests on the faulty assumption that schools have the financial resources, staff, and time to conduct teacher training while school is in session. Some emerging statistics add credence to these concerns. In California and Connecticut, for example, mentors are state-funded. However, despite this investment of resources, 15% of California's ACTs stated that they had not met with any support person at all within their first year. Fewer than 20% reported that they had met with a support person once a week. (California Commission on Teacher Credentialing, 1996).

Setting aside the resource issue, Hawley (1992) identified additional recurrent themes that hamper the development of effective mentoring relationships between experienced teachers and novices. These include the following: (a) inadequate training for mentors; (b) mentors' discomfort in providing advice that implies criticism; (c) grade or subject mismatches of mentors and mentees; (d) inability of novice teachers to recognize when they need help; and (e) assignment of individual mentors as opposed to establishing a mentoring team.

Berliner (1986) posited that reliance on mentorship or apprenticeship in teacher education overlooks an even more fundamental problem. Based on his studies of differences between expert teacher and novice teacher thinking, Berliner concluded that

experienced practitioners often lack the ability to articulate the basis for their skill. He attributed this phenomenon to the internalization or automation of procedures in expert teachers. Automation refers to the fact that skills possessed at a high level are maintained with very little practice or thought. Based on this observation, Berliner concluded that knowing how to do something is very different from knowing how or why an approach works.

Despite the challenges associated with the development of effective mentoring programs, Fenstermacher (1990) concluded that mentoring relationships can be powerful teaching tools for novices. He posited that, given the necessary resource investment, frequent contact with one or more reflective practitioners can foster skills of critical reflection in novices. However, Zumwalt (1996) cautioned that the success of on-the-job learning strategies may be restricted to candidates who are naturally talented or to school settings that offer supportive learning communities. Feiman-Nemser and Buchanan (1985) sounded an even stronger note of caution in stating, "Classroom experience alone, whether past or present, cannot justify what teachers do, nor teach teachers to think about their work" (p.61).

The Need for Special Support

Bradshaw and Hawk (1996) noted that ACTs, many of whom have worked outside of education and enter the field with limited knowledge of pedagogy, have special support needs. These needs include the following: (a) understanding the interdependence of instruction and classroom management; (b) coaching and demonstration teaching by mentors; (c) emotional support in making the transitions from competency in one field to

novice status in teaching; (d) individualization of mentoring approaches based on specific needs.

Hawley (1992) also noted the special needs of ACTs. Referring to the power of personal perspective in shaping teaching experience, he observed that more fully developed perspectives that come with maturity may be more difficult to undo or modify. While Eifler and Potoff (1998) found that, after adjusting to their new surroundings, older novice teachers drew on prior life experience to adapt to new situations, they also found that maturity and experience created some additional problems. These problems included the following: (a) unrealistic expectations of young people; (b) reduced supervision and help from veteran teachers who made inappropriate assumptions based on the novice's age; and (c) a mismatch between the skills used in prior careers and those needed in teaching. Many ACTs also struggled with the loss of societal prestige and salary associated with entry into teaching.

Conclusion

Clearly, ACT has demanded reconsideration of some essential questions related to teacher education. By providing models that radically reconfigure traditional notions of teacher education, ACT has propelled the field in creative new directions and stimulated a search for more effective approaches. In the next section, specific changes in teacher education fostered by ATC will be identified.

The Impact of ATC on Teacher Education

Zumwalt (1996) stated that important changes have occurred in teacher education since the calls for ATC re-emerged in the mid-1980s. For example, she maintained that concerns about the academic quality of the teacher candidate pool have been addressed

through higher grade point requirements as well as through new general knowledge, subject knowledge, and professional knowledge tests. Bradshaw (1998) also stated that some perceived problems in teacher education that stimulated interest in ATC have now been addressed by teacher education reforms. In this connection, Eifler and Potoff (1998) noted that many practices found in ATC programs have important implications for traditional programs. These practices include mentoring, the close connection of theory and practice, the use of active learning principles, and the role of cohort groups in supporting teacher education students.

In addition to emphasizing the importance of effective mentoring, Hawley (1992) also credited ATC with helping to identify the important characteristics of mentoring and the contributions mentoring can make to the professional development of both novice and mentor teachers. Underscoring this connection, Tom (2000) stated that, "One of the major and largely unrecognized contributions of ATC to teacher education reform is to raise the question of the place of teaching experience in learning to teach" (p.21). Furthermore, ATC has underscored the need for SCDEs to forge consensus, foster collaboration with other institutions, and make structural changes in teacher education.

Forging Consensus

The ATC movement has created pressure for teacher educators to resolve their differences concerning the content of their programs and the professional knowledge base for teaching. Stoddart and Floden (1995) stated that advances have been made in establishing a professional knowledge base for teaching, particularly as it relates to teachers' subject specific pedagogical understandings. In this connection, Shulman (1987) noted that, in the past, the empirical research on effective teaching focused on the search

for generalities about teaching behaviors that correlated with student achievement on standardized tests. The result, he posited, was that essential features of teaching were overlooked. Based on a three-year qualitative study of the professional development of several dozen beginning teachers, Shulman (1987) developed a model of pedagogical reasoning that describes a cycle of thinking activities consisting of comprehension, transformation, instruction, evaluation, and reflection.

On the other hand, Wise (1994) credits the National Council for Accreditation of Teacher Education (NCATE) with developing consistent standards for teacher performance that are linked to standards for student performance. To achieve accreditation by NCATE, teacher education programs must be based on a clearly defined framework that both students and faculty can articulate. Wise noted that initially half the schools of education failed to meet this standard. However, Tom (2000) raised some important caveats in connection with NCATE's ability to forge consensus and raise standards within teacher education. Noting that NCATE is a private organization dependent for funding on the institutions it accredits, Tom suggested that it is not feasible for NCATE to take a tough stand on accreditation. In support of this position, Tom noted that, although NCATE has claimed to raise standards recently, its rate of rejection has been more or less constant at 20% for the last 25 years.

While questioning the potential for NCATE to forge consensus and raise standards in teacher education through the accreditation process, Tom (2000) noted that the Educational Testing Service recently created a partnership with NCATE to revise the Praxis II tests. Tom speculated that the revised Praxis II tests may promote the

standardization of teacher education. It is still unclear as to whether these tests will contain any meaningful performance measures.

Fenstermacher (1990) observed that the key to forging consensus in teacher education may involve probing more deeply than the level of standards in order to consider the purposes or ends of teacher preparation. To promote this dialogue, he suggested that teacher educators should consider what common expectations they have for teachers with several years of experience.

Fostering Collaboration

The ATC movement has helped to create linkages for teacher education with institutions both inside and outside the college and university setting. Within colleges and universities, the challenge of ATC has served to dismantle some of the barriers that have separated professors in SCDEs from professors in other disciplines. Cochran-Smith (1993) stated that this separation has in the past kept education students removed from current work in their subject areas. Stoddart and Floden (1995) noted that, since the publication of the Holmes Report, colleges of education have been working with other departments to improve the academic preparation of teachers. Poor working relationships between SCDEs and school districts have also historically impeded the effective training of student teachers (Cochran-Smith, 1993). Stoddart and Floden (1995) credited the establishment of professional development schools with helping to bridge the gap between universities and school districts. The Goals 2000 legislation has also fostered partnerships between schools of education and K-12 schools. The grant monies that this legislation provides go to consortia of K-12 and higher education organizations rather than directly to higher education (Wise, 1994).

Cochran-Smith (1993) identified three types of school-university relationships that have emerged as part of the larger effort to reform preservice teacher education. Each type of relationship can be defined in terms of its goals for preservice teachers. First, "consonance" is a relationship in which SCDEs work with school districts to prepare student teachers who have mastered the professional knowledge base and who are effective decision-makers and problem-solvers. Second, the term "critical dissonance" describes a relationship designed to develop teachers who examine issues of race, class, power, and gender in order to raise important questions regarding school policies and their implications. Finally, the term "collaborative resonance" describes relationships aimed at producing teachers who know how to learn from experience by examining their own practices through collaborative inquiry. According to Cochran-Smith, relationships based on collaborative resonance hold the greatest promise for school and university partnerships. They rest on the premise that the power to reinvent teaching is not located in either the university or the school but in the collaboration between these two institutions. It appears that ATC has identified and propelled the examination of a driving question for the next decade: How can institutions be linked into collaboratives and define their respective roles? (Dill, 1996)

Structural Changes

Schlechy and Vance (1983) argued that teacher education should be housed in the place where it actually occurs--in the public schools. However, in considering the emerging alternative teacher certification movement, they also noted that, "To concern oneself with recruiting and selecting high ability people for schools without first making schools attractive to these people is likely to be dysfunctional and disruptive" (p.178).

With the growth of ATC, the dialogue surrounding structural changes in the schoolhouse has continued. Wise (1994) stated that the preservice preparation should be regarded as only a beginning phase of teacher education. He pictured a second clinical phase during the first two years of teaching in which a beginner or conditional license would be granted and substantial clinical assistance would be provided. In this design, experienced teachers who have achieved National Board Certification would serve as mentors to beginners. Fenstermacher (1990) also pictured career ranks or levels in which teachers would advance through the ranks as a result of experience, training, and assessment. In this way, Fenstermacher posited, an amalgamation of alternative and traditional teacher education could occur. Most importantly, according to Feiman-Nemser and Buchanan (1985), "If schools became places where teachers studied their own practice together and were rewarded for doing so, future teachers would be inducted into a professional community where collegiality and experience were norms" (p. 64).

Bradshaw (1998) stated that teacher educators initially helped to create ATC through their inability both to agree on a professional knowledge base for teaching and to provide evidence of the link between their course work and effective teaching. Fifteen years later, it appears that the "step-child" it created has had a powerful impact on the status of teacher education. Perhaps most importantly, ATC has provided a new role for SCDEs--to develop high quality alternative programs. Fenstermacher (1990) sounded a pragmatic note by stating that, "The question of whether initial teacher preparation is better accomplished through TEP or AC depends on the allocation of talent and resources to either one, assuming that by better accomplished, one means equipping the student with the skills needed to perform the duties of the first or second year teacher" (p.167).

Ultimately, Fenstermacher envisioned the emergence of new models of teacher education based on the blending of the best of what traditional and alternative approaches have to offer.

The Cultural Context for ATC

Thus far, the definitional difficulties connected with ATC and the movement's overall impact on teacher education have been identified and described. Although the ATC movement was a product of criticism of teacher education that bordered on condemnation, it has produced some long-term benefits for the field. Specifically, it has created pressure for forging consensus among teacher education programs; it has fostered collaboration between SCDEs and local school districts; and it has given new impetus to the dialogue regarding the need for structural changes in the schoolhouse that can foster learning and growth for all teachers.

Attention will now turn to the cultural forces--political, economic, and social--that are propelling ATC forward. Dial and Stevens (1993) stated, "Although some of the underlying issues are the same, the current ATC Programs should not be compared to previous ones because the current demographic, economic, and societal circumstances are different from previous circumstances" (p.12). Based on this premise, the following section will explore the political forces, economic realities, and social issues that promote today's ATC movement.

Political Forces

Fenstermacher (1990) stated that underlying ATC is a struggle for control of education between two competing forces. He explained that supporters of ATC favor democratic control of education; that is, control by lay decisions based on majority

preferences. Wise (1994) also defined popular or democratic control as the assumption that public officials should set performance standards for schools that are consistent with the norms of the community. Traditional or reformed teacher education, on the other hand, rests on a very different assumption--that professional control based on practitioner knowledge and expertise should be paramount. Expanding on the theme of democratic control of education, Fenstermacher (1990) noted that ATC has offered an opportunity for other institutions, such as foundations and corporations, to become political players in the formation of teaching policy. He characterized ATC as a quick and expeditious method for individuals to become identified with the education reform movement.

Bradshaw (1998) posited that political and business leaders have worked to influence the supply, quality, and performance of public school teachers because they believe these changes will have a positive impact on our country's economic well-being. Wise (1994) noted that, in the past, policymakers ignored lax preparation and entry standards because the students graduating from public schools had skills sufficient for workforce needs. Now, however, workforce needs include problem-solving, analytical reasoning, and the application of knowledge. These new demands require new thinking and new approaches for increasing the quality of teaching and learning.

Exacerbating the level of concern regarding teaching and learning in America's public schools has been the continuous comparison reports of student performance internationally. Statistics regarding the disappointing performance of American students, particularly in science and mathematics, have inspired a series of reform measures that have had four important implications for approaches to teacher licensing. First, teacher licensure testing has been adopted by the majority of states. However, most are primarily

paper and pencil tests of basic skills and minimum performance that have had little impact on teaching and learning (Wise, 1994). Second, the emergence of the standards-setting movement, led by national subject-matter organizations, has stimulated the development of standards for teacher preparation and teacher performance. The development of the National Board for Professional Teaching Standards (NBPTS), designed to assess performance at the expert level, and the Interstate New Teacher Assessment and Support Consortium (INTASC), designed to offer common performance-oriented licensing standards for new teachers are promising outgrowths of the standards movement (Wise, 1994).

A third reform theme impacting teacher education and licensing is that of choice, deregulation, and the revival of the market economy. Fenstermacher (1990) stated the ATC can be viewed as an extension of the societal deregulation effort--a way of destroying the monopoly control of SCDEs. As such, Fenstermacher noted, ATC may be an idea in the right place at the right time. A fourth related reform theme that has had implications for teacher licensing is site-based management. Two well-established, state-wide ATC programs--in New Jersey and in California--have placed responsibility for state certification under the control of the local school districts at the recommendation of the school principal. Darling-Hammond (1998) noted that this decision destroys important state safeguards that protected licensure decision-making from economic and expediency decisions. Furthermore, Hawley (1992) noted that school systems may be less likely to fail first-year teachers than student teachers. First year teachers may acquire stronger advocates within the school or may have been selected initially by the person responsible for evaluation.

On balance, then, the emergence of various reform themes appears to have buffeted teacher education and licensing in different directions over the past two decades. Tellingly, Tom (2000) stated, "To have both alternative certification and national board certification in the same profession reveals an internal contradiction and/or reflects how varied are the views and assumptions of reformers" (p.42).

A study by Valli and Rennert-Ariev (2000) investigated this contention. To identify areas of agreement and disagreement across major teacher education reform proposals of the last 15 years, the researchers analyzed nine reform documents published since A Nation at Risk. Each of the documents was reviewed in relation to the recommendations proposed by the National Commission on Teaching and America's Future (NCTAF). The NCTAF recommendations were selected as a framework for the study for the following reasons: (a) the degree to which they synthesized a range of reform proposals; (b) the depth of documentation that supported the proposals; and (c) the prestige of the commission that created them. Furthermore, NCTAF is the only remaining national commission and the only one to create a network to influence teaching policy.

Each of the nine reform proposals selected for comparison was analyzed on a 7-point scale to determine the degree of agreement and disagreement with NCTAF. A score of 3 indicated strong agreement and a score of -3 strong disagreement. Valli and Rennert-Ariev (2000) found that the strongest areas of agreement among the documents addressed were for multicultural competence and disciplinary preparation in the subject taught. Significantly, these two areas are frequently cited as strengths connected with ATC.

Overall, Valli and Rennert-Ariev (2000) found that reformers' views, as expressed in the documents examined, agree far more than they disagree about teacher education recommendations proposed by NCTAF. They further found that resource-related structural characteristics of teacher education programs were the areas of least agreement. For example, professional development schools had a mean agreement score of 1.4, while extended programs had a mean score of 1.1. Arguably, however, consensus regarding how to implement changes may be as important as consensus regarding what changes are needed. The lack of agreement in the implementation area may help to explain the growing popularity of a wide range of alternative programs.

Regardless of the degree of agreement or disagreement among reform documents, Bradshaw (1996) noted that recent reform efforts have created some contradictory situations for alternatively and traditionally certified teachers. These contradictions include the following: (a) standards are going up for traditional certification programs while they are relaxed in some ATC programs; (b) monitoring of traditional teacher education programs has increased while it is low or non-existent in many ATC programs; and (c) teaching is becoming more complex while the required training is being decreased for many ATC programs.

Most importantly, some reform-minded individuals question whether alternatively certified teachers will have the skill and commitment needed to help transform American education. According to Hawley (1992), "By focusing on the implementation of particular models of instruction, curriculum, and administrative procedures, ATC prepares teachers for the schools we have rather than the schools we need (p.19).

Economic Realities

Current projections indicate that 2.2 million new teachers will be needed in the next decade. This translates into 210,000 new teachers per year. However, Feistritzer (1998) does not believe that these statistics necessarily indicate a teacher shortage. She explained that confusion surrounding the definition of new teacher is a complicating variable. For example, new teacher may mean new to the nation, to a particular state, to a school district, or to a building. Feistritzer's 1995-1996 survey of public school teachers indicated that only 2% of teachers (or 44,000) reported they had one year of experience. This finding was confirmed in a National Education Association survey during the same year. Based on this information, Feistritzer concluded that the nation will need to hire approximately 45,000 first-year teachers per year as opposed to 210,000.

Bradshaw (1998) summarized the situation by explaining that the teacher labor pool includes the following three sets of individuals: (a) graduates of teacher education programs; (b) certified individuals who are not currently teaching; and (c) other individuals who can be certified through alternate routes. Bradshaw further identified the forces that are impacting teacher demand and supply. The following six factors are stimulating demand for new teachers: (a) rising enrollments; (b) lower pupil-teacher ratios; (c) rising teacher attrition rates; (d) early retirement plans; (e) a shrinking teacher reserve pool. At the same time, Bradshaw believed that teacher supply is being impacted by a countervailing set of forces. These include the following factors: (a) low salaries; (b) dissatisfaction with teaching as a career; (c) absence of meaningful teacher involvement in school decision-making; (d) problems with discipline in the schools; and (e) more lucrative career opportunities for women and minorities beyond teaching.

Furthermore, in contrast to Feistritzer's disclaimers regarding the teaching shortage, Imig (1997) presents an alternative scenario. Noting that the United States is engaged in a population surge that will raise school enrollments to an historic high of 54.6 million by 2006, Imig posited that approximately 500,000 additional teachers will be needed in addition to replacement teachers for current teachers leaving the workforce. Since the population surge will be geographically uneven and will include large numbers of ethnic and racial minorities, the need for minority educators will become especially acute.

Gitomer and Latham (2000) stressed the importance of looking beyond sweeping generalizations regarding the supply and demand for teachers. They noted that careful examination of the teacher shortage reveals some important patterns. Rural and urban schools are clearly facing the most severe shortages. Furthermore, there is an uneven supply within credential areas with mathematics, science, and special education emerging as particularly critical areas. Gitomer and Latham (2000) also examined the impact of teacher testing on teacher supply. Noting that teacher testing is fulfilling its charge by eliminating the least academically able candidates, they also found that testing is having little overall impact on teaching supply with 75% of candidates passing Praxis I and 90% passing Praxis II. However, a more focused examination leads Gitomer and Latham to conclude that testing affects the supply for some licensure areas more than others and impacts minority candidates more dramatically than non-minority candidates.

Apparently, then, the teacher testing movement is impacting teacher supply in some key areas where need is greatest. ATC, with its appeal to bright college graduates and second-career individuals, is one practical and logical approach to this dilemma.

However, Darling-Hammond (1998) cautioned that if ATC programs attract minorities and teachers for critical shortage areas such as mathematics and science, but then decrease their retention through insufficient training, these shortage areas may increase in the long run.

Tom (2000) stated that, "Using alternative certification to open access to K-12 teaching will not appreciably alter the balance of supply and demand for teachers, unless more attention is given to the working conditions and low salaries of K-12 teachers (p.42). Hawley (1993) commented in a similar vein that reducing entry costs to teaching, while neglecting to increase the benefits, will likely have only a limited impact on quality and may actually exacerbate the rate of attrition from the profession. Gitomer and Latham (2000) also observed that raising testing standards for teachers without raising pay and working conditions will produce an inadequate pool of higher quality candidates.

In this connection, Darling-Hammond (1998) observed that there are only two ways of addressing teacher shortages--raising salaries or lowering entry standards. She noted that the states that have admitted the largest number of teaching candidates in alternate routes are among the states with the lowest beginning salaries within their regions. Furthermore, in rewarding experience over talent, existing salary schedules often create the greatest dissatisfaction among the most qualified. (Bradshaw, 1998)

Haberman (1994) identified economics as the major catalyst for the proliferation of ATC. In particular, he cited a low level of public concern for quality teaching as compared to other issues such as health care. Furthermore, Bradshaw (1998) observed that the availability of ACT is negatively impacting the economic value of traditional teacher education because a liberal arts education provides an individual with more

human capital than an education major. However, ATC proponents argue that providing bright college graduates the opportunity to begin teaching without a significant investment in a teacher education program is a promising strategy for relieving or shortages and eliminating the use of emergency credentials. (Fenstermacher, 1990).

Finally, in evaluating the overall economic impact of ATC, Gitomer and Latham (2000) provided the following important caveat, "Gross generalizations about supply, demand, and impact of licensure miss the point that there are disparate effects across licensing areas and population groups that require much more complex and strategic analysis to support sound policy decisions" (p. 217).

Social Issues

Dill (1996) maintained that both of the important themes that have generated the current wave of ATC programs are related to the characteristics of teacher education candidates. These themes are concern about the level of academic ability and concern about the lack of diversity in the teaching force and teacher candidate pool.

Noting that the period from 1950-1970 was a time of rapid increase and turnover in the new teacher population, Dill (1996) maintained that 73% of the least academically able teachers entering teaching during this period remained in the classroom longer. The 1970s were a critical period for attracting talented individuals into teaching; however, the trend of the previous two decades continued. Bradshaw (1998) stated that individuals entering teaching in the 1970s were drawn from the lowest SAT-scorers. In this connection, the studies of Schlecty and Vance (1983) identified a consistent decline in the measured academic ability of beginning teachers in North Carolina from 1973-1980. Stoddart and Floden (1995) also stated that studies conducted from the 1960s through the

1980s showed that teacher education students were among the least academically able college students. Furthermore, the most academically able teacher candidates were least likely to stay in the field after entering (Bradshaw, 1998).

While Schlecty and Vance (1983) attributed the decline in overall quality to the reduced numbers entering teaching and to the decreasing ability of teaching to attract and retain able females, Dill (1996) provided a more comprehensive list of reasons. In addition to the factors previously cited, Dill added the following: (a) poor working conditions in the schoolhouse; (b) lack of career advancement opportunity; and (c) lack of a strong university commitment to colleges of education. These reasons suggest that ATC may be only a partial solution to the problem of increasing the supply of able teacher candidates. Left unaddressed is the problem of retention of able candidates in a workplace that may be ill-suited to their needs.

Gitomer and Latham (2000) stated that researchers have actually expressed concern about teacher academic ability since the 1920s. Based on their findings, they maintained that the concern continues today. The researchers analyzed data from 200,000 candidates who took at least one teacher test from the Educational Testing Praxis Series between 1994 and 1997 as well as the Scholastic Aptitude Test between 1977 and 1995. Gitomer and Latham concluded that if the highest teacher testing standards in use today for Praxis scores were applied in all the states, fewer than one-half the candidates nationwide would pass Praxis I and fewer than two-thirds would pass Praxis II.

Despite these findings, Gitomer and Latham (2000) cautioned against accepting sweeping generalizations about teacher academic quality that do not take into account significant differences in ability among candidates seeking different kinds of teaching

licenses. Significantly, Gitomer and Latham noted that, of those who passed the Praxis Tests during the period they studied, the elementary school teacher candidates' SAT scores were lower than those of the average college graduate while the scores of secondary level teacher candidates were comparable to or higher than those of all college graduates.

Beyond concerns regarding the academic ability of teachers is a second issue that concerns the demographic make-up of the teacher candidate pool. Many scholars have taken note of the increasing disparity between the numbers of minority teachers and the current and projected enrollment of minority students (Bradshaw, 1998). Stoddart and Floden (1995) stated that, by the year 2020, about 40% of the K-12 student population will be students of color. A striking example of this phenomenon is found in the State of Texas, where the Hispanic population will become a majority during this decade. Currently, however, only 15.8% of Texas teachers are Hispanic (Shepherd, 1999).

Stoddart and Floden (1995) confirmed the generally accepted belief that teachers who are members of students' own cultural groups are important role models. Recently, however, increased opportunities for minorities in higher paying, higher prestige jobs have had a negative impact on the supply of minority teachers. Accordingly, ATC has emerged as a promising policy response to shortages of minority teachers, particularly in urban areas. However, Darling-Hammond (1998) maintained that use of ATC as a policy response to minority teacher shortages in economically disadvantaged school districts may exacerbate the educational problems for a group of students who are already underserved.

Perhaps in response to concerns such as those expressed by Darling-Hammond, some ATC programs have focused specifically on preparing teachers to work with urban at-risk students. Again, the State of Texas, where ATC programs were first established during the 1985-1986 school year, provides an excellent example. Candidates are selected for Texas ATC programs through the use of the Haberman screening process, which is designed specifically to identify individuals who would be likely to experience success in urban classrooms. In local systems such as the Houston Independent School District, school district personnel conduct 20 hours of accelerated pre-service training. Once teacher candidates begin teaching, they are assigned mentors who receive both released time and stipends to work with them. After completing additional college and university coursework, Texas interns must also take the Examination for Certification of Educators in Texas (EXCET) (Shepherd, 1999).

University-based models, in which school districts collaborate with SCDEs, have also been developed in Texas to focus on preparing teachers for urban school districts. Texas A&M International University has developed an ATC program that features an induction model requiring collaboration among the mentor teacher, school principal, and university representative. New mentors receive at least 45 hours of training. Texas A&M reported a 75% success rate for candidates during the 1997-1998 school year. Of the successful candidates, 84% were Hispanic (Shepherd, 1999). Currently, 27 ATC programs exist throughout the state and produce 1/5 of all new teachers. Clearly, the impact of ATC in the state of Texas is substantial.

Dill (1996) maintained that ATC programs in trend-setting states such as Texas, California, and New Jersey have addressed an important equity issue and contributed to

the democratization of teaching. By removing the requirements for full-time study and an extensive, unpaid student teaching experience, supporters of ATC have opened doors to the economically disadvantaged who wish to enter teaching. However, Gitomer and Latham (2000) questioned whether ATC will provide an effective response to the need for greater diversity in the teaching force. It remains to be seen whether alternatively certified minority educators will remain in teaching on a long term basis. The researchers encouraged further exploration of the issue, stating, "If diversity of the teaching force is a socially desired outcome, and certainly compelling arguments have been made over the years, the most pressing need is to increase the pool of qualified individuals through very targeted policy initiatives" (p.27). It appears, therefore, that at least in the opinion of some, ATC may be an attempt to provide an easy answer to a complex problem.

Research Studies Related to ATC

This section of the review will examine common characteristics shared by many alternatively certified teachers and the impact of their special needs on the school environment. First, the guidelines and rationale for including studies for review are identified. Next, an overview of the studies' purposes, methodologies, and samples is provided. Following this, the studies are described and analyzed. The review considers the following questions: (a) What is the role of maturity in teacher development? (b) What is the role of subject-matter expertise in learning to teach? (c) What characteristic beliefs and attitudes do alternatively certified teachers reflect? and (d) What impact does certification type have on student achievement? These questions provide the focus for the analysis and synthesis of the studies presented in this section.

Research Studies Selected for Review

Guidelines for selection of studies for the review were determined based on a survey of the literature on ATC. In considering the writings of the community of scholars associated with ATC, important themes related to the movement emerged. Prominent among the themes are the role of maturity and previous life and work experience and the importance of subject matter expertise in learning to teach. A heated debate regarding the relative classroom performance of alternatively versus traditionally certified teachers, particularly during the first year in teaching, is also a prominent theme. Other scholars favor a results-oriented approach to assessing the merits of ATC and have focused studies on the impact of ATC on student achievement. In reviewing the research on ATC, representative studies that reflected each of these themes were selected for review.

Feistritzer and Chester (1998) stated that ATC has evolved into a respectable concept within the last 10 years and has produced many excellent programs during that period. Accordingly, studies conducted between 1990 and 2000, a period of greater respectability for ATC, were selected. This decision also addressed somewhat the concern identified by Dial and Stevens (1993) regarding the bias found in many of the earlier studies.

As described in an earlier section focused on the definition of ATC, programs incorporate a wide range of approaches to training that vary in both quantity and quality. After considering the history of the current movement over the last two decades, Dill (1996) concluded that ATC is best defined as a range of innovative programs that share a common purpose--to recruit and retain in teaching talented and mature college graduates.

Accordingly, studies were selected in light of the common characteristics of the participants and include a range of programs reflective of the variety found within the ATC movement. No attempt was made to limit study selection by educational level or on the basis of program type, although these differences are identified as part of the analysis and synthesis of studies. In order to examine both the characteristics ACTs bring to the classroom and the needs they demonstrate upon entry into teaching, studies include samples of both preservice and inservice teachers.

An Overview of Studies Included

Table A1 in the Appendix provides an outline of the 10 studies included for review. It has been organized alphabetically by first author's last name. The table describes the following components of each study: (a) author and year of publication; (b) purpose(s) of the study; (c) sample size and methodology; (d) major findings; and (e) implications. Readers are asked to refer to the table for an overview of the studies selected for review.

Purposes. Researchers have examined a broad range of issues related to the characteristics, needs, and impact of alternatively certified teachers. Specifically, they have compared the stages of professional development of traditional and non-traditional-aged preservice and inservice teachers (Bendixen-Noe & Redick, 1995; Rodriguez & Sjostrom, 1998). Others have identified patterns in first-year classroom experiences of alternatively and traditionally certified teachers (Houston, Marshall, & McDavid, 1993; Sandlin, Young, & Karge, 1993). The beliefs and attitudes of alternatively certified teachers have been studied during and after their preservice experiences and common teaching perspectives have been identified (Bennett & Spalding, 1991; Neapolitan, 1996).

The role of subject matter expertise as preparation for ACTs to enter the classroom has also been examined (Ebert & Risacher, 1996; McDiarmid & Wilson, 1991). Finally, studies have assessed the relative impact of ATC on student achievement (Darling-Hammond, 1999; Goldhaber & Brewer, 2000).

Definitions. Research studies reflected the lack of consensus concerning the definition of ATC. While most studies focused on participants within a single, clearly defined program type (Bendixen-Noe & Redick, 1995; Bennett & Spalding, 1991; Houston, Marshall, & McDavid, 1993; Neapolitan, 1996; Rodriguez & Sjostrom, 1998), others focused on participants from different programs within the same state (Sandlin, Young, & Karge, 1993) or on national data that reflected ATC programs across all states (Darling-Hammond, 1999; Goldhaber & Brewer, 2000).

Methodologies. In-depth interviews or a combination of classroom observation and interview was an important technique in many of the studies (Bennett & Spalding, 1991; Neapolitan, 1996; Rodriguez & Sjostrom, 1998; Sandlin, Young, & Karge, 1993). A questionnaire or survey instrument was also common to many studies (Bennett & Spalding, 1991; Houston, Marshall & McDavid, 1993; Ebert & Risacher, 1996; Sandlin, Young & Karge, 1993). Anova or t-tests were frequently used to analyze survey results. Other studies made use of innovative qualitative methods such as concept mapping and autobiographical interviews (Neapolitan, 1996). Finally, two studies were based on multiple regression analysis (Darling-Hammond, 1999; Goldhaber & Brewer, 2000).

Sample Size. The issue of small sample size is characteristic of ACT research. Consistent with this finding, a number of studies in this review had less than 100 participants. (Bennett & Spalding, 1991; Houston, Marshall, & McDavid, 1993;

Neapolitan, 1996; Rodriguez & Sjostrom, 1998; Sandlin, Young, & Karge, 1993).

However, two studies were included with large sample sizes based on national survey data (Darling-Hammond, 1999; Goldhaber & Brewer, 2000).

Studying the Impact of Maturity

Eifler and Potthoff (1998) reviewed the literature on nontraditional teacher education students. Overall, they found that the literature is sparse and unsystematic. However, some key themes regarding the strengths of nontraditional students emerged. These strengths included the following: (a) well-articulated reasons for seeking careers in education; (b) empathy and respect for the culture of their students; and (c) ability to cope with change. In addition to these characteristic strengths, Eifler and Potthoff also identified the following special needs: (a) unrealistic expectations for young people; (b) difficulty adjusting to novice status; (c) nontransferable skills from former careers; and (d) disillusionment with the working conditions in schools.

As a result of the current emphasis on recruiting college graduates and second-career individuals into teaching, teacher educators and school administrators will encounter increasing numbers of nontraditional-aged individuals in training programs and in first-year teaching positions. Understanding their strengths and needs will be important in providing effective supervision and professional development. The following sections analyze studies related to the impact of maturity on teacher development and contain implications for the effective support of nontraditional-aged adults in their initial teaching experience.

Stages of Teacher Development

Bendixen-Noe and Redick (1995) examined similarities and differences between 860 traditional-aged (up to age 25) and nontraditional-aged beginning secondary teachers. Their study utilized a framework developed by the late Frances Fuller (1969) of the University of Texas. Fuller described a "concerns theory" to identify the sequential developmental stages which many preservice teachers experience. The stages are as follows: (a) self-concerns focusing on how one is perceived by others and on the individual's comfort level in the new role as teacher; (2) task concerns focusing on how to complete all teaching tasks in a satisfactory manner; and (3) impact concerns focusing on students and their achievement. The purpose of Bendixen-Noe and Redick's study was to determine if all teachers go through the same stages or if maturity and prior life experience affect the progression of concerns.

The population for the study was a stratified random sample of 430 nontraditional-aged beginning secondary teachers and 430 traditional-aged beginning secondary teachers. A Teacher Concerns Checklist was administered to the sample. The checklist contained 45 items which were rated by participants on a score from 1, for not concerned, to 5, for extremely concerned. Fifteen items measured each factor of self, task, and impact concerns. Data for the study were collected by mailed questionnaires with a response rate of 59%. An analysis of respondents to non-respondents was conducted through a telephone survey of 10% of respondents. No significant differences were identified, indicating that the results can be generalized to the entire population surveyed.

Descriptive statistics were compiled and a t-test was conducted to determine if there were significant differences in the mean scores for the two groups. The researchers determined that there was a significant difference in self concern scores between the nontraditional teachers ($M= 39.27$) and the traditional teachers ($M=41.62$) with nontraditional teachers scoring lower. No significant differences were found in task or impact concerns.

Bendixen-Noe and Redick (1995) concluded that their study supported differences between traditional and nontraditional-aged teachers and had implications for professional development programs for nontraditional-aged beginning teachers. Rather than grouping all beginning teachers together, they suggested that teacher educators, and by implication, school administrators, should recognize that teachers, like students, have diverse learning strengths and needs. Their study supported the importance of recognizing and capitalizing on this diversity by understanding what can be done differently to meet special needs in teacher education based on atypical characteristics.

A second study by Rodriguez and Sjoström (1998) compared the professional beliefs and teaching behaviors of traditional and nontraditional elementary teacher candidates. Recognizing that a gap exists in teacher education research related to age as a factor in teacher education programs, the researchers collected data for one academic year consisting of two 16-week semesters. The participants were 18 nontraditional-aged preservice teacher candidates and 27 traditional-aged candidates. Journal writing guided by structured questions was the main source of data. Biweekly student teaching observations that included pre- and post-lesson interviews were also conducted. Data

collection and analysis occurred simultaneously in order to identify issues, themes, and problems of practice.

The researchers found that the process of completing the certification program was markedly different for the two groups of candidates. They identified the following behavior patterns in the traditional-aged candidates: (a) stress and anxiety regarding the prospect of taking charge in the classroom; (b) reliance on external validation by cooperating teachers and supervisors as a source of self-confidence; (c) greater focus on their teaching than on student learning; and (d) the tendency to focus on short-term task completion rather than on professional efficacy or on planning for the future. In contrast the following patterns emerged among the nontraditional candidates: (a) enthusiasm rather than anxiety at the prospect of beginning teaching; (b) collaborative relationships with cooperating teachers; (c) a comfort level with professional roles; and (d) strong career and job focus.

While Rodriguez and Sjoström (1998) did not utilize Fuller's Concern Stages explicitly, their findings resonate with some themes embedded in Fuller's framework. In particular, the theme of greater focus on teaching than on student learning mirrors self-concerns while short-term task completion reflects Fuller's task concerns. Rodriguez and Sjoström posited that both these themes were patterns in the traditional-aged teacher data. Both these studies suggested that the relative maturity nontraditional-aged candidates possess may support the transition to teaching, or more optimistically, may speed the transition process itself. Furthermore, the researchers in both studies posited that the training experiences both traditional and nontraditional-aged teaching candidates receive should be differentiated to meet their special learning needs.

Statewide Perspective

A third study by Sandlin, Young, and Karge (1993) also focused on teacher development in traditionally prepared teachers as compared to alternatively certified teachers. Furthermore, the researchers used Fuller's concerns stages as a framework for the research. As opposed to the previous studies that focused on data from specific programs, in this study 66 traditionally trained and 58 alternatively trained teachers were randomly selected from a pool of individuals who represented seven school districts in California. The ACTs were all enrolled in a Teaching Intern alternative model defined by contracts among the interns, universities, and school districts. Both teaching interns and beginning teachers taught in grades K-6 with an assigned class size ranging from 26-36. Data was collected in the following three ways: (a) through the Teacher Evaluation Scale (TES), a highly reliable ($r=.96$) nationally standardized performance-based teacher evaluation instrument; (b) through structured telephone interviews; and (c) through the Teacher Concern Survey (TCS) based on the previously described work of Fuller (1974) and Rogan (1988).

Reviewers with experience in supervision of teachers visited the participants' school sites and conducted on-site observations in the Fall, Winter, and Spring of the 1990-1991 school year. Observation scores of the beginning teachers were significantly lower ($p=.05$) in the categories of classroom management and instruction; however, by the Spring, the two groups showed no significant differences among categories.

Responses to the TCS were measured by a six-point Likert scale. Based on an analysis of variance, statistically significant differences at the .05 level were found on 12 of the 45 items. In identifying trends, the researchers found that of the ten concerns rated

highest by each group, both groups ranked six impact concerns as their highest priorities. Both groups shared five of the six concerns, while each group rated one additional impact concern among their top ten priorities. Overall, among the 45 items listed, beginning teachers rated self concerns highest and expressed more concern across categories about all elements of their teaching abilities.

In addition, a random sample of approximately 13% of the participants completed structured telephone interviews conducted by a trained assistant who was unaware of the status of each participant. Both groups believed they had been adequately prepared to begin teaching and none of the teacher interns would have, in hindsight, completed a traditional teacher education program. The researchers concluded that, although there were no observable differences in classroom performance between beginning and intern teachers by the end of the first year, concern and insecurity were more prevalent among beginning teachers. Since the high levels of concern may be alternatively interpreted as indicators of insecurity or of greater focus on the teaching profession, the researchers also concluded that continued research with these and other samples is needed.

Mentor Response

A fourth study in the Houston Independent School District by Houston, Marshall, and McDavid (1993) also looked at the perceptions of ACTs and traditionally trained elementary teachers during their first year of teaching. The study sample included 69 regularly certified elementary teachers and 162 alternatively certified elementary teachers. In addition to focusing on the problems encountered by these two groups, the study also examined whether there were differences in the mentor response to the two groups.

A survey instrument was completed by participants in November, after two months of teaching, and in April after eight months on the job. The researchers found that, after two months of teaching, the mean ratings assigned to classroom problems by ACTs were greater in all 14 areas surveyed than those of traditionally certified teachers with six areas significantly higher. However, after eight months the survey was re-administered and the differences had almost disappeared. At that time, a statistically significant difference was found in only one area with traditionally prepared teachers indicating greater problems with classroom management.

In the area of mentor assistance, traditionally trained teachers rated the assistance more highly in eight of 10 areas, with four areas of statistical significance. However, in the two areas of demonstration teaching and coaching, ACTs reported a higher level of assistance. The researchers posited that these differences may be a function of ACTs initial difficulties in knowing what to ask for or in reluctance to indicate that they needed help. After eight months, differences in ratings had disappeared. Houston, Marshall, and McDavid (1993) suggested that the development of interpersonal relationships over time may have served to overcome early barriers between the ACTs and their mentors.

Conclusions Regarding the Role of Maturity

The previously described studies compared the professional development of ACTs and traditionally prepared teachers during their initial experience in teaching. While two of the studies (Bendixen-Noe & Redick, 1995; Rodriguez & Sjoström, 1998) specifically defined their sample in terms of age and two (Sandlin, Young, & Karge, 1993; Houston, Marshall, & McDavid, 1993) in terms of type of certification, all of the

studies utilized samples in which there was a statistically significant difference in age between the two comparison groups.

While three studies found ACTs making a more rapid initial adjustment to the classroom than traditionally trained teachers (Bendixen-Noe & Redick, 1995; Rodriguez & Sjostrom, 1998; Sandlin, Young, & Karge, 1993), one study (Houston, Marshall, & McDavid, 1993) found that traditionally trained teachers had a slightly easier adjustment to the classroom in the first few months of the school year. However, all studies examined suggested that differences between the two groups diminished rapidly during the first year of teaching. Common to all the studies are findings that suggest a positive impact of maturity on the first year teaching experience. One study (Houston, Marshall, & McDavid, 1993) found that the reluctance of older ACTs to admit their needs may hamper the development of mentor relationships, but this phenomenon also seemed to be short-lived. Whether expressed in terms of Fuller's concerns theory (Bendixen-Noe & Redick, 1995; Sandlin, Young, & Karge, 1993) or implied in more general terms (Houston, Marshall, & McDavid, 1993; Rodriguez & Sjostrom, 1998), this group of studies suggest that maturity may be accompanied by a level of self-confidence that promotes the development of impact concerns.

Studying the Role of Subject-Matter

One of the premises of the ATC movement is that strong subject matter knowledge is essential to effective teaching. Some proponents of ATC would go a step further and characterize subject-matter knowledge as the single most important credential for a beginning teacher. Opponents of the ATC movement, such as Linda Darling-Hammond (1999), urge caution in this area. She noted that a longitudinal study of

American students found that teachers' content knowledge, as measured by amount of coursework in a subject, is related to student achievement in mathematics and science; however, the relationship is curvilinear. The returns to student achievement decrease above a threshold level of five courses in mathematics. It appears then that the relationship between subject-knowledge and learning to teach may be more complex than previously recognized. In this section, two studies related to the role of subject-matter knowledge in learning to teach will be examined.

Knowledge Inputs and Outputs

McDiarmid and Wilson (1991) conducted a study to examine the premise that well-educated college graduates with majors in mathematics know enough to teach effectively. They also collected data to determine what the new teachers learned about their disciplines from teaching. The researchers collected self-administered questionnaire data from 700 participants who represented different ATC program types. The questionnaire, which was administered before, during, and after their teacher education programs, addressed respondents' beliefs and knowledge concerning mathematics and teaching diverse learners. A random sample of 12 to 16 participants from each program type was selected to follow intensively ($n= 55$). These individuals were interviewed at the beginning of their program, immediately after the program, and at the end of their first-year of teaching.

Based on analysis of the interview and questionnaire data, the researchers found that participants generally did well on questions that required algorithmic knowledge of mathematics. However, questionnaire and interview questions that were designed to probe for mathematical explanations produced different results. For example, when asked

to select acceptable student definitions for the term "slope", approximately half (53%) chose the correct definition. Correct responses to other questions of this type ranged from 33% to 61%.

The researchers also explored the claim that teachers learn mathematics from teaching it. An analysis of the interview transcripts for the initial and final interviews revealed that, although some teachers did learn more mathematics in their first year of teaching, the responses of others showed no change. For example, when questioned on the nature of division and zero, only one of the secondary teachers whose original explanation was incorrect offered a correct explanation in the final interview. Although the nature and size of the samples limit the ability to generalize findings beyond the programs involved, the study suggested the need for a closer look at what teachers learn about mathematics from their undergraduate majors as well as what can be learned about mathematics in the classroom. The findings raise important questions as to whether a major in a discipline provides the kinds of understanding of the subject needed to help diverse learners grasp key concepts.

Teacher Beliefs

A second study by Ebert and Risacher (1996) focused on the specific mathematical topic of functions and graphs in order to examine how both knowledge and beliefs about mathematics influence the development of instructional practices. The subjects for the study were 10 ACTs and 10 undergraduate secondary mathematics students enrolled in a methods course. Participants' beliefs about mathematics, learners, and learning mathematics were assessed through a 32-item Likert-scale questionnaire. Instructional practices were assessed through vignette tasks in which subjects were asked

to respond to student questions about functions and graphs. For each of the vignettes, the distribution of responses both within and between the two groups was calculated.

The researchers used the t-test of differences of means to determine that the two groups differed significantly at the .01 level on only one of the 32 items on the Beliefs Scale. In general both groups agreed with the constructivist view of student learning and with the concept of teacher as facilitator.

Despite participants' expressed beliefs, the researchers found that the most frequently occurring responses (42%) to the vignettes were clearly teacher directed with the teacher providing an explanation and the student receiving knowledge. An additional 42% of responses either allowed some student participation or presented a real-world example or counter-example. Approximately 16% of the responses were classified as truly investigative. The between-group differences were not significant with both undergraduates and ACTs generating approximately the same number of teacher directed versus investigative responses.

In conclusion, the researchers found that the subject-matter knowledge and beliefs about mathematics were similar for both groups of participants and produced similar responses to classroom vignettes. However, they also concluded that both content knowledge and belief structure play important roles in learning to teach. The researchers noted that those few participants who gave strong learner-centered responses to the vignettes were the undergraduates with the strongest subject matter knowledge as well as the willingness to abandon the traditional view of teaching mathematics.

Conclusions About Subject-Matter Knowledge

The findings of both studies (McDiarmid & Wilson, 1991; Ebert & Risacher, 1996) suggested that subject matter knowledge is an essential but insufficient condition for effective preparation for teaching mathematics. McDiarmid and Wilson (1991) identified a pattern in their interview data that suggested that the participants subscribed to a traditional view of mathematical competence that depends on the mastery of rules. While Ebert and Risacher (1996) found that both traditionally trained and ACT teachers maintained constructivist views concerning mathematics education, neither group was able to apply constructivist approaches consistently when presented with classroom vignettes. Interestingly, the small group of strong vignette responses came from the group of undergraduate majors with the strongest subject-matter preparation. These studies support findings cited by Linda Darling-Hammond (1999) and suggest that the relationship between subject-matter expertise and learning to teach may be more complex than many ATC proponents believe. While McDiarmid and Wilson's study raised questions regarding the role of classroom experience in promoting effective teaching of mathematics, further research in the area of mathematics education, as well as in other disciplines, is clearly needed.

Studying Perspectives of Career-Changers

The two previously described studies underscored the role of subject matter expertise as well as teacher beliefs in shaping teaching practices. In this connection, many proponents of ATC believe that the prior experiences of career-change individuals will impact their beliefs about teaching. In particular, scholars have speculated that ACTs with strong experiential knowledge in their subject area will be more interested in the

application of knowledge and better prepared to help students make connections to the world outside the classroom. Accordingly, some researchers have investigated the teaching beliefs of career-changers to determine whether characteristic teaching perspectives emerge. The following section will analyze and compare two of these studies.

Alternative Teaching Perspectives

Bennett and Spalding (1991) conducted a three-year longitudinal study of 49 participants in an ATC program. The purpose of the study was to clarify the beliefs and teaching perspectives of program participants. The researchers defined teaching perspective as "the personal attitudes, values and beliefs, principles and ideals that help a teacher justify and unify decisions and actions" (p. 4).

Data on participants' teaching perspectives was collected through autobiographical interviews, concept mapping organized around the central concept of "teaching", stimulated recall interviews, and classroom observations with follow-up interviews. Transcript segments of the autobiographical interviews were sorted into categories that created seven teaching perspectives. The two researchers sorted the cards independently, discussing and resolving any discrepancies. A third person not involved in the research independently categorized 1/3 of the responses. Inter-rater reliability was .78. Similar procedures were used to analyze each set of concept maps. Inter-rater reliability of the map categories was .90. The videotapes of classroom teaching and follow-up interviews were used to support the validity of the teaching perspectives that emerged.

Seven different teaching perspectives emerged from the analysis. However, the predominant perspective, shared by 28.6%, was that of the "Scholar Psychologist." These individuals expressed a deep interest in their subject area and a desire to make learning relevant by relating it to the adult world. They often mentioned continued learning and scholarship in their subject area as reasons for wanting to teach. A closely related perspective, shared by an additional 16.3% of the participants, was the "Friendly Scholar". These individuals also emphasized academic knowledge and relevance. They differed in placing more emphasis on teacher personality characteristics, such as sense of humor, caring, friendliness, and enthusiasm. In examining the seven teaching perspectives, the researchers concluded that one of the most important commonalities across all perspectives was an emphasis on the subject area and an altruistic motivation for teaching. While these characteristics promoted hard work and commitment, they also set the stage for disillusionment when efforts did not produce positive results.

Attitudes Promoting Change

A second area of interest regarding career change individuals concerns their attitudes toward change in education. Will they conform to the prevailing instructional models or will they be interested in new attitudes and beliefs about learning? Neapolitan (1996) conducted a study to identify the beliefs and dispositions of career-changers who are inclined to improve classroom teaching. To select cases from among a sample of 58 beginning teachers who identified themselves as career-changers, the Teacher Belief Inventory (Posner, 1989) was administered to the entire group. Consisting of 57 assertion statements which respondents place on a scale of 1 for Strongly Disagree to 4 for Agree, the inventory included the following categories: (a) control; (b) teacher's

role; (c) diversity; (d) learning; (e) knowledge; and (f) school and society. Two participants were chosen at random from each third of the total TBI score distribution. The sampling assumed some degree of difference from conventional orientation (low scores) to proactive orientation (high scores) among the six participants selected. An interview schedule of 25 open-ended questions was used to interview the four male and two female participants. Transcripts of the interviews were coded by the researcher using the six categories from the Teacher Belief Inventory. The transcripts were reviewed by six peer de-briefers and an agreement rate of 80% was determined between the coding of the investigator and that of the peer de-briefers.

Based on the data, Neapolitan (1996) identified three categories of adult growth and development that seemed important for having a positive orientation toward change in teaching. The first category is identification with the role of teacher. Within this category, the characteristics of collegiality with other teachers, empathy for students, and willingness to implement teaching and learning strategies defined a socio-emotional dimension toward change. A second category of adult growth and development described a cognitive dimension toward change. Titled investigation, this aspect included a focus on exploring the teaching-learning connection and emphasis on understanding the needs of the learner. The third category identified was "resolution." Neapolitan concluded that proactive career-changers confront a psychological dimension that demands resolution of lifespan issues. Often the decision to remain in teaching as proactive professionals involves the ability to compromise in order to move ahead and the ability to forgive in order to let go of the past.

The researchers concluded that career changers may be proactive in their approach to teaching if they are capable of identifying with the new role of teacher, have an investigatory focus toward their work in the classroom, and can resolve developmental issues in their personal lives. Based on these findings, Neapolitan (1996) recommended the following strategies for preparing career-changers for the classroom: (a) early counseling about the decision to enter teaching; (b) an extended field experience involving a prolonged period of mentoring by an expert teacher; and (c) improvement of the conditions that affect teaching in schools today including staff development, time for curriculum planning, and establishment of career ladders.

Conclusions About Teaching Perspectives

These studies offer some support for the idea that career-changers who bring direct experience with the application of knowledge in the real world may make a valuable contribution to teaching--but there are qualifications. Bennett and Spalding (1991) found that the primary perspective to emerge among the career-changers they studied was that of Scholar Psychologist. While relevance was an important theme among these individuals, their focus was primarily on academic knowledge rather than on the characteristics and needs of the learner. The same observation can be made about the second perspective that emerged, the Friendly Scholar.

In her case study investigation of career-change individuals, Neapolitan (1996) also observed that career experience alone does not necessarily produce teachers who will focus successfully on ways to help students apply as well as acquire knowledge. She identified cognitive, socio-emotional, and psychological dimensions to career-changers belief systems that promote the development of either conventional or proactive attitudes

toward teaching. Based on these findings, it appears that career-changers bring some valuable and unique "raw material" to the schoolhouse in the form of real world experience. The extent to which the career-changer will use this raw material to promote instructional improvement may be a function of the individual's psychological predispositions and the conditions encountered in the classroom. Unless some attention is given to these variables, the career-changers may ultimately conform to the prevailing norms they encounter.

Studying Student Achievement Outcomes

Because student achievement is the bottom line of education, some recent studies have examined the correlation between teacher qualifications and student achievement as measured by standardized test score data. In the following section, two multiple regression studies based on national data that examined this relationship will be described and compared.

The Case for Certification

Linda Darling-Hammond (1999) used data from the 1993-94 Schools and Staffing Surveys (SASS) and data on student achievement in the form of state average scores and student characteristics from the 1990, 1992, 1994, and 1996 assessments in reading and mathematics administered by the National Assessment of Educational Progress. Her goal was to examine whether teacher quality indicators are related to student achievement at the state level.

The teacher quality variable was defined as the proportion of teachers holding state certification and the equivalent of a major in the field taught. Initially, bivariate correlations of school resource variables and student demographic variables with state

average student test scores were conducted to examine the relationships among variables. Partial correlations revealed a strong, significant relationship of teacher quality to student achievement after controlling for student poverty and language background. Darling-Hammond found that the most consistent highly significant predictor of student achievement in reading and mathematics in each year tested was the proportion of qualified teachers in the state (r between .61 and .80, $p < .001$).

In a multiple regression analysis, variables were selected to examine relationships often tested in other studies, to increase explanatory power, and to avoid problems of multicollinearity. The following teacher quality variables were selected: (a) the percentage of teachers with full certification and a major in the field; (b) the percentage of uncertified newly hired teachers; (c) the percentage of teachers with masters degrees; (d) class size. Darling-Hammond (1999) found that the three teacher quality variables accounted for between 40 percent and 60 percent in the total variance in student achievement in reading and mathematics after controlling for student characteristics.

Contradictory Results

Goldhaber and Brewer (2000) conducted a multiple regression study of the relationship between teacher certification and student achievement at the twelfth grade level in science and mathematics. Their findings are at odds with those of Darling-Hammond (1999). To investigate whether the type of certification a teacher holds is related to student test score gains, after controlling for family background, the researchers utilized data from the National Educational Longitudinal Study of 1988, a survey of about 24,000 students. A subset of these students were resurveyed in the spring of the 10th and 12th grades. Concurrent with each survey, the students took one or more

subject-based tests. The survey also provided detailed teacher and class level information for individual students by subject.

The researchers found that individual and family background variables explained the majority of variance in both 12th grade mathematics and science scores. They also found that each additional course a teacher had taken in mathematics improved student mathematics achievement by about three quarters of one percent of a standard deviation. Additional subject matter preparation in science had little effect on science achievement. Students of mathematics teachers with subject-specific training (either a mathematics degree or certification) outperformed those without subject-matter preparation. However, contrary to the beliefs of ATC opponents, students of teachers with emergency credentials did no worse than students of teachers with standard teaching credentials after controlling for family background. Having a degree in education had no impact on science test scores. An undergraduate degree in education for mathematics teachers had a negative impact on mathematics scores of students. Based on their findings, Goldhaber and Brewer (2000) concluded that there is no evidence that teacher certification is related to student achievement.

Conclusions About Student Achievement

Methodological considerations provide at least a partial explanation for the differences in the two sets of findings. Darling-Hammond (1999) explained that the size of relationships found between variables measured at the state level cannot be assumed to represent the effect sizes that would be found at the district or classroom level. She also noted that aggregating the data may bias the coefficients of school input variables upward due to omitted variables. Furthermore, Goldhaber and Brewer (2000) identify other

important factors which may affect the findings. They noted that results of the regressions show that students who perform poorly in the 10th grade are more likely to be assigned to a teacher who does not have standard certification in his or her subject. This suggests that teachers with different types of qualifications may not be randomly distributed across students or schools. On balance, it appears that there is no definitive evidence at present linking student achievement to type of teacher licensure.

Summary

Bradshaw (1998) maintained that, overall, the research base comparing the performance of ACTs and traditionally prepared teachers is not large. Synthesizing the results is difficult because of differences in the programs compared, especially the variations in quality and length of professional training provided. Furthermore, because sample sizes are small and sampling techniques in many ATC studies are limited, results are not generalizable. (Bradshaw, 1998; Dial & Stevens, 1993). Zumwalt (1996) concluded that the most important finding of the mixed research results may be that the recruitment and preparation of teachers is a more complex process than it originally appeared to be. Stoddart and Floden (1995) issued a far stronger caveat in stating, "Once again, a radical educational reform is being rushed into place without thoughtful research and analysis" (p.14).

It is clear, however, that ATC has been successful in diversifying and expanding the teacher candidate pool. The studies reviewed all showed groups of nontraditional-aged candidates, many with prior work and life experience, entering teaching. What the studies do not reveal clearly is whether these individuals remain in teaching or what kind of teachers they become. (Stoddard & Floden, 1995).

The studies reviewed found few or mixed differences in performance between ACTs and traditionally certified teachers during their first year in the classroom. Moreover, the findings of some studies suggested that the relative maturity of ACTs is a source of resiliency during the initial classroom experience. Studies revealed more questions than answers regarding the role of subject-matter expertise in learning to teach. One study (Bennett & Spalding, 1991) suggested that ACTs bring a variety of perspectives to teaching. However, focus on subject matter and the relevance of particular disciplines to the world outside the classroom are important common themes within these perspectives. Another study suggested that ACTs have the potential to become change agents within education provided that cognitive, socio-emotional, and psychological needs are met (Neapolitan, 1996).

A common theme within many of the studies is the unique and heterogeneous needs of the diverse group of individuals who are being recruited into teaching through a variety of different kinds of ATC programs. Bringing different backgrounds and exposed to different types of training, ACTs are entering American schools in increasing numbers. Simultaneously, as both school enrollments and teacher retirements escalate, our schools are also receiving record numbers of traditionally trained new teachers. Given the pace of change in staffing of our public schools today, and the likelihood that this accelerated pace will continue for the foreseeable future, there would seem to be a need to understand the characteristics and needs that alternatively certified teachers bring to the schoolhouse. Research that reveals what works for ACTs, in making the career transition to the classroom and in increasing the likelihood that they will remain in teaching, is clearly needed.

Neither the professional controversy it has engendered nor the sparse research base that exists to support it have slowed the growth of the ATC movement in recent years. Moreover, the literature review suggests that the existence of appropriate support structures for ACTs within the total educational environment is critical to the well-being of students and to the long-term retention of ACTs in teaching. In response to this need, this study examines the role of ACTs' special characteristics of maturity, prior life and work experience, and subject-matter expertise in learning to teach while teaching. Furthermore, it explores the ways in which the total educational environment of the high school is currently meeting ACTs induction needs and draws conclusions concerning the ways their needs can be better served.

CHAPTER THREE

Methodology

This chapter contains a description of the methodology that was employed to complete a cross-case analysis of the patterns of practice used to respond to the characteristics and induction needs of high school ACTs. Given the assumptions described in the literature review regarding teacher education for ACTs, the study explores specifically how the elements affecting the high school educational environment influence responses to the induction needs of this emerging group of new educators. Beginning with a description of the problem, the purpose, the research questions, and the significance of the study, the chapter provides a rationale for the study's design and an outline of the data collection and analysis procedures.

Studying the Problematic Nature of ATC

Alternative teacher certification (ATC) can best be defined in terms of its goals and underlying assumptions. It is a movement designed to bring into teaching talented college graduates who have the "right stuff" to make outstanding teachers. Maturity, subject-matter expertise, and prior work and life experience are identified as the key ingredients for producing successful teachers (Dill, 1996). Furthermore, ATC is based on faith in the apprenticeship model of teacher education. Accordingly, unifying assumptions include the following: (a) if one knows a subject, one can teach it; (b) one learns to teach by teaching; and (c) mature individuals with prior work experience make better teachers than those who come directly from the college classroom--knowing nothing but the world of the schoolhouse (Stoddart & Floden, 1995).

Fueled by a growing teacher shortage and increasing student enrollments, ATC appears to be a movement whose time has come. Feistritzer and Chester(1998) reported that 41 states and the District of Columbia currently offer interested candidates some type of alternative certification. Proponents believe that the convergence of theory and practice in the classroom under the expert guidance of one or more mentors will provide a context in which ACTs will successfully learn through experience and through a reflective approach to their teaching. Moreover, by removing the financial obstacles that have traditionally prevented older individuals with family responsibilities from entering teacher preparation, the pool of prospective teachers has become both larger and more diverse. Although ATC is being used to prepare teachers for all educational levels, there is a special need at the high school level where subject-matter expertise and establishing relevance for learning are particularly important to the developmental needs of the students.

Although some successful alternative certification programs exist, little attention has been given to defining a set of best practices which will support ACTs during their induction to the classroom. Research studies have examined how maturity, subject-matter expertise, teacher beliefs, and type of certification have impacted ACTs' teaching performance and the achievement of their students. However, there is a gap in information related to the role of the total educational environment in supporting the special needs of ACTs during the provisional licensure period.

Purpose of the Study

The purpose of this study was to describe how the high school educational environment responds to the induction needs of ACTs. To accomplish this, I explored

the function and interplay of the cultural subsystems within the total educational environment that impact ACTs during the high school induction experience. The cross-case analysis that was produced is intended to enhance understanding of practices that encourage or impede the induction process for ACTs in the high school. As such, this analysis offers insights to those who work to support the induction and retention of high school ACTs.

Research Questions

The central question that directs this study is this: How do the patterns of practice used across the total educational environment of the high school currently meet the induction needs of ACTs? Sub-questions for this study include the following: (1) How do ACTs describe their induction experiences? (2) How do high school instructional supervisors respond to the induction needs of ACTs? (3) How do district-level personnel respond to the induction needs of high school ACTs? and (4) How do teacher educators respond to the induction needs of high school ACTs?

Significance of the Study

Increasing school enrollments, teacher retirements, and more lucrative opportunities outside education for women and minorities are contributing to a growing teacher shortage. As large numbers of new personnel flood school buildings over the next decade, a natural tendency to group all new hires together for induction purposes will likely prevail. In such a setting, it is also likely that the special characteristics and needs of ACTs will go unrecognized. This study offers insights to educators who are charged with responsibility for promoting the successful induction and retention of ACTs.

Theoretical Framework for the Study

Urie Bronfenbrenner (1976) described what he termed the “ecological structure of the educational environment”(p.5). The framework he developed provides a useful approach to describing and interpreting the high school settings in which many ACTs find themselves. Bronfenbrenner envisioned the school's ecological environment as a "nested arrangement of structures, each contained within the next" (p.5).

The inner-most circle of nested structures is the "micro-system" (p.5), which is an immediate setting containing the learner. For the ACT, the micro-system is the classroom. Next, the "meso-system" (p.5) comprises the interrelations among the major settings containing the learner. For the ACT, these would include the subject department, mentor or mentor team, total faculty, and administrative team of the school.

Encircling both the "micro-system" and "meso-system" is the "exo-system" (p.6). This third layer contains the social structures that impact the immediate settings containing the learner. They may influence, or even determine, what happens in the two more immediate layers. For the ACT, the district level offices, including personnel and staff development, are the primary components of this structure.

Finally, Bronfenbrenner envisioned a fourth over-arching layer containing the "macro-systems" (p.6). Consisting of the economic, social, educational, legal, and political systems, the "macro-systems" convey both information and ideology that impart meaning and purpose to the other systems. The literature review in Chapter 2 describes the ways in which these cultural sub-systems are currently encouraging the introduction of ACTs into the micro-systems, meso-systems, and exo-systems of the high school

ecology. What is not clear is how these inner structures are responding to the learning needs of ACTs. This is the problem that my study addresses.

Procedures

The next sections of the chapter describe the rationale for the study design, the data collection procedures, and the strategies that were used for data analysis. Within the data analysis description, special attention is given to addressing quality issues including credibility, transferability, and dependability.

Assumptions and Rationale for a Qualitative Design

According to Miles and Huberman (1994), all data is qualitative in the sense that "raw experience is converted into either words or numbers" (p.9). However, since words, related as incidents or stories, contain a highly concrete and immediately meaningful dimension, some believe they have the potential to be more convincing to readers than columns of summarized numbers. (Miles & Huberman, 1994). Based on the assumption that "reality is constructed by individuals interacting with their social worlds" (Merriam, 1998, p.6), qualitative data also contain the strong potential for communicating "latent, underlying, or nonobvious issues" (Miles & Huberman, 1994, p.10). Given these characteristics, qualitative research is highly suited to the exploration of complex new social phenomenon such as the high school induction process for ACTs.

The Type of Design

Merriam (1998) maintained that, among the different types of qualitative research, the case study design is a particularly useful approach for studying educational innovations. She also noted that case study is effective when a phenomenon consists of multiple variables of potential importance that are "so well integrated in the situation as

to be impossible to identify ahead of time" (Merriam, 1998, p. 32). In these situations, the case study affords a "wide angle lens" for data collection as opposed to the "zoom lens" afforded by experiments and surveys. Furthermore, Yin (1994) noted that case studies are advantageous when "how" or "why" questions are being asked about a contemporary situation over which the investigator has little or no control. He also recommended that investigators use the case study method when they believe that contextual conditions will be highly relevant to the phenomenon under study. Miles and Huberman (1994) stated that case study data are characterized by "local groundedness" (p.10) in which the influence of local context is maintained.

Specifically, a case study is a "phenomenon of some sort occurring in a bounded context" (Miles & Huberman, 1994, p. 25). Miles and Huberman encouraged investigators to visualize a case study as a circle with a heart at its center. The "heart" of this case study is the high school classrooms of ACTs. However, rather than being bounded by a single circle, these case studies are bounded by a series of concentric circles that represent the previously described ecological structure of the educational environment as defined by Bronfenbrenner (1976).

Merriam (1998) maintained that multiple case studies, varied across the cases, can potentially produce more compelling interpretations than single case studies. Miles and Huberman (1994) also stated that multiple case sampling increases confidence that the study's conclusions are generic. Cross-case comparison offers multiple examples of how conclusions apply, or do not apply, in predictable circumstances. Accordingly, this study will follow an embedded multiple-case study design. Yin (1994) recommended this design when, within single cases, attention is given to one or more subunits of analysis.

He also noted that embedded designs can serve as effective devices for focusing the study. As reflected in the research questions, subunits for investigation will include the ACTs, their instructional supervisors within the high school, support personnel at the central office level including representatives of staff development and human resources, and representative teacher educators from the college or university level.

The Researcher's Role

Miles and Huberman (1994) noted that, in qualitative research, the validity and reliability of the data are primarily a function of the skills of the researcher. Among the skills required, they listed the following: (a) familiarity with the phenomenon and setting under investigation; (b) a strong conceptual interest; (c) a multidisciplinary approach; and (d) good investigatory skills. In this connection, my two-year study and literature review of the ATC movement have provided a firm base of understanding concerning the phenomenon under investigation and a continuing interest in learning more about the topic. Furthermore, my prior experience as an ACT and my current job focus on instructional supervision fueled a strong conceptual interest in the topic and in the case study design I have described. Experience as an educational administrator for the International Baccalaureate Programme has further developed a philosophical commitment to the multi-disciplinary approach that was originally developed during my undergraduate and graduate work in the liberal arts and in the social sciences in particular.

Ely (2000) stated that, "Every qualitative researcher I know who is active in a professional field has come to new insights about professional practice as a result of the research process" (p.199). Good investigatory skills are essential tools for both effective

case study research and for educational administrators. Therefore, I welcomed the challenge this study represented and the opportunities it provided to develop my skills as a qualitative investigator. In particular, I focused on the following investigatory skills: (a) preventing premature closure; (b) bracketing bias and preconceptions about the phenomenon being studied; and (c) developing the flexibility to see unexpected situations as opportunities (Yin, 1994).

Gaining Access and Entry

In consideration of the pivotal role that learning through experience plays in ATC models, I conducted my study in a large suburban school district where continuous learning and continuous improvement are consistent district-wide expectations for all personnel. Preliminary informal contacts at the central office level were made to determine that the school district was willing to consider serving as a site for my study. After the study proposal was approved, I sent a letter to the district superintendent formally requesting permission to proceed. The letter described the purpose of the study and the proposed data collection procedures. My letter also provided my contact information and encouraged members of the district's executive committee or other appropriate central office personnel to contact me with any questions they had about the research design. Since I proposed to study five of the district's high schools, my entry point in each instance was the school principal. Contact was established with the principal through an initial phone call. I obtained the principal's help in establishing contact with ACTs and their immediate instructional supervisors who participated in the study. In four of the schools, the instructional supervisors were assistant principals; in the fifth and smallest school, the principal was the instructional supervisor for the ACTs.

For the central office component of the study, my point of entry was the Director of Secondary Education. Contact was made through an initial phone call and site visit. The purpose and design of the study was discussed and help was obtained in establishing contact with representatives of human resources and staff development. The Offices of Staff Development and Human Resources referred me to teacher educators who were involved in partnership projects with the school district. Finally, contact was established by e-mail and through phone calls with the teacher educators to request their participation in the study. Through this approach, two educators with extensive involvement and experience with ATC agreed to participate.

Setting Selection

Miles and Huberman (1994) encouraged multiple-case sampling because it adds confidence to findings. Looking at a range of similar and contrasting cases helps to specify how, where, and why a particular finding occurs. Therefore, the settings for the multiple school cases in this study were selected to ensure diversity in the type of high school environment examined. Three high schools were identified because they house the highest numbers of ACTs in the school district; two were selected because they house the average number of ACTs for the remaining schools in the district.

Participant Selection

Merriam (1998) maintained that the most appropriate sampling strategy for qualitative research is nonprobabilistic or purposeful. "Purposeful sampling is based on the assumption that the investigator wants to discover, understand, and gain insight and therefore must select a sample from which the most can be learned" (Merriam, 1998, p.61). Silverman (2000) defined purposeful sampling as "seeking out individuals, groups,

or settings where the processes being investigated are most likely to occur" (p.104). Furthermore, Miles and Huberman (1994) noted that the criteria for the purposive sample must be theoretically driven and relevant to the research questions. The literature review described in Chapter 2 identified the following characteristics that are generally associated with ACTs: (a) subject area expertise as defined by an undergraduate major or greater level of preparation; (b) maturity as defined by 25 years of age or older; and (c) prior work experience in a field outside education. Therefore, two or more ACTs who met these criteria and their instructional supervisors were selected at each school site. This produced a sampling of 12 ACTs and 7 instructional supervisors. The instructional supervisors are the individuals charged with responsibility for on-site support and performance evaluation of the ACTs. In some instances, the same administrator supervised more than one of the ACTs. Central office participants were self-selecting based on their job descriptions. Finally, two teacher educators were selected based on the criteria of five or more years experience working with ATC programs and their involvement providing university course work or mentor training for teachers in the school district under study.

Assurance of Confidentiality

Miles and Huberman (1994) advised that researchers and their study participants need to agree explicitly regarding a set of shared expectations. They further advised that failure to assure anonymity may produce biased data, particularly if participants fear that an identifiable account may compromise some interest. Accordingly, prior to the initiation of data collection, a consent form explaining the study's purpose, the procedures, and the proposed use of data were submitted for approval for use to the

institutional review board of the university (see Appendix B1). Written consent for participation was obtained from the school district and from all participating individuals. A pseudonym was assigned to the school district and participant identities were coded based on a school and participant number.

Data Collection Procedures

Merriam (1998) stated that case study does not claim any particular methods for data collection or analysis. However, she further stated that case study usually involves the three strategies of interviewing, observing, and analyzing documents. Most commonly, the three strategies do not receive equal treatment. One or two predominate, while the others play a supporting role. In this study, the primary strategy was interviewing, while observation and document analysis were used to collect supporting data.

Means of Collecting Data: Instrument Selection/Construction

Interviews were the primary means of data collection and were conducted at each level of inquiry--university, central office, school, and classroom. My review of the literature and my experiential knowledge of the high school gleaned from previous roles as teacher, department chair, central office specialist, and presently as a school administrator, guided the development of an interview protocol, the selection of documents, and the identification of processes for observation. Following the suggestion of Miles and Huberman (1994), I worked from the outside in to the core of the study, beginning at the level of the university macro-system and proceeding through the exo-system or central office level, to the meso-system or supervisory level, and finally to the micro-system or classroom level.

Interview procedures and protocols. Taped, formal interviews of 45 to 60 minutes in length were conducted with two experienced teacher educators of ACTs, and with the following school district personnel: (a) the Director of Human Resources; (b) the Director of Staff Development; (c) the Staff Development Mentor Specialist; and d) the Human Resources Licensure Specialist. Interviews were also conducted with ACTs and their instructional supervisors in each of the five high schools selected. Based on this design, a total of 12 ACTs and 7 instructional supervisors were interviewed. Altogether, a total of 25 taped interviews were conducted in the course of data collection.

The interviews were scheduled at convenient times for the individuals involved. At the beginning of each interview, written consent for participation was obtained. Merriam (1998) stated that highly structured interviews "get reactions to the investigator's preconceived notion of the world" (p.74). However, since comparing cases for a cross-case analysis requires that some standardized information be collected, semi-structured interview protocols were developed. Merriam (1998) noted that this format "allows researchers to respond to situations at hand, to the emerging worldview of the respondent, and to new ideas on the topic" (p.74). Yin (1994) stated that the questions in the case study protocol should reflect the full set of concerns from the initial design--but only those to be addressed at the single case level, not those at other levels. Therefore, separate semi-structured interview protocols were developed for university, central office, supervisory, and teacher participants. (see Appendix B2, B3, B4, and B5). Silverman (2000) observed that detailed transcripts can show practices of which even the participants themselves are unaware. Accordingly, all interviews were transcribed by a paid transcriber.

Observation procedures. According to Merriam (1998), observations can be used in conjunction with interviewing and document analysis to substantiate findings. Valuable elements to observe include the following: (a) the physical setting; (b) the participants' characteristics and roles; (c) activities and interactions; (d) conversations; (e) non-verbal communication; and (f) the investigator's own behavior and thoughts about what is going on. Activities related to my research questions at the school level were the district's New Teacher Academy, the mentor training program, and school-based mentor meetings. Therefore, I observed each of these programs to collect data that supplemented my interviews and document analysis.

I took notes during the observations, recording key words and phrases from individual remarks. Merriam (1998) described the importance of recording as fully as possible the first and last remarks for each individual. My field notes reflected a consistent format containing the following: (a) specific data including date, time, location, and participant names; (b) double-spacing between segments; (c) wide-margins for recording my reactions and initial interpretations; and (d) sequential numbering for ease of reference. I scheduled sufficient time immediately following the observation to write a full observation report in my researcher's log. All field notes, observation reports, and my researcher's log have been maintained in files, along with the interview transcripts and other study documentation.

Document data collection or recording. Merriam (1998) stated that, because they are produced independently of the research study, documentary data are more objective than other forms of data. She cautioned, however, that they may be fragmentary in terms of the extent to which they match the research questions. Document sources for the

school-based component of my study included the Mentor Handbook and mentor training materials, participant evaluation data from the New Teacher Academy, and Mentor Program evaluation data. A complete list of documents is included in Appendix H. These documents were examined to identify data that corroborated or raised questions concerning the interview and observation data.

Assessing the cultural context. Each ACT, administrator, central office, and university participant was described in my field notes in terms of important and relevant characteristics including age, length of experience, prior working background, and educational credentials. Summaries of participant characteristics at each level of the educational environment are described in charts included in the appendix. Field notes from observations provided additional contextual data.

Pilot study. A pilot study was conducted with an ACT and his instructional supervisor at one of the district high schools not selected as a setting for the study. The proposed interview protocols were utilized and the interviews were taped and transcribed. Following the completion of the interviews and interview transcription, interview subjects were asked to review the transcripts and comment on the effectiveness of the questions in terms of their ability to elicit important understandings. Suggestions for alternative and/or additional questions or topics were requested. Study participants expressed satisfaction with the interview protocols and the responses they elicited.

Data Analysis Procedures

Miles and Huberman (1994) stated that "Qualitative data analysis is a continuous, iterative endeavor. Data collection, display and reduction, conclusion drawing and verifying are an interactive, cyclical process" (p.12). The following section will describe

the ways in which credibility, transferability, and dependability were promoted throughout the study. The role of data management in ensuring high quality, accessible data is also explored.

Addressing Quality

Qualitative researchers have developed alternative strategies for safeguarding a study's credibility or internal validity, transferability or generalizability, and dependability or reliability. For this study, specific approaches that best matched the overall study design were selected and are described below.

Credibility. Yin (1994) explained that credibility is related to the challenge of making appropriate inferences. To accomplish this, a researcher must demonstrate that the evidence is "airtight"(p.35) in the sense that all rival explanations have been considered. This study used two strategies to promote credibility. The first strategy was triangulation or multiple methods. Different methods, including interviews, observations, and document analysis were utilized to cross-check findings. A second strategy to promote credibility was peer examination. Colleagues were asked to comment on emerging findings, offer insights, and suggest rival explanations. Most importantly, the findings in Chapter 4 were reviewed by a Smith District Human Resources Specialist who had not participated in the study. She compared my findings with qualitative data that she collected during the 2001-2002 school year regarding the experiences of new Smith District teachers who are career-switchers. The Human Resources Specialist verified that our two sets of findings are consistent with one another.

Transferability. The issue of transferability in qualitative studies has been a subject of debate. Some assume that it is impossible to generalize from a qualitative

study; therefore, they regard lack of transferability as a limitation of the method (Merriam, 1998). Silverman (2000) stated that "Extrapolation better captures the process in qualitative research" (p.111). However, Merriam (1998) concluded that, in qualitative studies, "The general lies in the particular; that is, what we learn in a particular situation we can transfer or generalize to similar situations subsequently encountered" (p. 210).

To promote transferability in this study, two strategies were utilized. As previously noted, site selection for the multi-case design focused on sites that maximized diversity within the school district under study by including high-ACT and norm-ACT schools. This increased the likelihood that results will apply to a variety of situations. The use of cross-case analysis and the identification of differentiated findings for high-ACT and norm-ACT schools where applicable enhance transferability. Also, school data have been included to enable the reader to determine the extent to which the cases match their own situations.

Dependability. Yin (1994) maintained that, in case study research, dependability means being able to demonstrate that the data collection and analysis procedures can be repeated with the same result. However, Merriam (1998) stated that, "Rather than demanding that outsiders get the same results, a researcher wishes outsiders to concur that, given the data collected, the results make sense" (p.206). She further explained that triangulation or multiple methods strengthen both credibility and dependability. Furthermore, constructing an "audit trail" (p.207) demonstrates how data were collected, how categories were formulated, the decision rules that were used for data displays, and the determination of findings. Accordingly, triangulation and the construction of an audit trail are important components of my study design.

Data Management

Merriam (1998) subdivided the task of data management into the following three components: (a) data preparation which includes transcribing and formatting interviews and field notes; (b) data identification which makes data more accessible; and (c) data manipulation to sort and reorganize. Miles and Huberman (1994) explained that a primary goal of data management is to maintain a record of data collection and analysis after the study is concluded.

Data preparation tasks in this study included transcribing interviews and consistent formatting of field notes as well as the summarizing memos I created from them. In each instance, margin notes were used to highlight important sections of the data. For data identification, interviews and documents were assigned source tags consisting of numbers and letters (Miles & Huberman, 1994). For example, interviews with school administrators were 1A, 1B, etc. An index of source tags was recorded in my files of transcripts, memos, and field notes.

Merriam (1998) encouraged qualitative researchers to begin category construction immediately based on the first interview or set of field notes. Therefore, transcripts, field notes, and memos were photo-copied and coding began immediately as part of the data collection procedures. Miles and Huberman (1994) stated that initial coding schemes are usually shaped by the research questions but continue to evolve as data collection proceeds. Coded excerpts from the photo-copied transcripts and notes were sorted into piles to group comments and notes that belonged together. A cumulative list of the groupings was maintained. Yin (1994) advised that names of categories can come from the researcher, the participants, or from the literature. Ultimately, the literature base

offered the best and most comprehensive frame of reference for the final coding scheme. Constant consideration was given to the fact that two stages of analysis were needed-- within case and cross-case analysis.

Miles and Huberman (1994) encouraged qualitative researchers to utilize data display matrices as an important technique for data management and analysis. A data display matrix consists of rows and columns, the headings and contents of which evolve over time. Miles and Huberman (1994) further advised researchers to begin with relatively general categories and to include chunks of data in the form of direct quotes, summaries, and/or researcher explanations. Source tags linking data to their primary sources were also included in the display. Decision rules used to select the themes for entry in the display matrix were based on Miles and Huberman (1994) who advised researchers to focus on "frequency of occurrence among respondents, intensity of respondent feelings, or the match to themes in the research" (p. 242). These three criteria were used in conjunction to identify the final themes.

Evolving display matrices for the macro-system, exo-system, meso-system and micro-system of the educational environment were the primary tools for data analysis. Miles and Huberman (1994) outlined two important ways in which displays can be used to both draw and test conclusions. The first strategy is to write memos explaining the conclusions drawn from the matrix. Since "writing is a form of analysis that leads to synthesis and the development of ideas for further analysis" (Miles & Huberman, 1994, p.243), the memos promoted the evolution and clarification of the conclusions. As new data were collected, they were analyzed to determine if they were consistent or inconsistent with the original data collected. In this manner, a constant data comparison

process occurred with each set of data that was analyzed to determine the extent to which it integrated with, provided new insights to, or contradicted previous data. The memos and journal entries that accompanied each new formulation of the matrix and its evolving categories provided a written record of the comparison process and of the trail that led to the final conclusions. A second strategy recommended by Miles and Huberman (1994) was also followed. Colleagues were asked to review the matrix, the decision rules, and the written memos to check for procedural accuracy. Based on this iterative process, conclusions and findings emerged and were formulated into a qualitative narrative.

Reporting the Findings

Case studies are often criticized for being lengthy and boring. To avoid this pitfall, Yin (1994) developed the following criteria for defining an exemplary case study: (a) the underlying issues are nationally important; (b) complete evidence has been collected; (c) alternative perspectives that most seriously question the conclusions of the study have been considered; (d) the single cases within the study have been treated fairly and even-handedly; and (e) the report has been composed in an engaging manner. In addition to using these criteria to guide the planning of my report, I also began composing portions of the report early in the data collection and analysis process. Yin (1994) also noted that the more rewriting that occurs in response to peer review, the better the report is likely to be. Drafting early versions of the individual case studies stimulated my thinking about my topic and provided opportunities to receive feedback from colleagues and study participants.

As recommended by Miles and Huberman (1994), the study's research questions and context shape the design of the report. Accordingly, Chapter 4 consists of a cross-

case analysis in which separate sections are devoted to specific cross-case issues and information from the individual cases is distributed throughout each section. Through use of direct quotes, through description of the ways in which the quotes reflect patterns in the data as a whole, and through commentary which explains the significance of the categories that emerge, I have aimed to provide my readers with a clear understanding of the patterns of practice that are currently supporting the induction needs of ACTs in the high school environment of one suburban school district.

Chapter 4

FINDINGS

Based on an examination of the total high school educational environment in a large suburban school district, this study was intended to describe patterns of practice that support the induction needs of new ACTs. This chapter examines how Bronfenbrenner's (1976) model, which portrays the educational environment as a system, or nested series of concentric circles, was used as a roadmap to explore the support structures that are currently serving new ACTs in a suburban school district encompassing 8 high schools and approximately 40,000 students. The pseudonym, Smith County Public Schools, is used to represent the school district throughout the study. Data collection began in the outermost circle of Bronfenbrenner's (1976) educational environment, which he referred to as the "macro-system." Represented in this study by interviews with two professors from a university that has established a partnership with Smith School District, macro-systems are powerful components of the educational environment that provide "information and ideology" to all parts of the system. Moving closer to the classroom core of the educational environment, Bronfenbrenner (1976) envisioned an "exo-system," which he construed as an extension of the macro-system. The exo-system contains formal and informal social structures that reflect the ideology of the macro-system. In this study, the exo-system of Smith County Public Schools is represented by the central office support staff, whose role in Bronfenbrenner's model is to convey and institutionalize the information and ideology of the macro-system. Moving still closer to the classroom center of the educational environment, Bronfenbrenner (1976) described the meso-system, which consists of the "interrelations among the major settings containing the

learner” (p.5). Assistant principals, who represent the schools’ administrative teams in day-to-day interactions with new ACTs, by coordinating and overseeing the support services of the school, represented this layer. Finally, the study explored the core of the educational environment, the high school classroom or “micro-system.” Here new ACTs succeed or fail partly as a function of the extent to which the support structures envisioned and developed in the outer layers of the environment have been successfully implemented at the classroom level.

This chapter describes the patterns of practice uncovered at each of the “new layers of teacher education” referenced in the title of the study and explores the interrelationships among the layers of the educational environment in Smith County Public Schools. Based on data from interview transcripts, observations, and documents, the patterns of practice introduced into the high school environment at the macro-system and exo-system level are first explained. Following this, results of a comparative case study of five high schools in the suburban school district under investigation is described through a cross-case analysis. Three of the high schools selected contain the largest concentrations of ACTs in the school district; the numbers of ACTs at the other two high schools represent the norm for the remaining five high schools in the district. Interviews with ACTs and their school administrators, observation at school mentor meetings and the district’s New Teacher Academy, and analysis of relevant documents including mentor program evaluation summaries are the primary sources of data for the case studies. Data sources throughout the chapter are referenced using a source code (I-interview transcript; O-observation; D-document). Numerals identifying the participant and page number are also included as part of source references where applicable.

Describing the Context: Smith County Public Schools

Smith County Public Schools currently serves a 245 square mile district of 42,486 students. In the past decade, the student membership has increased by over 9,000. Growth is expected to continue with the student population reaching 48,000 by the year 2010.

The primary factor in this growth is new residential development over the last decade and a resulting increase in the number of live births each year. Currently, the district contains 41 elementary schools, 10 middle schools, and 8 high schools. A new high school is scheduled to open in Fall, 2002.

Smith District serves a diverse student population. The following is a profile of student demographics:

- White students..... 61.8%
- Minority students 38.2%
- Economic deprivation . 25.5%
- One-parent families..... 21.1%
- Drop-out rate..... 2.61%

In Fall, 2001, 11,682 students entered Smith District’s 8 high schools. Currently, the per pupil expenditure is \$6,894. High school students select from a wide variety of curriculum choices including college preparatory, work-study programs, vocational and technical training, honors and advanced placement, and magnet school offerings. The average class size at the high school level is 21.3.

Five of Smith District’s eight high schools have achieved full state accreditation. The following is a profile of high school student achievement data for Smith District:

- Composite-Achievement Percentile, Gr. 9 Stanford61

SAT Average Score.....	511
Students taking SAT.....	71.3%
Students Receiving Advanced Studies Diplomas.....	54.2%
Students Enrolled in AP Courses	9.24%

Smith County Public Schools has developed and trained administrators in a code of conduct that is strictly enforced. Since the 1997-98 school year, the short-term suspension rate has dropped from 13.6% to 7.4%, while the long-term suspension rate has increased from .3% to .9%. The expulsion rate has remained stable at 0.1%.

Teachers in Smith School District have an average of 12.2 years of teaching experience. In Fall, 2001, 45.2% of the Smith District teachers held masters degrees. The school district provides \$1,000 yearly to each teacher to fund graduate school tuition or conference registration. There is a strong emphasis on continuous learning for both students and teachers. Smith District employs a total of 3,973 teachers and has a central office and support staff of 1,417.

Smith County surrounds a large southeastern city. The city’s size and location provide students with numerous cultural opportunities including access to the libraries and special programs of state universities and private colleges. The school district actively collaborates with higher education to provide training opportunities for its teachers and educational enrichment for its students.

The layers of the educational environment in Smith County Public Schools provided the setting for this study. Exploration began at the macro-system, or university level, to explore the role that university expertise plays in supporting the induction

process for ACTs. The following section describes the data that was collected at the macro-system level of the university and the consistent themes that were identified.

The Macro-system: Role of Teacher Educators

Two professors of education from a local university were interviewed to ascertain perspectives on the role that teacher educators play in responding to the needs of ACTs at the high school level. One of the teacher educators works directly with ACTs from Smith School District, who enroll in her classes to fulfill certification requirements. The other teacher educator interviewed serves as a consultant for the school district's mentoring program and is directly involved in training mentor coordinators for the district's elementary, middle, and high schools. As part of his support for the mentoring program, he also conducts a fall workshop on behavior management for the new teachers in Smith District. A number of common themes regarding patterns of practice emerged in the two interviews with these teacher educators and in observation of mentor coordinator training. The themes included the following: (1) recognition and support for the need to utilize second-career individuals as a valuable resource for staffing American public school classrooms; (2) recognition of the role of maturity as a significant but unpredictable factor in job performance for many ACTs; (3) designation of specific attitudinal and personality characteristics as the hallmarks of potential success for new teachers including ACTs; (4) the expectation that patterns of practice related to the district's mentoring program assume a pivotal role in the training of ACTs and other new teachers; and (5) acknowledgement of the role of ATCs in linking the university with local school districts. The following section will describe each of these themes, explaining similarities and differences between the perspectives in the two interviews where they existed.

Following this, a perspective which was unique to one of the interviews will be examined.

New Recruitment Needs

The interviews with teacher educators at the university level revealed recognition of the need for change in approaches to teacher recruitment. Both teacher educators acknowledged the economic reality that we are simply not producing enough teachers through traditional routes to replace the teachers who are retiring or leaving teaching for other reasons. One education professor also acknowledged that there have been many roadblocks in the past to changing careers in order to enter teaching (I/2/1). In today's environment of rapid economic change, however, individuals no longer picture themselves choosing a single career and maintaining it for life. Therefore, replacing the roadblocks of the past with alternative routes has become an important practice.

One professor elaborated on this theme by noting that, given the new mindset about career-change, we are failing to take full advantage of the power of the media to recruit people to enter the teaching profession (I/1/6). He believed that we need to use television, radio, and the newspapers to plant the seed of career-change to teaching with people in business and industry. He urged that we begin now rather than waiting until the shortage becomes more severe. Clearly, the transcript data revealed support at the university level for patterns of practice that facilitate career-change into teaching, as well as proactive recruitment of experienced individuals who may need encouragement to consider and pursue teaching as a second-career.

The Maturity Factor

Recognition of maturity as a factor in teacher education for ACTs emerged in both interviews with teacher educators. The data consistently suggested, however, that maturity can be a “double-edged sword” in teacher development. On the one hand, the older ACTs have more self-confidence than many younger, traditionally trained teachers (I/1/1). Maturity has enabled some ACTs to understand themselves and their capabilities. Having learned one career, they are confident that, with patience, they can also master a second career (I/1/1). One professor noted that maturity gave many teacher candidates a more realistic perspective and offered an interesting counterpoint to the idealism of many traditionally trained teacher candidates in her classes (I/2/3). On the other hand, however, maturity does not necessarily correlate to flexibility or creativity in a given individual. These two traits are seen as indispensable to effective teaching. Unfortunately, as one professor stated, “Some mature people have had life experiences or professional experiences which have tended to make them dogmatic and rigid” (I/1/1). Many mature ACTs are parents of adolescent children and are familiar with the developmental issues they observe in their children. However, this knowledge and experience does not necessarily prepare them for the adolescent group dynamics to which they must respond in the classroom (I/2/2). Complicating the situation still further, many mature ACTs have been acculturated in a work-setting, such as the military, where the norms are antithetical to what one finds in today’s high school classrooms. As one professor stated, “In a regular school culture, you’ll have kids who say ‘I won’t do this’, and for many of our folks who come from, say, a military background, it’s just devastating” (I/2/2).

Apparently then, while for some, maturity and their experiences as parents may ease the culture shock, for others with a strong grounding in a contrasting set of workplace norms, maturity can exacerbate the experience. According to these data, therefore, maturity can be something of a “wild card” that can either promote or impede the developmental process of becoming a teacher. The data collected at the level of the macro-system suggested that mature self-confidence, like youthful idealism, has unpredictable consequences. Apparently, as a pattern of practice, teacher educators have become cautious about generalizing and have learned to evaluate the role of maturity for teacher development in relation to individual teacher candidates.

The Right Stuff

The importance of recognizing and developing certain, somewhat intangible attitudes or traits, the “right stuff” for teaching, is a theme in the interview data collected from the teacher educators. An openness to change and to learning about oneself, that may or may not be an outgrowth of maturity, is one such factor (I/2/4). Based on her years of experience in teacher education, one professor believed that, “I can almost look at some and say, ‘You’re going to make it; you’re going to do well’” (I/2/4). Other important characteristics mentioned in the interview data include intelligence, love of children, and the desire to spend time with them.

According to the professors of education interviewed, love of learning is another hallmark of the best teacher candidates (I/2/1). In this connection, the teacher educators believed that ACTs should be encouraged to see the process of becoming a good teacher as developmental. ACTs must become comfortable with the expectation that mastery may take four or more years to accomplish. Furthermore, the ACT must be encouraged or, if

necessary, taught to ask how and why techniques work or do not work in the classroom (I/1/1). The flexibility to look at a situation, see three or four possible approaches, evaluate the merits of each, and choose the most viable alternative is an essential skill in the view of both teacher educators. Structuring course assignments in teacher certification programs to promote acquisition of these skills is an important pattern of practice at the macro-system level of the high school environment. Observation of the Smith School District's training program for mentor coordinators underscored the importance of this point. As part of the mentor program, mentors are required to observe and offer descriptive feedback to new teachers. In the post-observation conference, the mentor and teacher examine the cause and effect relationships between teacher and student behavior, evaluate alternative approaches, and choose a better alternative if warranted (0/1/5). Further discussion of the mentor program and mentor training at the district or exo-system level is included later in this chapter.

The Mentoring Connection

One university professor stated that, "The key for any alternative certification program to work is going to be how good the mentoring system is" (I/2/5). She pictured mentors observing once or twice a week and serving as a resource for responding to ACTs' questions on a daily basis. Given the array of competing priorities that face public school administrators and teachers today, both professors expressed concern as to whether schools have the resources to provide in-depth teacher education experiences in the form of mentoring. They identified lack of time and physical distance between mentor and new teacher as two potential barriers to effective mentoring that must be overcome. One professor identified specific support structures that can be constructed to promote

effective mentoring by veteran teachers. He believed that mentoring should be an honor accorded to the very best teachers in a school, thereby providing psychological and social reinforcement for identification as a mentor (I/1/4). Additional professional development opportunities and some level of financial award are also appropriate in this professor's opinion. Both professors believed that these patterns of practice must be introduced at the district level to produce an effective mentoring program.

University and School Partnerships

Another important theme drawn from both interview transcripts is the role ATC plays in helping to forge a university and school district partnership. One professor of education emphasized the way in which the district's mentoring program, for which he serves as an advisor and consultant, is training experienced teachers to do things that would have been done in the past by university faculty and student teaching staff (I/1/2). Examples of these functions include observing lessons to provide descriptive feedback, conducting post-observation conferences, and encouraging reflection and problem-solving. He stated, "I hope the mentoring program is building the mentor's understanding that they are an important part of the teacher training induction process" (I/1/2).

Another important outgrowth of the university-school district partnership has been the development of the Smith Metropolitan Alternative Licensure Program for Secondary Teachers. A product of the licensure needs of the growing numbers of high school ACTs in Smith School District and the surrounding area, the program provides five graduate level courses leading to a professional teaching license (D/2/2). To enroll, a high school teacher must meet the following conditions: (a) possess a contract with one of the four participating school divisions; (b) have a written recommendation from the

Human Resources Office of the school division where employed; (c) have a B.A. or B.S. degree in a state endorsement area; (d) have a 2.8 grade point average or higher; and (e) pass the Praxis I test. Within a one year period, participants complete Reading in the Content Area, Curriculum and Instruction, Instructional Methods, Characteristics of Exceptional Students and the Legal Issues Involved, and Adolescent Development. Classes are conducted on Saturdays and Sundays every other weekend (D/2/2). The Smith Metropolitan Alternative Licensure Program for Secondary Teachers was a product of collaboration between a local university and the participating school districts. Together they designed the content of the core courses and identified university and district personnel to co-teach the classes. It was decided by the partnership that the university would be responsible for developing and administering a program evaluation to ensure continuous improvement. Links were also established to the university's master's program in the School of Education. Up to nine hours of transfer credit in courses with a grade of "B" or higher can be applied toward the university's Master of Education in Curriculum and Instruction degree program (D/2/2).

Conclusions About the Macro-system

The interview data collected at the macro-system level reflected growing recognition of ACTs as an important teacher candidate pool and the emergence of patterns of practice to address their needs. The data further suggest that maturity is regarded as a significant but unpredictable factor as preparation for entering teaching. Patterns of practice designed to encourage a flexible, problem-solving approach that identifies and weighs alternatives have emerged in licensure programs for ACTs and in mentor training programs designed to support them at the school level. Just as is the case

for traditionally trained teachers, key attitudes and dispositions such as creativity, love of learning, intelligence, and love of children assume particular importance in contributing to the success of teacher candidates. Among these attitudes, love of learning is viewed as a characteristic that provides the staying power to persist in classroom teaching until mastery has been achieved. Most importantly, professors of education recognize that the patterns of practice that occur at the innermost levels of the educational environment--between the mentor and the new teacher--are critical factors in the training of ACTs.

Based on these data, the extent to which the patterns of practice blend the educational theory of the macro-system with the practical experience of the meso- and micro-systems as envisioned by proponents of ATC, is unclear. Certainly, a critical step in accomplishing this merger is tightening collaboration between universities and school districts. Although both professors agreed that the needs of ACTs have generated more dialogue between the universities and the local school districts, one noted that the discussion occurs primarily at the central office level. She believed that there is still a considerable chasm between the university and the local school level. Conversely, because the other professor worked with teachers who are mentor coordinators for their high schools, he envisioned a more direct impact of university involvement with the local school. As previously stated, he pictured the mentor training as a conduit for infusing university expertise into the day to day experience of the micro-system of the classroom and meso-system of the high school environment. The dichotomy of viewpoints reflected in the transcript data from the university professors raises a question that is central to this research study. In Bronfenbrenner's (1976) view, macro-systems such as the university convey key ideas that offer meaning and provide impetus for change in the inner-most

layers of the educational environment. Determining whether university expertise is penetrating the patterns of practice of the educational environment requires analysis of the data collected at the central office, school administration, and classroom levels that are found in the following sections of this study.

The Exo-system: Response of Central Office Staff

According to Bronfenbrenner (1976), the exo-system includes the “concrete social structures, both formal and informal, that impinge upon or encompass the immediate settings containing the learner and, thereby, influence and even determine or delimit what goes on there.” (p.6) For purposes of this study, the exo-system is represented by the central office layer of the high school educational environment in Smith School District. To analyze the role that Smith District’s Central Office plays in initiating and developing patterns of practice that support the induction of ACTs, interviews were conducted with the Director of Human Resources, a Human Resources Specialist for Teacher Licensure, the Director of Staff Development, and the Staff Development Specialist for Mentoring Programs. Evaluation data from the New Teacher Academy was analyzed, the Mentor Program Handbook was reviewed, and the mentor program evaluation data was examined. Based on the analysis of these data, the following themes emerged: 1) a focus on the development and implementation of creative teacher recruitment practices; (2) development of a system of comprehensive support for new teachers including ACTs; (3) evaluating ACTs as potential employees on a case-by-case basis; (4) differentiating support for ACTs within the teacher induction process; (5) focusing on continuous improvement of teacher induction practices; and (6) fostering partnerships with colleges

and universities. This section elaborates on each of these themes, provides specific examples, and describes the perspectives of the interview subjects.

Creative Recruitment Practices

All the interviews at the Smith District Central Office level included data that reflected a focus on creative approaches to recruitment of high school teachers in the face of worsening shortage conditions. One specialist stated, “I think everyone is having to get more creative and think outside the box”(I/4/1). The Director of Human Resources further explained that, based on the department’s examination of the teacher retention data, an image of a young workforce with many individuals leaving during the fourth or fifth year to stay home with babies or follow husbands to new jobs emerged. Individuals with practical experience, but not necessarily with a background in pedagogy, are already being sought for hard-to-fill positions (I/3/1).

In the face of these shortage conditions, many creative recruitment approaches are being considered or have already been implemented. The district’s lock-step salary mode is being re-evaluated to determine how flexibility may permit bargaining with applicants for hard-to-fill positions (I/3/1). Earlier recruitment, and earlier contracts, perhaps as soon as the junior year of college, are being considered. Recruiting ACTs as an important manpower resource is also an important strategy (I/3/2). Finally, retired teachers are regarded as an important staffing source. Smith District has already begun contracting with some of their retirees to return and teach on a part-time basis. Apparently, in the face of a growing teacher shortage, the general pattern of practice in Smith District is to reach out to new sources for teacher candidates; ACTs are viewed as just one of several possible new teacher candidate pools.

Comprehensive Support

As reflected in transcript data, documents, and observation of Mentor Coordinator Training and the New Teacher Academy, Smith School District provides a three-pronged support system for its new ACTs. This is accomplished through the following strategies: (a) a tuition reimbursement program that makes the financial impact of meeting licensure requirements affordable for new teachers and encourages them to continue learning after minimum requirements have been met; (b) assistance with test preparation related to success on Praxis examinations; and (c) a well-structured mentoring program that includes clear guidelines for mentors, new teachers, building coordinators, and administrators. There is some evidence that, within this structure, the school district has also begun to differentiate for the needs of a growing number of ACTs. This three-pronged approach is explored in greater depth in the following sections.

Financial Support

Each year Smith School District provides its teachers with an individual allocation of \$1000 that can be used to reimburse expenses for tuition or for conference registration. This level of financial support, combined with Virginia's reduced tuition waiver for educators, permits teachers to complete up to two courses per year at no expense. Although an individual might wish to complete licensure requirements more rapidly, this funding level permits ACTs to fulfill all course requirements within the three year licensure period without personal financial outlay. The availability of funding also serves as an incentive for individuals to continue their education beyond the minimal requirements of licensure programs.

Praxis Preparation

The Department of Staff Development for Smith District facilitates enrollment in Praxis I preparation programs run by two local universities. Information is sent to those Provisionally Licensed Teachers who may be interested in support and their names are forwarded to the university programs. Information and reminders about Praxis assessment requirements and passing scores are also provided. (D/2/1) Praxis assistance includes both practice materials and help with test-taking skills. The Director of Human Resources for Smith District stated that, “We are going to dictate that all new hires who don’t come in fully licensed take the Praxis I Exam within their first semester so that they have a lot of time to repeat it if they don’t pass.” (I/ 3/ 2)

The Mentoring Program

As reflected in the perspective of teacher educators at the macro-system level, a school district’s mentor program is the single most critical element in the retention of new teachers. For ACTs, the mentors may be the essential lifelines that determine whether they will survive the first year. Smith District has a well-defined mentoring program that is constructed around the concept of the “mentoring team.” Mentoring team members include the Office of Staff Development, the local university school of education, the school principal, the school’s mentor coordinator, the mentor, and the new teacher. The roles and responsibilities of team members are clearly defined in a Mentor Handbook (D/3/3). A month by month calendar of required activities is outlined in the handbook and documentation of program completion is required from both the mentor and the new teacher. The Mentor Program begins with the New Teacher Academy, which consists of three days of paid orientation for new teachers sponsored by the Office of

Staff Development prior to the start of the school year (O/2/1). The Director of Staff Development stated that, “The Mentor Program is very detailed about the kind of support that we expect the mentors to provide for new teachers. So an ACT coming in here would receive the same level of support” (I/5/3).

A university partner is directly involved in the district’s mentor program. University professors provide expertise and training to mentors and mentor coordinators in the areas of induction techniques, peer coaching, management skills, and instructional strategies. The university also participates in the analysis of feedback from program participants. Training sessions for mentors and mentor coordinators are held during the summer months and continue periodically during the school year. Mentors and mentor coordinators are paid a stipend for attending the training. Furthermore, mentor coordinators receive \$300 per year in additional compensation, with this base amount subject to yearly increases. All mentors receive two days of released time each year to observe new teachers, offer feedback, and engage in other activities related to their mentoring responsibilities. Up to 90 re-licensure points per certification period can be awarded to mentor teachers at the rate of one point per contact hour. New teachers also receive one day of released time to observe master teachers in their content areas from other schools.

During the training for mentor coordinators (O/1/2), the skill of providing descriptive feedback was taught by a professor from the university partnership. Intended for use by mentors in the required new teacher observations, descriptive feedback records what the teacher does and what the students do in response. The mentors were trained to focus primarily on the new teacher’s behaviors and the effects of teacher behaviors on

student behaviors. An observation form that is particularly conducive to providing descriptive feedback was utilized in the training. Training participants viewed a pre-recorded videotape that required them to apply the skills they were learning. During the post-observation conference, mentors were asked to relate what they saw the teacher do and then describe what the students did in response. This technique is intended to increase discussion and analysis. At the mentor training practice sessions, teacher participants learned the strategy quickly; some expressed surprise at the simplicity and effectiveness of the approach. In their comments at the training, the mentor coordinators reflected a high comfort level with the descriptive feedback strategy and an enthusiasm for using it with new teachers. One stated, “This gives me a strategy for getting to the heart of the matter without damaging the positive relationship I hope to develop with my new teacher” (O/1/4). Having previously noted in the evaluation data increasing reports from mentors about reluctance to accept feedback and help among new teachers (I/6/2), staff development specialists view this approach as an important direction for the mentor program.

In addition to facilitating the one-to-one relationship between mentor and new teacher, the school’s mentor coordinator oversees the school’s entire mentoring program, serves as chief troubleshooter, and brings the mentors and new teachers together periodically to share successes and to solve problems. Examples of recommended meeting times include the week prior to Back-to-School Night, the end of the first marking period, and the week prior to first semester exams.

Clearly, an important part of the local school’s administration’s role is to set the stage for the success of the school mentoring program. Selecting an outstanding teacher

with leadership capabilities to serve as mentor coordinator and identifying qualified mentors for each new teacher at the school are critical responsibilities. Furthermore, Smith District administrators are aware that, if new teachers “get into trouble or are struggling” (I/5/3), the Office of Staff Development provides individuals who go out to the school to work with the new teacher on a weekly basis and provide non-threatening support. In the 2000-2001 academic year, 40 new teachers received this type of assistance (I/5/4).

Looking at ACTs Case-by-Case

Consistent with the data from the university educators, central office interview participants expressed caution about sweeping generalizations concerning the potential of ACTs to become effective teachers. Their comments indicated that they have had a range of experiences with ACTs. The Director of Human Resources stated,

We have had some great success with some of our more mature, bright alternatively licensed folks. We’ve also had some real disasters with some of the folks who’ve come in just because they were downsized and looking for a job. We have to look at candidates on a case-by-case basis rather than make a broad statement. (I/3/2)

The Director of Staff Development made the following similar statement:

To say that alternative teacher certification is going to cause the best and brightest to move into education--I don’t think that is necessarily so. I think that what we are going to get is everything... Some are going to be good; some not so good. Our screening--how we select the stronger candidates--is going to be critical. (I/5/2)

In a similar vein, the Licensure Specialist for the school district indicated that she has observed no unique pattern of success or failure among the alternatively certified individuals with whom she works. She noted the following:

We'll hire someone from the business field and they don't even make it through the year; but then again there are just as often traditional candidates who don't make it through the year either. (I/4/4)

It is interesting to note that, although the district is keeping retention data for its new teachers, no specific statistics are being kept for the alternatively certified teachers. Perhaps, as indicated in the interview comments, there is no expectation that the ACT retention pattern would be unique in any way from the rate for traditionally certified candidates.

Meeting Special Needs

As reflected in the literature review in Chapter 2, ACTs are characterized by greater maturity, prior work experience, and often a more limited background in pedagogy. Central office interview participants indicated awareness of the special needs these individuals bring to the schoolhouse. In interviews with the Staff Development Director and the Specialist for Mentoring Programs, both expressed confidence that the mentoring program differentiates to meet the needs of individuals with a variety of backgrounds. The Staff Development Specialist stated:

I think one of the biggest strengths of the mentor program is providing flexibility from school to school and from individual to individual while maintaining an overall framework for the school district. (I/6/1)

In this view, the mentor framework, which progresses from daily to weekly support for new teachers over the course of the first year, is well-suited to differentiation in response to individual needs. From the perspective of central office staff, the structure and support provided by the formal district mentor program provide individual mentors and local high schools with flexible approaches to individualize the induction process for ACTs.

Continuous Program Improvement

Evaluation data is an important component of Smith District's mentor program. It is carefully considered and used as a source of continuous program improvement (I/6/3). Smith District's Staff Development Specialist stated that, "I remember one year we sent out evaluations and there were many pleas for help from new teachers. It was too late and we had failed in some ways. It made us realize we needed feedback in place much earlier" (I/6/3). In response to this perceived need to collect formative, as well as summative evaluation data on its mentor program, Smith District began gathering mid-year evaluation data two years ago. This year the Office of Staff Development will take formative evaluation yet a step further. There are plans to meet with focus groups of new teachers from each region of the school district during first semester. Central Office staff believe that this is the very best way of getting good information about what needs exist while there is still time to address them.

The College and University Connection

Closer collaboration between the school district and schools of education in local colleges and universities was a theme in interviews at the central office level just as it was with the university personnel. Apparently, ATC is producing a clear set of needs that are forging tighter relationships between university educators and school practitioners.

Some of this connectedness is the product of new state guidelines. The state mentor grant program requires school districts to establish a partnership with university personnel. In response to this regulation, Smith School District met with representatives from the local university. As one interviewee stated, “We sat down and brainstormed ways that the partnership could work and ways to blend the theoretical perspective with the practical aspects of the profession” (I/6/3). Mentor coordinator training conducted by university personnel and a fall behavior management workshop for new teachers were two important by-products of the strengthened relationship. Furthermore, state guidelines require that mentor programs establish Advisory Committees that include university personnel and offer them a holistic view of the mentor program on which to base their feedback to the district.

Conclusions About the Exo-system

Examination of the macro-system and the exo-system in Smith County Public Schools reveal a set of consistent expectations concerning how ACTs will be supported at the meso- and micro-system level of the high school environment. ACTs are regarded as one of several new sources for teacher candidates; however, there is a cautious approach to placing confidence in maturity and prior work experience per se as adequate preparation for the first year in the classroom. Both university and district personnel have developed the practice of considering ACTs as teacher candidates on a case-by-case basis. Interview data at both levels reflected a track-record of memorable successes and concomitant disasters with individual ACTs. The data suggest that, more important than the individual’s age or prior experience, are intangible attitudes and traits such as love of children, flexibility, creativity, and love of learning. Commitment to the mentorship

program as an essential and substantive component in new teacher retention is also a common theme. Finally, there is a shared commitment to closer collaboration between schools of education and the school district in order to blend theory and practice in a more powerful and meaningful way for new high school teachers. These themes, or patterns of practice, were prominent and consistent at both the macro-system and exo-system level of Smith District's high school environment. Table 4.1 summarizes the patterns of practice that were common to the macro-system and exo-system levels. Then, in the next section, the experiences of school administrators and new high school ACTs and the influence of the macro-system and exo-system on the high school and high school classroom will be explored.

Table 4.1
Patterns of Practice in the Induction Process for ACTs Common to the Macro-System and Exo-System Levels

Patterns of Practice	Description
Creative recruitment	Both university educators and central office administrators regard ACTs as one important resource for filling high school teaching positions, particularly in scarcity areas.
Case-by-case assessment	Experience and success with ACTs has been inconsistent at both levels of the educational environment. University and central office personnel regard intangible attitudes and traits such as love of children, flexibility, and love of learning as key factors in determining the potential success of ACTs.
Role of mentorship	The formal mentor program that specifies responsibilities for all members of the mentoring team and is supported by financial and time resources is regarded as essential to the successful induction of ACTs.

Collaboration with higher education State guidelines for mentor programs combined with the need for on-the-job training of ACTs are promoting collaboration between higher education and the local school district.

Examining the School and Classroom Context

In the previous sections, the macro-system and the exo-system of the educational environment of Smith School District were described. Consistent patterns and themes, such as: (a) the need for creative recruitment of new teachers; (b) the pivotal role of the mentor program; (c) the significance of ACTs' attitudes and beliefs in contributing to success or failure in the classroom; and (d) the recognition of the need for closer partnerships between schools of education and school districts emerged at both levels and were examined. The next layer of the educational environment, as reflected in Bronfenbrenner's (1976) model, are the meso-system or high school institution itself, and the micro-system, or high school classroom. The meso-system is a complex aspect of the total educational environment in that it is the product of the intricate inter-relationships among the component parts of the high school institution. The high school's mentor program, the structure and norms of the new teacher's particular subject-matter department, the vision of the principal, the socio-economic composition of the student enrollment, and the human and material resources of the school are just a few examples of the innumerable factors and their inter-relationships within the meso-system that impact the nature of the induction experience for ACTs. Because it is the role of the administrative team to manage and lead teachers and students in this complex educational environment, interviews with assistant principals were used as the primary source of data for examination of the meso-system. Sample selection was based on analysis of the

provisional certification data for the school district. The three schools with the largest percentage of provisionally certified teachers (high-ACT) were selected and two schools that reflect the norm for the school district in terms of percentages of ACTs on staff (norm-ACT) were chosen.

Table 4.1 contains a data profile of each of the case study schools.

Table 4.2
Profile of Case-Study Schools

School Number	Total Enrollment (%)	Minority Enrollment Rate (%)	Economic Deprivation	Av. Composite Achievement Score – Gr. 9	Full-Time Teachers	Fully Certified (%)
1	1181	79.1	46.5	45	80	70.0
2	1951	12.7	4.0	81	115	89.6
3	1509	14.4	16.1	79	90	89.0
4	1314	83.4	48.2	33	95	76.8
5	401	64.8	12.6	45	27	77.8

Three ACTs and their instructional supervisors were interviewed at high-ACT schools; two ACTs and their assistant principals were interviewed at the other two schools. In some schools the same assistant principal supervised both or all ACTs interviewed; in other schools, two assistant principals were interviewed in order to gather the perspectives of both administrators who supervised the ACTs interviewed. A total of seven assistant principals and 12 ACT interviews were conducted. Observation data from school-based mentor meetings and relevant documents, including evaluation data from mentor training and mentor programs, were also collected. This section describes findings related to the meso-system of the high school as seen from the perspective of

instructional supervisors who are assistant principals. Following this, an analysis of the interviews with ACTs will be described.

Overview of the Meso-system

Voices from the meso-system resonate with many of the themes heard in the macro-system and the exo-system. As reflected in the data matrix in Appendix J3, there were no themes that were unique to high-ACT schools or to the schools that represent the norm for the rest of the district. Neither were any themes introduced that are inconsistent with the data from the macro-system and exo-system. However, there were some subtle but important variations within the themes among the two groups of schools. The following patterns emerged in interviews with school administrators: (a) their active involvement in creative recruitment activities for new teachers; (b) their empathy for the “culture shock” experienced by most ACTs upon entering teaching; (c) their emphasis on the role of teacher beliefs and attitudes in determining success or failure for ACTs; (d) the pivotal role of the mentor program in helping ACTs negotiate their first year in the classroom; and (e) a trend toward supervisory efforts to differentiate induction support for ACTs. In this section, each of these themes will be described and variations on some of the themes will be explained. Variations in themes related to high-ACT schools will receive special emphasis.

Recruitment at the School Level

School administrators view themselves as “talent scouts” for Smith School District. Whether they are attending professional conferences (I/3A/1) or dining at the home of friends (I/2A/1), they are alert for leads concerning individuals who may be able to fill important staffing needs at their schools. Former graduates, friends of friends, and

the school's annual recruitment fair are all seen as rich resources for attracting promising candidates. Another important aspect of recruitment for members of the administrative team is participation on the school's interview team. The interview provides an opportunity for administrators to evaluate candidates' potential for success. In instances where desirable candidates have been identified, the interview is also a time to begin selling their schools, introducing ideas about their schools' culture, and planting the seeds of good future working relationships (I/4A/1). As administrators acquire more and more experience with ACTs, they also develop mindsets concerning the indicators of success that may identify potentially successful candidates. For the most part, these indicators are products of the attitudes and expectations some career-change individuals bring to their new roles as teachers. The key indicators of success that administrators identify are explained in the following section.

Teacher Beliefs and Attitudes

In general, Smith District administrators believe ACTs' motivation for coming into teaching is critical to their ultimate success or failure. One administrator stated, "Everybody we've hired has always wanted to teach" (I/4A/3). Another stated, "It really has to be a labor of love for those people who come into the field from the private sector. It's certainly no longer a 10 ½ month job" (I/3A/4). The pattern of practice appears to be to look for evidence that the career-switcher regards teaching as a vocation rather than a job. One administrator noted that good ACTs, like all good teachers, are "on a mission to get in there and do something for kids" (I/4A/5). Another administrator described it as a "calling, rather than a career-move" (I/1A/1). She stated that successful ACTs often feel a "tug" to enter teaching. Conversely, one administrator recalled an ACT who was trying to

switch careers because “he thought teaching was an easy job” (I/4A/5). The individual’s stay in teaching was short-lived and disastrous.

The three high-ACT schools in Smith District share some common characteristics. As previously demonstrated in Table 4.1, they have the highest levels of economic deprivation and the lowest achievement test scores of the case study schools. Administrators in high-ACT schools shared the conviction that successful ACTs usually feel called to teaching. However, they elaborated on this theme in a way that was not emphasized in the other school interviews. One high-ACT school administrator stressed the importance of teacher beliefs, specifically the belief that all children can learn (I/1A/1). Understanding the children, and the challenges they sometimes face in their homes and on the streets, is essential (I/1B/3). However, equally as important is the ability to maintain high expectations for the children rather than compromise standards in the face of learning challenges (I/1A/1). In this connection, an important part of the job in the high-ACT school is learning to first define for students and then maintain appropriate expectations for behavior and for learning. For the ACT, who is likely a stranger to adolescent group dynamics as they play out in the classroom environment, and who may also be a stranger to the social or cultural norms of a particular community, the challenge can be daunting.

These are, of course, the challenges that face all new teachers during the first year --but most especially those who enter the classroom with limited or no pedagogical training. Administrators believe that one quality, above all others, sustains the novice in the face of these considerable obstacle--the willingness to ask for and accept help.

Apparently, this quality is as elusive to some as it is obvious to others. Describing a particularly successful ACT, one administrator stated the following:

You'd make suggestions and she'd take them to heart and most of the time she'd take the suggestion and improve on it. You'd put out a feeler and she'd say, "Oh, yeah, I know what to do now. I've got it." And she'd go back, and implement it. That was part of the joy of working with Faith. (I/2B/4)

One administrator stated that her team felt so strongly about response to supervision and openness to suggestions that they ask the following question in the interview: "Are you willing to accept help even though you may not think you need it?" (I/3A/3)

Negotiating Culture Shock

Having helped to identify ACTs whom they believe possess the right attributes for learning on the job, the next pattern of practice that administrators implement is helping ACTs negotiate their "culture shock" as they enter teaching. One administrator stated the following:

It is a total shock to them. It's the pace, the time frame, every 50 or 90 minutes. It's the routine, not having a secretary, not having those kinds of clerical services. Doing lunch duties and study halls and that kind of thing.

It's a real culture shock to a new teacher (I/3A/2).

Administrators believe that the reality of the classroom seems particularly harsh in light of the idealistic picture that may have fueled an individual's career-move into teaching. Supporting new ACTs in the transition between the ideal and the real is an important part of the induction process. The sheer quantity of work alone is an "overwhelming surprise" for some (I/2B/5).

Administrators at all schools stressed that the shock is felt most acutely when ACTs work with children with special needs. One administrator from a school with a high performing student population stated:

I think that the ACTs we have gotten in have had a little higher frustration with some of the less motivated students. They're here making a career change and they're highly motivated. Kids who are not motivated they just don't understand. They don't get it, so they might be frustrated more easily than somebody who has had a chance to work with all kinds of students in student teaching. (I/2A/4)

An administrator from a high-ACT school with a high rate of economic deprivation, struck the same theme but in a way that identified what is, for some ACTs, the missing dimension. She stated:

ACTs coming in from business and industry may have learned to think in terms of product; that is, input and output. They may not get the relationship dimension. They may not realize that the way you engage children may make or break the relationship. (I/1A/1)

Negotiating the many treacherous shoals of culture shock is regarded as a critical aspect of the induction process for ACTs. Another high-ACT school administrator stated:

"I mean everybody that comes in that is brand new, they go through the same growing pains. They don't believe that the kids just don't sit in the chairs and listen to them talk." (I/4A/1)

In response to this predictable culture shock, high school administrators support new ACTs in making the transition between the ideal and real images of teaching they

experience (I/3A/2). Since the administrators agreed that there is a set of predictable growing pains that ACTs experience, their consistent response is to try to be as proactive as possible and anticipate the problems before they occur. Often administrators organize new teacher meetings “around the calendar” in an effort to “look ahead and try to anticipate their needs”(I/3A/1). For example, the first interim reports, the end of the first nine weeks, the first parent conferences, and the first examinations are seen as important events for which new ACTs need support. One administrator in a high-ACT school made it a point to visit new ACTs’ classrooms every period every day. In explaining the reason for her visits to the ACTs, she stated, “I want to be sure there aren’t any kids in here who sort of need their attitudes adjusted, because I can help you with that”(I/4A/1). In a similar proactive stance, at a meeting for mentors and new teachers prior to the opening of school at a high-ACT school, an administrator called the participants’ attention to a graph in the Mentor Program Handbook. The graph pictured “Phases of a First Year Teacher’s Attitudes Toward Teaching.” As reflected in the graph, he predicted that culture shock would trigger disillusionment in the fall of the year for many of the new teachers at the meeting. However, he also assured them that, with the support of the entire school family, the disillusionment would be replaced with rejuvenation in the months to follow (O/11). In this connection, another administrator stated, “You have to talk to them about patience. You know, ‘You have made a career move, you have made a change so allow yourself to go through some growing pains and then it will all fall into place’” (I/4A/4). In general, “Trying to be someone who will listen and, when they have problems, try to find solutions together,” (I/2B/1) is a pervasive response among

administrators to the predictable growing pains that new ACTs face in replacing the “dream” with the reality of teaching.

Role of the Mentor Program

The importance of the mentor program in providing critical support for new ACTs was a recurrent theme in the administrative interviews. Administrators evidenced a thorough working knowledge of the components of the district-wide mentoring program outlined in previous sections of this chapter (I/1A/1;I/2A/1;I/1B/2;I/3A/1). Based on their experiences with new teachers in general, but even more specifically with ACTs, administrators have learned the importance of building within their schools the concept of the mentoring team. The goal among administrators, as reflected in the interview transcripts, is to convey to new teachers that they are not “out there alone” (I/2A02). In this connection, the first mentor-new teacher meeting at one high-ACT school featured the introductions of a wide array of individuals who provided support for new teachers. These included the administrators, the office secretaries, the technology resource person, and the student activities director (O/1). One administrator described groups of individuals who are periodically involved in new teacher meetings throughout the year. These included guidance counselors, the special education chairman and resource teachers, and last year’s cohort of first year teachers.

Administrators regarded the appointment of mentors to new teachers as an extremely important responsibility. One stated:

We’d look at the department and say, ‘What person would work well with this person because of what they are teaching but also from their level of experience, their personality, and how willing they are to help?’ Because we

have some very experienced teachers that might not be the best mentors.

(I/2A/1)

One administrator served as the mentor coordinator for her building, thus assuring a direct link between the mentor program and the administrative team. At another school, an administrator also served as a mentor for a new teacher in his subject field. His active involvement in the mentor program was intended to help convey the message that there are a “lot of nets that are going to catch you” (I/5A/1). At the same school, new teachers are assigned both a mentor and a “buddy”. The mentor is an experienced teacher in the same subject field as the new teacher; the buddy is an individual from another subject area and another part of the building. The buddy’s role is to offer a different perspective on the complex meso-system of that building and to prevent the new teacher from becoming too insulated within a single department (I/5A/1). In a similar vein, another administrator emphasized the importance of promoting the development of both formal and informal mentors. The informal mentor may be the “lunch buddy or the person that they drive to the PTA Meeting with.” Informal mentors become a “kind of shadow over the shoulder to say, ‘Remember you’re supposed to do this,’ or “This is how we usually do it”” (I/3A/1).

Several of the administrators specifically mentioned the state standards and standards testing as catalysts for building the mentoring team within their buildings(I/1B/2; I/3A/3). The need for teachers to align their classroom curriculum with state standards and then establish pacing guides to ensure that the curriculum will be completed in a timely manner has become paramount. New teachers, especially ACTs, do not have the experience and the perspective to make this happen by themselves (I/1B/2).

Administrators are careful to team ACTs with their same subject colleagues and create the expectation that they will pace one another to ensure that the state standards are met (I/3A/3). Observation and discussion at the mentor coordinator training also reflected the theme that state standards have promoted teaming among new and experienced teachers by creating a clear set of common goals and accountability measures for which they hold joint responsibility (O/5).

In conclusion, the prevailing wisdom among the administrators interviewed is that Smith District's mentor program is worthy of their time and commitment. However, practical experience has suggested to them that the relationship between the assigned mentor and new teacher is simply one piece of the induction puzzle. Ensuring a wide network of support that reflects a range of classroom and school-wide expertise in different areas is also critical in helping the new ACTs survive the multiple challenges of their new educational environment.

The Classroom Management-Instruction Connection

According to the perspective of the administrators interviewed, classroom management is a major issue for many new ACTs. As one administrator stated,

If you start to teach without teacher training, you're going to fall back on your past experience in the classroom. Hopefully, that experience was a good one but you're probably going to lean more toward lecture. You're not necessarily going to be able to lead the students unless you're naturally talented in that area. (I/3A/4)

When classroom management emerges as an issue for ACTs, administrators convey a consistent message to the new teachers. One administrator put that message very succinctly by stating:

I guess I believe so much that good instruction solves every problem that if you go out with a positive attitude, a smile on your face, and something good to teach, all the rest of it just falls into place. I guess I've told teachers that a million times. (I/4A/4)

Before everything “falls into place,” however, administrators find that there is a lot of work to be done. One school has created a set of handouts for its new teachers that outline good lesson planning strategies, explain how much to plan, and advise when to give tests and quizzes. Alternative classroom furniture arrangements and the merits of each, levels of questioning, and how to formulate test questions are all reviewed as part of the new teacher induction program (I/3A/4). Notably, administrators at both high-ACT schools put greater emphasis on strategies that were specifically related to management and control. How to put students in groups, how to use egg-timers or bells to bring closure to group work, and use of proximity are examples of some of the strategies they specifically mentioned (I/4A/3). In some cases, introduction of these strategies has produced excellent results for ACTs. One administrator stated the following in reference to an ACT with whom she works: “All of a sudden things started to improve so much and it started clicking for her because she wasn't always fussing at the kids” (I/4A/3).

Helping new ACTs understand, communicate, and reinforce a set of appropriate behavior standards to their students is clearly one of the most daunting challenges administrators face as part of the high school induction process. Their response is highly proactive and

consists of strategies that stress the relationship between good management and good instruction.

Differentiating Support for ACTs

Administrators reflected a heightened awareness that many ACTs, who may come to them with no student teaching experiences, have a set of special needs within the new teacher induction process. At some schools, the response to the special needs is to provide or at least to offer more of the same strategies that are part of the induction process for all new teachers. One administrator stated the following:

They may need more help because they haven't been through student teaching. They would most likely get observed more often than somebody who is just coming in as a first year teacher who has certification. I think that the department chair would meet more often with that person. Other than that I can't think of anything we would do differently other than to be aware, observe them more often, touch base with them more often. (I/2A/4)

Another administrator believed that the individual ACT's personal qualities and level of independence were the primary determinants of whether support would be differentiated from that provided to other new teachers. She stated the following:

The department chairman is there to help, the mentor is there to help, even the colleagues in that person's department would be there to assist and help, but it varies with the individual. Some people seem to work fairly well independently, while others need a lot more direction. (I/2B/3)

On the other hand, an administrator at a high-ACT school who has worked with three or four ACTs each year for the past several years found herself approaching their induction needs a little differently. She stated that:

I think that they don't have the frame of reference and some things that you take for granted, they just don't have a clue. I just created a manual on classroom management. These are things that you would think are common sense, but they are not. (I/4A/2)

Perhaps this administrator's experiences over several years have enabled her to begin to see the induction process from the ACT's perspective and to customize some tools to address their special needs. Her classroom management handbook includes model sets of classroom rules and consequences that help new ACTs develop a vision of what appropriate behavior expectations for students look like, sample parent letters, and a list of "techniques that backfire". The clear message of the manual is that the first three weeks are essential in determining whether the new teacher will "sink or swim" with a particular group of students (D/10/3).

Conclusions About the Meso-system

The data collected at the meso-system level of the high school environment reflect the direction and the ideology introduced by the macro-system or university level and the exo-system or central office layer. However, these themes have been shaped and refined by the merger of theory and practice that occurs in the schoolhouse. Administrators take the responsibility for creative recruitment seriously because they see themselves as important stakeholders in the process. Like their colleagues at the central office level, they have learned to value and look

for certain personal qualities in ACT candidates. However, most importantly, they have learned to value the willingness to accept help and responsiveness to supervision as a critical factor in “making things work” for students, parents, and new ACTs.

Administrators have also learned to value the logic and the rhythm of support outlined in the district’s mentor program. The mentor program structure matches their practical experience with the needs of ACTs and offers a useful guide for a proactive approach to support that anticipates predictable problems and offers solutions. Above all else, administrators have learned to expand the concept of the mentor team to encompass most members of the high school staff. They view this expanded team concept as both an insurance policy for the new ACT and an essential aspect of survival in today’s complex educational environment. Furthermore, just as classroom management has been singled out as the subject of a district-level fall conference for new teachers, school administrators have placed special emphasis on helping new ACTs see the connection between management and instruction.

The data suggested that these themes have equal validity at all case study schools. However, there were some variations on the themes that were particular to high-ACT schools. Administrators at high-ACT schools described the experience of culture shock as being compounded often by the ACTs’ unfamiliarity with both the norms of teaching and the norms of the community and the students with whom they worked. Similarly, at high-ACT schools, the challenge of classroom management was more complex as a result of these same factors. Finally, in high-

ACT schools, increased experience with the needs of new ACTs is fueling a trend toward providing for their special needs. Table 4.3 summarizes the patterns of practice identified at the meso-system level.

Table 4.3
Patterns of Practice in the Induction Process for ACTs at the Meso-system Level

Patterns of Practice	Description
Case-by-case assessment	School administrators look for the personal qualities in ACTs that facilitate entry into teaching. In particular, they focus on responsiveness to supervision and willingness to accept help.
Reliance on the Mentor Program	The district's mentor program is utilized to help ACTs negotiate culture shock and to provide a support network for them. School administrators work actively to expand the mentor team to include many members of the school staff on both a formal and an informal basis.
Differentiating support for ACTs	With growing numbers of ACTs entering the schools, administrators are attempting to meet their special needs. At some schools, this means providing more of the same kind of support other new teachers receive. At high-ACT schools, a special focus on teaching the connection between classroom management and instruction has emerged.

The Micro-system: the New ACT in the High School Classroom

Previous sections of this chapter described the macro-system, the exo-system, and the meso-system of the high school educational environment in Smith School District. Interviews with two professors from Smith District's university partnership; interviews, observation and document analysis collected at the central office level; and interviews with school administrators at five selected high schools

represent each respective layer of the educational environment. The following section examines the core of the educational environment, the ACT in the high school classroom, and explains how ACTs describe their induction experience. The findings included in this section are based on interview transcripts with two or more teachers from each of the case study schools, document analysis of mentor evaluation program summary data, and observation of school-based mentor discussion meetings.

In selecting the ACT participant sample from each school, the following four criteria were utilized: (a) 25 years of age or older; (b) an undergraduate major or higher educational level in the teaching field; (c) prior work experience in a field outside secondary education; and (d) willingness to participate in the study. The age criteria, educational level, and work experience were based on the characteristics of ACTs identified in the literature review in Chapter 2. Participants within each case study school who met the first three characteristics were contacted to determine their interest and willingness to participate. Three ACTs who were not planning to return to teaching the following year were also contacted; however, none of the non-returning ACTs chose to participate. Consequently, the sample consisted of ACTs who have successfully negotiated the challenges of the first one to three years of teaching. Appendix G contains a summary of participant characteristics.

An Overview of the Micro-system Themes

Many of the important themes that emerged in interviews at the micro-system level were consistent with the themes identified at the macro-, exo-, and

meso-system levels. These themes are the following: (a) the paramount importance of attitudes and beliefs in surmounting the challenges of learning to teach; (b) the culture shock ACTs face upon entering the educational environment; (c) the titanic struggle with classroom management issues; and (d) the significant role of formal and informal mentors in making the transition to teaching. For many of the themes, the perspectives of ACTs synchronized from teacher to teacher and from school to school at both high-ACT schools and norm-ACT schools. For many themes the ACTs struck a consistent chord with the administrators as well as among themselves. However, in all cases, they elaborated on the themes by adding the rich dimensions of their personal experience. The ACTs also shared their experiences and personal beliefs regarding several topics that were not explored at the other levels. These include the role ACTs assign to pedagogical training, prior work experience, and subject expertise in making the transition to teaching. Finally, the ACTs identified two additional types of assistance they believed have the potential to ease the transition to teaching for future ACTs. These include relief from the tough teaching assignments many encountered during their first years on the job and assistance “beating the clock” of licensure requirements. In the following sections, each of these successive themes is explored. Characteristic differences found in high-ACT schools or in norm-ACT schools are also noted where applicable.

Keeping the Faith

“Knowing kids,” “loving kids,” and wanting to spend time with them were phrases that emerged in most ACT interviews (I/1BB/1; I/1CC/1; I/2BB/1; I/4AA/1;

I/3BB/1). The teachers at high-ACT schools placed particular emphasis on this point. One teacher at a high-ACT school, who was interviewed at the end of his first very difficult year of teaching, stated:

You have to know that you like kids or teenagers and that you want to be around them. If you can't look in the mirror in the morning and say, 'Yes, I want to go in there and face those kids,' do everybody a favor, particularly yourself, and get another job. (I/1AA/1)

In a similar vein, another teacher at the same high-ACT school stated, "If I didn't really care about these kids and think I'm making a difference in a few of them, I would never have signed that contract again. In fact, I would never have stayed the whole year" (I/1CC/4).

Along with love of children, love of learning emerged as an important motivating force among the ACTs interviewed. One stated, "I just really love to learn and so, I mean, that's something that teachers need to keep in mind--that the reason they want to teach is because they like to learn" (I/5BB/5). Another stated, "I think I am a natural learner. So I think that encourages my students to be natural learners" (I/2BB/2). Elaborating on this theme, several teachers recounted enthusiastically how they had seen particular students catch the spirit of enthusiasm they communicated for their subject and "come alive in the classroom" over the course of the year (I/5BB/6; I/2AA/4). This theme of love of learning matches well with the emphasis administrators placed on the willingness of successful ACTs to accept help. Perhaps their love of learning interests them in acquiring new teaching skills beyond what they initially bring to the workplace.

When the ACTs interviewed talked about the importance of attitude in negotiating the transition to teaching, they frequently mentioned the role of maturity and life experience. Many felt that they were presently far better equipped to deal with the challenges of the high school classroom than they would have been in their early twenties. Some attributed the difference to growth in wisdom and self-knowledge. For example, one ACT stated, “At 34, I know what I want out of life. I know where I’m at. I’m confident of who I am as a person. I wasn’t that way at 22 or 23” (I/1BB/10). Others emphasized that their experiences as parents, particularly parents of teenagers, made a critical difference in what they had to offer students at a later stage in their lives. One teacher at a high-ACT school gave the following specific example of how she believed maturity and life experience have impacted her ability to support her students:

Well, I think you come in with a different lens on the children because, you see, I can relate to what’s going on with some of these teenagers because I’ve raised teenagers. Sometimes it’s not always black and white, you know. They do have circumstances in their lives that sometimes keep them from getting an assignment done and you do need to work with them. Because what I found is that, in this school, some of the students actually come to school hungry. I feed them before every test, but you see, I think it takes maturity to recognize that these are factors that involve how they can work. You can’t just say, ‘Oh, well, they’re just being jerks.’ I think a kid right out of college doesn’t always recognize that. (I/1CC/2)

Similarly, another ACT talked about his experience in a university course which he took with college-age teacher candidates. He stated, “There was just a lot of difference in the way they see the world. They tend to see things one way; older people tend to see them in multiple ways; I mean they see more angles” (I/5BB/4). One ACT pictured the combination of maturity and the novelty of entering a new career as creating a synergistic and somewhat unique effect. She stated:

We’re fresh because we haven’t had the years on the job to get stale, yet we still have that advantage of being mature. It’s interesting having the puzzle pieces put together, being very energized and really enthusiastic but also having some of that life experience behind us at the same time. I think that’s why it works when it works well. (I/2BB/6)

Shocking Experiences

Consistent with the findings described in the examination of the meso-system, ACTs report that the entry into teaching is filled with “shocking experiences.” In reflecting on the reasons for the overwhelming sense of culture shock, one ACT developed a viable theory. She stated:

When you look at it from the outside, especially if you have good teachers, which for the most part I was very lucky in my education to have really good teachers, they make it look so effortless. And to get in there and realize how much work goes into delivering a 40 minute lesson that in any way works is overwhelming. But, of course, once you’re in it and you realize it’s too late, you have to do it. It’s like being in labor. You can’t decide you don’t want this baby any more. (I/5AA/1)

Another ACT used the same “baby metaphor” to describe the entry into teaching. “You think you’re going to die the first year and it’s just nobody can tell you. It’s just like having a baby, nobody can tell you what it’s really like” (I/3BB/8).

Based on the information in the interview transcripts, it appears that the overwhelming sense of culture shock is a function of multiple components. One component is both the quantity and the pace of the work. As one ACT stated,

I mean you’re on your feet, on the go for six or seven hours straight without any downtime really to speak of whatsoever. So it’s not like you can step out for 10 minutes and get coffee or do anything else. You can’t let your kids go for a minute; you’ve got to always be on top of every situation. (I/4CC/5)

ACTs also report that they were unprepared for the amount of paperwork. One ACT had been a lawyer in another state for 10 years. After her daughter was born, she decided that teaching might be a better field for her. However, she found instead that “Actually, I think I work more because before there was very little work I did at home” (I/3AA/2). Another ACT also compared teaching to his former job as a master electrician for a theatre company. When explaining his experiences in teaching he stated,

It’s probably the most difficult job I’ve ever had. I used to work very long hours, but not consistently long hours. The shifts that I’m used to working were 12-15 hour days for a week at a time. But now I work a steady 12 hour day. It’s exhausting. (I/1BB/2)

Another factor that contributes to culture shock is the tendency of educators to use “lingo” that is unfamiliar to ACTs and other outsiders. Abbreviations such as

IEP, 504, PGP (Professional Growth Plan), budget code numbers that everyone else seems to understand, and pronouncements at faculty meetings that “we will do this procedure the same way we did it last year” often leave ACTs feeling frustrated and isolated. As one ACT stated, “It’s just all jargon when you’re new” (I/5AA/4).

Furthermore, older ACTs often feel that the norms of the schoolhouse have been developed in response to the needs of younger, less experienced individuals.

As one ACT who had worked in industry for over 20 years poignantly stated:

I wasn’t treated any differently from any other new teachers, but the fact that I was older and had other experiences also wasn’t counted at all. I was treated like I was 23 years old and had no other knowledge. I struggled with that and just tried to keep rising above it. (I/5AA/4)

Another ACT made the following very similar statement:

I’ve managed a whole group of people and run a successful business on my own. I am not a green, right out of college person, so I expect to be treated on that level. But too many times, I’ve been treated below that level. (I/1CC/4)

When explaining situations that give rise to such feelings, ACTs often mentioned the “unwritten rules” that make no sense to them from a business perspective. For example, a department chairman was unwilling to ask what courses were planned for the following year when it was time to order textbooks. She explained to the ACT that there was an “unwritten rule about giving out scheduling information before a certain date.” As the ACT stated, “So you come in with all of these trappings of the school, trappings of this unwritten stuff, and it just doesn’t make good business sense to me” (I/1CC/4).

Perhaps the shock of encountering a different language and a set of unwritten rules is further compounded by the experience of going from expert in another field to novice in teaching. While one ACT reported satisfaction that the knowledge acquired working at a medical school had become a useful resource for her science teacher colleagues (I/2BB/5), others expressed frustration that their expertise was not being utilized. One ACT stated,

We don't want to offend anybody but right now it's like we're not really being valued for the experience we have. So I think somehow a formal recognition of that and an invitation to share that experience with other teachers and in the classroom would be good. (I/5AA/7)

A final component of culture shock that emerged only in the norm-ACT school interviews was dealing with aggressive parents. One ACT stated,

I didn't realize how much I would be dealing with parents when I first came into teaching and that was a shock. In the first couple of days I had a parent confrontation and I think anyone who comes from the business world deals with people and I came from the business world and I dealt with people but I did not deal with parents and that is a whole different ball of wax. When you're in the business world and you deal with people you have a certain control and as an attorney I had a certain control. When I had a meeting with an individual as an attorney, I basically was in charge. That switches when you are a teacher and you're dealing with parents. (I/3AA/2)

Another teacher provided a specific example of the type of parent request to which she had difficulty adjusting. She stated:

I really wasn't expecting what I perceive as being the unreasonable demands that some parents would make, if their child isn't available for tutoring on the times you've established, well, why aren't you available at other times? I guess I really thought that most parents would see their teachers the way I see my children's teachers. I fully realize that they have a life and the idea that a teacher does care deeply about the success of their students but not 24 hours a day. (I/2BB/4)

Given all the unique workplace norms and special features of the educational environment that contrast sharply with previous experiences in business and industry, it is not surprising that new ACTs feel somewhat off-balance in their initial months or perhaps years on the job. Of course, struggling to adapt to the new cultural context is just one part of the adjustment to teaching. In the next section, the challenges of acquiring classroom management skills will be described.

Primacy of Classroom Management

When asked what they needed most in order to be effective in the classroom, ACTs agreed with the administrators that it was classroom management. One ACT stated the following:

Classroom management. That was the primary thing. Whether you could teach or not was less important than whether you could control the class. Once you got your class under control then you're teaching. Because you can be the greatest teacher in the world, but if you can't control the two jokers, they'll keep the class down. (I/5BB/2)

For some ACTs, the first step in acquiring classroom management skills was overcoming their shock at youthful attitudes toward adult authority. Those with teenagers of their own were particularly surprised at the lack of respect for adults that they encountered in some students. One stated, “I was just amazed; that totally threw me into shock. No respect for authority whatsoever” (I/3BB/3). While some ACTs entered teaching relying on their knowledge of individual adolescent characteristics, they soon realized how little they knew about adolescent group dynamics. Establishing the right balance in their relationships with students was a great challenge for many ACTs who entered teaching because they “love kids”. “My biggest fault as a first-year teacher, was being too casual with the kids,” one ACT stated (I/1BB/8). Many ACTs seemed bewildered by the many different sets of student needs found in the same classroom. One stated,

You may have your plans to go in a particular direction but the kids are not in that mindset and they want to go in another direction and it disrupts your overall flow. You’ve got to manage that as well as get the subject matter across to the ones who really do care. This one over here is withdrawn for some reason; and this one over there is too exuberant; and this one over here is tired and has his head down. (I/4CC/5)

ACTs looked to their administrators for support with difficult students and many times found it. They did, however, express some frustration when they pursued the avenue of administrative support. “The classes that they observed in some cases were not the classes I was having the most difficulty with,” one ACT said (I/1AA/3). Another expressed the concern that it was very difficult for the

administrator to understand and help analyze difficult situations because “kids are always on their best behavior when an administrator is in the room, so often they can’t get the whole picture” (I/3BB/4). Once again, having spent so many years in classrooms, viewing teaching from the other side of the desk, leads many ACTs to oversimplify the role of teacher. Once they are confronted with the complexities of the job, particularly balancing and integrating instruction and classroom management, they react in stunned surprise. One ACT summed up the phenomenon succinctly by stating, “I guess I thought I knew more than I did in terms of what an educator does” (I/3BB/1).

The Support Team

Most ACTs interviewed reported that they had excellent relationships with their mentors who provided both substantive and emotional support. The following statement is representative of the quality of the comments ACTs made about their mentors. “She was always available to me. I could call her on the phone. I could go and see her. She would always make time for me” (I/3BB/7). In one situation, however, an ACT was assigned a mentor who did not appear to be interested in the role. The ACT stated, “My assigned mentor was really pretty cynical. She was the only chemistry teacher so I guess that makes sense but she just had lower expectations for any student who wasn’t honors. That was all I taught so I found it disconcerting” (I/5AA/4). As it turned out, the mentor coordinator for the school was alert to situations that did not appear to be working. The coordinator stepped in to fill the gap. The ACT stated, “She and I connected really well and I could go to her when I was frustrated with situations in my classroom” (I/5AA/4).

This ACT's situation, having many individuals to turn to, was consistent with reports from the other ACTs. Interview transcripts made frequent references to support from formal and informal mentors such as assistant principals, department chairmen, lunch pals, and other sympathetic colleagues. One ACT told the story of the day when a casual encounter with a sympathetic colleague kept her from hitting rock bottom. She said:

Two-fifths of the way through the year, one of the art teachers, who I never got to interact with much but we clicked somewhere along the way, stopped me on the walkway one afternoon. I don't know if I was just looking extra exhausted. I had not had a good week at all. She stopped me and she said, 'Someone did tell you that the first year is hell, didn't they? You just have to get through the first year and it gets easier after that.' I said, 'Oh, well, good, because I don't think I could do two years of this.' (I/5AA/5)

Almost without exception ACTs reported a sense of strong support from both formal and informal mentors in their high schools.

The Role of Pedagogy

ACT interviews reflected two conflicting schools of thought regarding the role of university course work in helping to negotiate the first years of teaching. The majority opinion was that education courses, while interesting for the most part, are still too theoretical and lack practical value. One ACT stated, "I've taken two brain-based learning courses that are fascinating in how kids learn, how the brain functions, how learning disabled students function differently. It's all been really fascinating but no practical use as far as I can see" (I/1BB/4). The ACTs who

ascribed to this school of thought believed that learning how to teach by teaching was the most powerful mode of instruction. For example, one teacher commented, “I wish that somebody could rewrite the teaching training program because I learned more the first year, or the first semester than I learned throughout the whole two and a half years that I was in the art teacher program” (I/4BB/3). Another stated, “I’ve learned to teach by just brute force; going in there and facing the class with no training on how to teach”(I/5BB/4).

One teacher, who had no teacher training, admitted feeling dissatisfied with the quality of student tests she produced. She believed that participation in teacher training would help her learn better assessment techniques. However, she also felt that an important part of her learning would inevitably be based on “trial and error” (I/2AA/4).

Two of the 12 ACTs interviewed believed that teacher training had made an important contribution to their success as teachers. Ironically, one remarked that she did not know how she would have assessed students properly without benefit of the courses she had taken. She stated:

When I got my provisional license, and it said, you need these courses, you need to take the Praxis Test, you need to do all these things, I jumped into it immediately. I mean three days after I signed a contract, I’d already enrolled in classes at Virginia Tech. So the six courses I took at Virginia Tech are designed specifically for teachers on provisional licenses. They address things like how to do a lesson plan, classroom management, all the educational terms I had no clue about. It’s a good thing I had this program at

Virginia Tech because one of the lessons taught me how to make up tests. If I hadn't had that I would have been lost at exam time. (I/1CC/3)

Another ACT stated:

I don't think I could have gone into teaching totally cold turkey. I mean I went pretty cold turkey, but I took four of the five certification courses. I just couldn't get Science in Secondary Schools that spring semester before I taught. So I would often learn something or the professor would say something on Wednesday night and I would do it on Thursday because I was really, really ready. (I/5AA/2)

For this ACT, taking a methods course focused on practical strategies while she was teaching seemed to be the right formula for producing a beneficial blend of theory and practice. However, for the most part, the ACTs interviewed believed that their courses were more theoretical than practical.

Role of Work Experience

For the most part, ACTs quickly learned the importance of making learning relevant to their students. When there was a direct connection between ACTs prior work experience and their teaching field, they found the experience added a special, beneficial dimension to their teaching. They were able to share with students concrete examples of why various concepts or topics were important in the world outside the classroom. As ACTs struggled to acquire the motivational strategies and other instructional tools of more experienced teachers, their storehouse of practical experience helped them bridge the gap somewhat. One ACT stated, "I could tell stories about all kinds of things in chemistry that I'd either done myself

or had observed or knew how it would work in the real world of industry”(I/5AA/3). The practical experience component was somewhat more valued by ACTs at the high-ACT schools. One teacher from a high-ACT school believed, “If the students don’t see a reason to learn it, they just don’t” (I/5AA/3). By contrast, an ACT at a norm-ACT school valued her experiences to a lesser degree. She described teaching biology and drawing on her experiences with pollution technologies. She felt prepared to share the industry perspective as well as the citizens’ perspective on environmental laws and issues. However, she stated,

I walked in thinking the same thing, that I had all this wonderful stuff to offer and I do think I have a little bit more resources to offer. How often I’ve drawn on them or how often I think that helps to energize kids, I’m not so sure. I’ve noticed that the seniors are much more interested in my experience than the freshmen. The seniors are on their way out the door. They’re starting to think about things like careers and jobs, whereas freshmen are still trying to get high school under their belts. (I/2BB/2)

Perhaps some of the students at the high-ACT schools seek more proof concerning the benefits of what they are learning. If so, the direct experience some ACTs bring from the world of work may be a particularly valuable tool in certain contexts.

Role of Subject Matter

Although many ACTs struggled to acquire the necessary pedagogical skills, they believed that their subject matter expertise was, to some extent, a compensating strength. One stated:

I do think deep knowledge of the subject area, particularly at the high school level, is a great advantage. Not that you can't come to the learning in different ways, but I've always wondered how taking four or five biology classes was going to stand up to four years of laboratory science and experimentation within the field. (I/2BB/5)

One ACT specifically mentioned the belief that in-depth knowledge of a subject helps teachers anticipate questions or trouble spots that students may find more difficult. An ACT with a masters in mathematics pictured, with a sense of horror, what it might be like without a strong subject-matter background--having to re-teach himself concepts before he began lesson planning.

Despite the general endorsement of the important role of subject matter expertise in the induction process, one ACT noted that it can be a double-edged sword. He stated the following:

I've found out on the job that it doesn't matter how much you know about the subject matter, if you don't have the right tools to teach it, you're fighting a losing battle. I found the areas in teaching that were the most difficult were my specialty areas because it all came second nature to me. It's all painfully obvious to me and so I would just jump right into it and skip over basic definitions and terms that were just common sense to me. I realized real quickly that I needed to simplify everything that I was teaching because they were brand new to it. (I/1BB/2)

Clearly, some ACTs have begun to recognize that subject matter expertise is just one piece of a complex puzzle of learning to teach.

Problem Areas

In the interview transcripts, ACTs identified two problematic patterns of practice that negatively affect the induction process from their perspective.

However, they believed these areas could be addressed with little difficulty or financial outlay. The first pattern of practice identified was support for meeting licensure requirements within the three year time frame. The second pattern of practice focused on the class schedules many first year ACTs were assigned.

Provisional licenses are granted for three years. Within that time frame, ACTs must complete five three-credit courses. Many ACTs complained that the only support they received with the requirements was notification regarding the names of the courses required. It was up to them to match the generic titles with the actual course names at local institutions. Developing a class schedule after the right courses and locations were identified was another struggle. Because course offerings are rotated from semester to semester, this added another variable or element of uncertainty to the mix. Many complained that school-related evening and afternoon commitments prevented them from beginning course work during the school year. Several of the ACTs also referred to the “myth of the three year cycle.” As one stated,

That first year of teaching was much, much harder. I thought I was going to die. So I couldn't take any classes until my second year of teaching which meant I had to really double up because I had to take 15 hours of education and they give you three years from the time they hire you. The first year very few people can get them in so you really have to do it in two years. (I/3BB/2)

In addition, some of the ACTs learned that they could expect non-renewal letters from the Smith District Human Resources Office in February of the third year of provisional licensure if their requirements were not complete at that point, thereby shortening the time period in their minds still further. Although the letters constitute a failsafe in the event that the courses were not completed by the end of the third year of teaching, the documents were understandably seen by the teachers as something to be avoided at all costs. This situation led the teachers to conclude that, “The reality for Smith School District is really two and one-half years and you really have to go for that two and one-half year deadline as opposed to the other”(I/2CC/4). ACTs clearly want more support from their school district in this area. However, as indicated in previous sections on the exo-system, help is already on the way. Beginning with the 2001-2002 academic year, ACTs in Smith District may choose to participate in a collaborative program between a group of neighboring school districts and the local university. The licensure requirement courses are now offered in succession through this program for each cohort of ACTs. Classes are held on alternating Saturdays, eliminating many of the concerns regarding conflicting job responsibilities.

In the perception of ACTs, the second pattern of practice that needs adjustment is the practice of giving difficult teaching assignments to novices. Some ACTs identified the number of preparations as an important part of the problem. One ACT explained, “It was not only three preparations, it was three advanced levels of foreign language and that nearly about killed me the first year” (I/3AA/4). Other ACTs believed that they had been assigned more than their share of less-able

or less-motivated students. One stated: “The first year they were extremely difficult classes. Kids that were big discipline problems, they didn’t care. I would go home crying some days, it was just so hard”(I/2CC/4). Another added, “The new teachers get the problem kids and they’re the ones least able to deal with problems in the classroom”(I/5AA/2). The solution, from the perspective of new ACTs, is to insulate first year teachers from the most serious discipline problems. One ACT expressed the belief that the failure to offer this consideration to beginning teachers may help to explain the retention problem among new teachers (I/5AA/8).

Conclusions About the Micro-system

As described by the ACTs interviewed and from observation of school mentorship meetings, the micro-system of the high school environment in Smith School District demands a radical adjustment process for ACTs during the beginning years of teaching. The culture shock that ATCs experience is exacerbated by a workload that seems overwhelming to them, by an unfamiliar set of cultural norms, and by the emotional impact of their novice status. However, successful ATCs are sustained by their commitment and enjoyment of young people, a wide network of support from formal and informal mentors, and by the personal qualities they bring to teaching. Foremost among these are maturity and love of learning. For the most part, ACTs regard subject matter expertise and prior work experience as important survival skills during their struggle to acquire instructional and classroom management strategies. The logistical problems they experienced trying to fulfill licensure requirements and the difficult teaching assignments they encountered as beginning teachers were viewed as obstacles to

successful induction. Table 4.4 contains a summary of the patterns identified in the ACTs descriptions of the induction process.

Table 4.4
Patterns of Practice in the Induction Process Reported by ACTs at the Micro-system or Classroom Level

Patterns of Practice	Description
Valuing intrinsic rewards	ACTs reported that love of children and love of learning can provide the staying power to negotiate the culture shock of entering teaching.
Recognizing the role of maturity	ACTs reported that maturity and life experience, particularly parenthood, were assets in the induction process.
Negotiating culture shock	ACTs reported an overwhelming and multi-faceted experience of culture shock during the induction process. The quantity and pace of the work, the amount of paperwork, the unfamiliar terminology, the paternalistic norms of the schoolhouse, the unwritten rules, their new roles as novices, demanding parents, and youthful attitudes toward authority are some of the key components of culture shock they identified. Many ACTs also maintained that they had been assigned more than their share of less able or less motivated students. Others reported that they had been assigned too many preparations in their first year of teaching.
Oversimplifying the job	ACTs reported that they had oversimplified the role of teacher prior to entering the profession. They experienced difficulty in mastering instructional skills and integrating them with classroom management practices.
Completing university courses	For the most part, ACTs reported that their university course work was more theoretical than practical. They also experienced frustration with the difficulty of finding the right courses to match their work schedules within a relatively short time frame.

Utilizing work experience	While ACTs in high-ACT schools value their ability to relate school subjects to the world of work, ACTs in norm-ACT schools did not necessarily regard their work experience as a special advantage.
Valuing subject expertise	Overall, ACTs reported that in-depth knowledge of subject matter was a significant advantage to them during the induction process. However, some found that it can also be problematic when it leads to false assumptions about what students know or about the pace at which they can learn the material.

Summary

This chapter has examined the high school environment in Smith District as seen through the lens of Bronfenbrenner's (1976) systemic model. Beginning with the macro-system represented by university educators and the exo-system represented by the perspectives of central office staff, each successive layer of the environment was explored. The innermost layers, the meso-system or high school institution, and the micro-system of the high school classroom were examined through a cross-case analysis of five Smith District high schools. Case study schools included both high-ACT schools and schools that reflected the norm for the school district in terms of numbers of ACTs. At each level of the educational environment, consistent themes regarding the patterns of practice that support ACTs during the induction process were identified.

Findings reveal many consistent themes within the levels of the high school environment. These include the following: (a) the use of creative recruitment practices that include recognition of the value of ACTs as an important resource for finding new teachers; (b) emphasis on the role of personal qualities and teacher

beliefs in equipping an individual to make a successful transition to teaching; (c) the pervasive sense of culture shock ACTs experience as they learn how little they truly understand about the role of teacher and begin to fathom the complexity of the job; (d) the emphasis on establishing a wide network of formal and informal mentors as “many nets to catch new ACTs” at the meso-system level; and (e) the emphasis on learning the connection between classroom management and good instruction. Evidence at both the exo-system and meso-system level indicated an emerging trend of differentiated support for ACTs and recognition of their special needs.

As reflected in the literature review in Chapter 2, ACTs are characterized by maturity, prior work experience, and subject matter expertise. The data revealed that ACTs regard their subject matter expertise and prior work experience as useful tools in making the transition to teaching. Regarding the role of their pedagogical training in learning to teach, ACTs offered different perspectives. In general, they believed that the university coursework provided a theoretical perspective but insufficient guidance in practical application. On the other hand, a few ACTs saw direct benefits in what they were learning and believed that the combination of coursework and hands-on experience in the classroom was beneficial to them. The logistical difficulties associated with finding and completing the necessary coursework in order to “beat the clock” of provisional licensure was a major concern to most ACTs interviewed. ACTs also evidenced considerable concern regarding their perception that teaching assignments of new teachers involved either too many preparations or too many disruptive students or both. They

suggested that, as a pattern of practice, the first-year teacher assignments should meet pre-established guidelines that “protect” new teachers from what some ACTs regard as unreasonable demands.

Table 4.5 provides a summary of the patterns of practice that were described at all levels of the educational environment. Finally, in Chapter 5, I will discuss the study’s findings, offer interpretations, and make recommendations regarding patterns of practice that support the induction needs of ACTs.

Table 4.5
Patterns of Practice in the Induction Process for ACTs Described at All Levels of the Educational Environment

Patterns of Practice	Description
Utilizing creative recruitment	University and school district educators described the need to find new approaches for recruiting teacher candidates, particularly for high school positions. Some ACTs were recruited in response to these practices.
Valuing personal qualities	Veteran educators at all levels and the ACTs referred to personal qualities as sustaining forces in negotiating the induction process. Love of children, flexibility, and love of learning were specifically identified. Responsiveness to supervision and willingness to accept help were particularly mentioned at the meso-system level.
Negotiating culture shock	Veteran educators at all levels and ACTs reported that the induction process was marked by an overwhelming sense of culture shock. ACTs struggled to adjust to the norms of the schoolhouse and to the unexpectedly complex new role of teacher.
Emphasizing mentorship	Veteran educators at all levels and ACTs reported that mentors were essential lifelines in the induction process. The formal mentor program identifies responsibilities and provides resources in terms of

time and money. Administrators and ACTs also valued the concept of the mentoring team that includes both formal and informal members.

Integrating classroom management Veteran educators and ACTs emphasized the need to teach or learn to integrate instructional skills with classroom management practices.

Differentiating support As experience with ACTs increases, techniques, such as approaches to teaching classroom management, are being emphasized. High-ACT schools are at the forefront of this trend.

Chapter 5

DISCUSSION, CONCLUSIONS, AND IMPLICATIONS

The purpose of this study was to describe the patterns of practice that support the induction process for ACTs in the total educational environment of a large suburban school district. Bronfenbrenner's (1976) model, which envisions the high school environment as a system or series of concentric circles, was used as a roadmap for exploration. Based primarily on interviews with teacher educators, central office staff, high school administrators, and ACTs, a multiple case study of five high schools in a large suburban school district was conducted. Case study schools included three "high-ACT schools" with the largest concentrations of ACTs in the school district and two "norm-ACT" schools with the average number of ACTs for the school district. In each school, interviews were conducted with both ACTs and the school administrators who served as their instructional supervisors. Observations and document analysis were utilized to provide confirming data. The research produced a description of the patterns of practice at the macro-system (university), exo-system (central office), meso-system (school administration), and micro-system (classroom) levels of the educational environment in Smith School District. A cross-case analysis that identified consistent themes among the case study schools at the meso-system and micro-system levels of the educational environment was conducted. Similarities and differences among findings within the sub-systems of the educational environment were identified. Comparisons between findings in high ACT schools and norm-ACT schools were also described where applicable.

In this chapter, I summarize the findings by organizing them into major categories that facilitate interpretation. Because the findings included interviews with individuals who possess different perspectives regarding ACTs, as well as with the ACTs themselves, I first discuss “how ACTs see themselves” and then “how other educators see them.” The third category of findings, and the ones most central to this study, consists of support structures or patterns of practice that are currently helping ACTs negotiate the transition to teaching. Following the summary of findings and my interpretations of them, I describe my conclusions. Finally, I provide suggestions for further research in the area of induction support for ACTs and offer personal reflections on the research process. A summary statement concludes the chapter and the study.

Summary and Discussion

Consistent with the literature review in Chapter 2 and with the data collected in interviews, observations, and documents, high school ACTs are characterized by greater maturity than traditional teacher candidates; subject matter expertise as defined by an undergraduate major or higher level of education in the content area; and prior work experience outside the area of secondary education. Not surprisingly, the perceptions that ACTs have of themselves as novice teachers and the perceptions that others hold of them can be described in relation to these defining characteristics. Furthermore, their special status and needs as nontraditional novice teachers shape and influence the support structures that are required for successful induction and retention in teaching. The pedagogical training they require, the individualized mentoring support that is provided, and the

flexibility of the high school environment in differentiating for unique needs are critical factors in determining the fate of the novice ACT. The following sections will discuss the findings as related to both ACTs defining characteristics and the patterns of practice that support the induction process.

How ACTs See Themselves

When ACTs discuss their experiences as novice teachers, they frequently refer to the role of maturity, their subject matter expertise in their teaching field, and their prior work experience. These factors represent the major tools ACTs possess upon entering teaching. However, these tools do not always produce the precise effects ACTs would have predicted before they stepped into the role of teacher.

Maturity. In general, the ACTs interviewed recognized and appreciated the self-knowledge, flexibility, and patience they have learned as a product of age and life experience. In particular, they mentioned their experience as parents of adolescents and credited this knowledge with helping them understand some of the more elusive features of adolescent behavior patterns. However, ACTs quickly realized that, despite their maturity and life experience, they may have overestimated their knowledge of the role of teacher. Negotiating the challenges of adolescent group dynamics is particularly perplexing to ACTs. Discovering the shifts in adolescent culture since their own high school experience, particularly in attitudes toward authority figures, is often an unexpected and unpleasant surprise. Earning the respect of their students is not necessarily a part of the job they anticipated. This unexpected challenge compounds and often frustrates ACTs while

they simultaneously struggle to master instructional skills that prove to be more complex than they imagined.

Teacher beliefs. Love of children, interest in spending time with them, and the desire to make a difference for the better in the lives of young people, was the single most frequent and important theme mentioned in the ACT interviews. For many ACTs, a companion theme to the love of children was love of learning. When love of learning was pervasive and incorporated an active interest in continuously improving instructional skills, it was a powerful tool for negotiating the transition process into teaching.

Subject-matter knowledge. ACTs recognized the importance of possessing a strong conceptual knowledge and a deep understanding of their subject fields. As reflected in the chart of participant characteristics in Appendix G, many of the ACTs possessed advanced degrees in their disciplines. They acknowledged the essential role that subject matter knowledge plays as a building block in lesson planning. However, some ACTs learned that expertise can be hazardous in the classroom if teachers fail to grasp the complexity of what they are presenting to students. This finding is consistent with observations by Linda Darling Hammond (1999) who concluded that the relationship between subject matter knowledge and learning to teach may be more complicated than ATC proponents believe.

Prior work experience. As also reflected in Appendix G, the ACTs interviewed had prior work experience in a wide range of fields outside of secondary education. Having invested years in other work environments, ACTs entered teaching with different sets of workplace norms. These different

perspectives primarily contributed to the sense of culture shock they experienced when they entered teaching. While some recognized that they came in with a “different lens” (I/1CC/4), they still found it difficult to make sense of the working conditions and workload, the unwritten rules, and what they perceived to be an emphasis on “top-down decision-making.” This theme is reminiscent of the conclusions of Schlecty and Vance (1983) that recruiting ACTs into teaching is simply half the battle. Schlecty and Vance (1983) emphasized that making schools attractive places for ACTs to work is the other critical component of retaining them in teaching.

How Other Educators See ACTs

In addition to the ACT interviews, the data collected in this study include the perspectives of teacher educators, central office staff, and school administrators regarding the induction process for ACTs. For the most part, their perspectives are consistent with those of the ACTs interviewed. However, because interviews from the macro-, exo-, and meso- systems are based on participants’ experiences with a wide range of ACTs over several years, they introduce some additional factors not mentioned in the ACT interviews.

Problems of maturity. Teacher educators, central office staff, and school administrators noted that maturity is not always an asset for ACTs. They recalled situations in which maturity was associated with inflexibility that hampered the adjustment to teaching. In light of the need for multiple adjustments--to different working conditions, to a workload that makes demands on one’s home-life, to a unique set of workplace norms, to adolescent group dynamics-- flexibility is the

sine qua non for new ACTs. The way that maturity manifests itself in individuals, either in self-confidence, patience, and increased wisdom, or in rigid adherence to fixed mindsets, is a key determinant of whether an ACT makes a successful transition to teaching. These findings are consistent with Neapolitan (1996) who identified three different aspects of adult growth and development that influenced career-changers performance in teaching. Along with identification with the role of teacher and willingness to implement teaching and learning strategies, Neapolitan (1996) posited that a psychological dimension involving the ability to compromise and the ability to let go of the past were essential skills for ACTs.

Role of experience. As previously stated, ACTs quickly realized that they had overestimated what they knew about teaching. Some ACTs realized that their own teachers made the job look deceptively easy. However, what the ACTs did not see as clearly was the extent to which they remained wedded to their personal experience in the classroom. According to the perspective of teacher educators, central office staff, and administrators interviewed, ACTs frequently fall victim to what Feiman-Nemser and Buchanan (1985) refer to as the “familiarity pitfall.” Resulting from over-reliance on the most memorable aspects of one’s own experiences as a student, the “familiarity pitfall” promotes over-use of traditional strategies such as lecture and recitation. Many ACTs quickly realized that their youthful experiences in the classroom did not fully prepare them to work on the other side of the desk. However, ACTs did not automatically make the further connection to questioning the usefulness of their own high school instructional experiences.

Probing the blind area. Educators at all levels of the educational environment, including the ACTs themselves, recognize the tremendous culture shock that individuals from other careers experience when they enter teaching. To ACTs, some of the norms and practices they encounter seem wildly illogical. It is interesting to note, therefore, that ACTs' observations have had little discernible impact on the educational environment. ACTs are regarded as novices whose job it is to accept rather than question. This phenomenon is somewhat reminiscent, from an organizational perspective, of the Johari Window (Yen, 1999). Considered one of the most useful models for describing the process of human interaction, the Johari Window posited that there are four types of awareness. Each type of awareness consists of information that is a function of two specific variables. First, it is either "known to others" or "not known to others." Second, the information is also either "known to self" or "not known to self." According to this paradigm, the "blind area" is characterized by awareness that is known to others but not known to self. Perhaps it is this blind area of the educational environment that ACTs expose to veteran educators. Listening more closely to ACT perceptions, before their etic perspective disappears under the pressure of acculturation, might reap some unexpected benefits to the educational environment. For example, questioning the logic of "unwritten rules" could be a valuable perspective if it leads to administrative reconsideration of how these rules may be promoting inefficiencies within the educational environment. One ACT expressed her amazement at the fact that a department chairman placed her textbook order for the following year without requesting scheduling information, so as not to be perceived as "pushy" by

the administrators in charge of the scheduling process. The ACT, who had run her own business for years and who wanted to be sure her students received textbooks promptly the following year, could not contain her frustration over this practice. Her willingness to articulate her concern to anyone who would listen accomplished little. The perspectives of novice teachers, such as ACTs, appear to have little or no impact on the willingness of veteran educators to probe the “blind” areas in the educational environment.

Patterns of Practice

The patterns of practice that support ACTs in Smith District can be organized into the following three categories: (1) practices that blend theory and practice and infuse university expertise into the school-house; (2) practices that promote formal and informal mentoring; and (3) practices that differentiate support to meet the special needs of ACTs.

Blending theory and practice. Teacher education courses have been accused of being redundant, irrelevant, and lacking in rigor (Fenstermacher, 1990). Aligning courses in pedagogy with everyday experience in one’s own classroom is perceived by many proponents of ATC as an ideal blend of theory and practice. However, the findings described in Chapter 4 indicated that the majority of ATCs were not satisfied with the level of practical application they received in their teacher education courses. They also expressed a high degree of frustration with the relative inaccessibility of university courses for working teachers and the tight time frame for completion of state licensure requirements.

Based on the literature review in Chapter 2, there may be a ready explanation for the ACTs dissatisfaction with their university experiences. Wise (1994) stated that, for teacher education programs to be accredited by NCATE, they must be based on a clearly defined framework that is well understood by both students and faculty. In searching local colleges and universities to locate the necessary courses and meet licensure deadlines, ACTs were inevitably “mixing and matching” courses from different programs and institutions. As a result, coherency of approach in their licensure programs suffered.

In light of this situation, Smith District’s collaboration with other school districts and with a partnership university to tailor a program to meet the needs of ACTs is a critical initiative. Offering Saturday classes conducted at a measured pace; aligning the program with ACTs’ school schedules and the varying demands of the school year; and teaming university personnel with school district practitioners to teach the courses are important responses to the expressed needs of ACTs. Furthermore, this new program presents the opportunity to meet the challenge that Darling-Hammond (2001) referenced in the following statement: “They say, in fact, that there is nothing as practical as good theory and there is nothing as theoretical as good practice” (p.15).

Another opportunity to infuse educational theory into patterns of practice in Smith District occurs in the mentor training program. Working directly with university professors, mentors learn to utilize descriptive feedback when observing and conferencing with new teachers. This practice sets the stage for professional problem-solving between novice and veteran teachers. Rowley (1999) emphasized

this point by stating: “The mentor training program should equip mentors with the knowledge, skills, and dispositions, prerequisite to effective coaching. Such training helps mentors value description over interpretation in the coaching process” (p.21). Furthermore, the comfort level that veteran teachers expressed with the descriptive feedback approach during their training program is consistent with research findings that indicate a preference among mentor teachers for problem-solving rather than directing solutions (Wildman, Magliaro, Niles, and Niles, 1992).

A third practice that infuses educational theory into the meso-system and micro-system of Smith School District is the New Teacher Conference that focuses on classroom management. A full day conference in November conducted by a university professor, it is well received by Smith District teachers as reflected in the mentor program evaluation data. The conference occurs at a point when most new ACTs are ready to find expert answers to the challenging problems they face. Based on the evaluation data, it appears that the conference strikes the right blend of theory and practice. Bradshaw and Hawk (1996) identified understanding of the interdependence of instruction and classroom management as an important goal for ACTs. Furthermore, the findings in Chapter 4 indicate that classroom management was a key concern for ACTs in Smith District. The practice of holding a full-day conference to focus on the problem of classroom management appears to be an important support for ACTs.

Promoting formal and informal mentoring. Consistent with Hawley’s (1992) recommendations, providing substantive training for mentors, matching

mentors carefully with ACTs, and focusing on developing and maintaining a mentoring team that links all levels of Bronfenbrenner's (1976) educational environment in support of new teachers are important patterns of practice in Smith District. Examination of interview and mentor evaluation data revealed that ACTs generally see their mentors as indispensable guides in negotiating the transition to teaching. This finding is consistent with Wildman et al. (1992) who found that both mentors and beginning teachers tended to focus on their mentoring experiences by referring to the socio-emotional dimension. Among the mentors in their study, Wildman and his colleagues also noted a tendency to refer novices to other teachers and administrators in the school as well as to resource persons outside the school building. This is consistent with the strong emphasis on a creation of a mentoring team that emerged among case study schools. Ensuring a far-reaching, yet interlocking support network for novices was valued by both administrators and ACTs.

Differentiating support. That ACTs have special support needs during the induction process into teaching was a consistent theme in the literature review in Chapter 2. It is important to note, therefore, how the patterns of practice in Smith District are reflecting this theme. There is evidence that differentiating support for ACTs is an emerging and strengthening trend. The development of a collaborative licensure program with neighboring school districts and a partner university is an important step in providing for ACTs. The tuition assistance Smith District provides, while available to all teachers, is particularly well suited to the financial needs of ACTs, who may have taken a pay reduction to enter teaching and who

often have families to support. As previously noted, the focus on classroom management training, which was an important theme with school administrators and with the Office of Staff Development in their Fall Behavior Management Conference, is well-suited to the needs of ACTs also. Support for Praxis Test preparation is a practice aimed at helping ACTs meet all state requirements in a timely fashion. Finally, based on the evaluation data, it appears that administrators at “high ACT” schools, given their level of experience supporting ACTs, have begun to invest time and effort in addressing special needs for assistance related to both instructional and management issues.

Suggestions for Practice

This section contains suggestions for Smith School District based upon the implications of the findings and conclusions developed in this research. The suggestions are designed to build on the existing patterns of practice and to strengthen the trend of differentiating the induction process for ACTs based on their special needs. Implications based on data from this study suggest extending the time that ACTs and other new teachers are given to work together prior to the start of the school year. This suggestion is based on recommendations that formed a consistent theme in administrative interviews. Many administrators noticed how overwhelmed ACTs were by the frenetic pace of the opening weeks of school. In the view of some, including myself, the addition of a few focused days under the tutelage of the mentor prior to the start of the school year would make a significant difference in the first year experience for ACTs. Wildman et al. (1992) also found that the mentoring dyads in their study needed more time to launch the school year.

A second suggestion is to link administrators more closely to Staff Development's efforts to support new teachers. The Fall Behavior Management Conference, for example, might be attended by at least one administrative representative from each high school. This would provide an excellent setting for the administrator to connect theory and practice through some hands-on problem solving with their new ACTs related to particular situations the teachers are facing at the school. Although administrative time is always at a premium, this additional investment has the potential to reap time-saving rewards later on in the school year by decreasing the number of disciplinary referrals to administrators.

A third suggestion is to provide opportunities for interested ACTs to share their expertise in their subject fields with other teachers throughout the school district. Smith District offers a series of summer staff development programs that would offer a natural venue for this type of activity. As reflected in the interview data, the opportunity to step back into the expert role on a temporary basis offers psychological benefits to ACTs, while offering veteran teachers a valuable perspective on current trends in their teaching fields. Wildman et al. (1992) noted that it is important for novices to have opportunities to make professional contributions to their colleagues rather than continually being on the receiving end of assistance. As a corollary to this suggestion, having experienced administrators from high-ACT schools share their experiences addressing the needs of ACTs would constitute another valuable type of summer staff development program.

Portner (2001) explained that compensation for mentor teachers sends an important message about the value of the service they are providing. In the state of

New Jersey, a leader in the area of ATC, the Department of Education provides mentors with a \$500 stipend. Interestingly, the stipend is deducted from the new teacher's salary over the course of the year (Portner, 2001). Although Smith District already provides a \$300 stipend to mentor coordinators, a further suggestion would be for the district to review the New Jersey strategy to determine if it holds potential for strengthening the mentor program. The findings in Chapter 4 indicated that mentor teachers are providing some of the services, particularly observation and conferencing with new teachers, that used to be provided by university staff. Because it is an expectation that veteran teachers provide components of a teacher education program, it may be reasonable for new teachers to contribute toward this service along with the school district. While the school district benefits immediately from the mentor teachers' support for novices, arguably, it is the new teachers who ultimately "own" the training they receive and take it with them if they leave. Potentially, the approach would create an increased financial incentive for veteran teachers to make all aspects of the mentor program, especially observation and conferencing, a priority in their busy schedules. Although this suggestion is controversial and may or may not be a good fit for the district at this time, considering creative approaches such as this one may lead to the development of unique ideas that fit district needs.

A final implication for practice is already being pursued in other areas of the country. Smith District might consider hiring some of its most talented retirees to return as mentors or mentor coordinators in schools where they formerly worked. Their familiarity with the educational environment in a particular building; their

years of experience and high performance; and their ability to focus solely on mentoring would be excellent qualifications for assuming this role. Finally, the existence of such positions would give other mentor teachers a post-retirement goal that would potentially promote interest in acquiring mentoring experience while they were still in the classroom.

Recommendations for Future Research

This study has described the patterns of practice that support ACTs in a large, suburban school district. Bronfenbrenner's (1976) model of the educational environment which includes the macro-system, the exo-system, and the micro-system of the classroom was utilized as a roadmap for exploration. Replicating this study using different roles to represent the levels of the educational environment would be a worthwhile endeavor. For example, the State Department of Education or other policy makers might provide an alternative way of looking at the macro-system; similarly, mentor teachers might be a different way of looking at the meso-system.

Other outgrowths of this study might examine the Metropolitan Alternative Licensure Program to describe how the interplay between theory and practice is being addressed. Exploratory case studies of the use of descriptive feedback in mentor observation and conferencing with ACTs would also be a useful endeavor. Specifically, the impact of the descriptive feedback approach on veteran teachers as well as novice teachers could be explored.

An alternative outgrowth of this study would be to examine the concern that ACTs expressed regarding the difficult assignments they received as first year

teachers. Wildman, et al. (1992) concluded that the problems of novice teachers were often related to their academic and extra-curricular assignments. Investigating whether the inequities ACTs cited are perception or reality and recommending parameters for first year teaching assignments would be a beneficial activity.

Personal Reflections on the Research Process

As I review the research process in retrospect, I recognize that the single most important adjustment to the original design of the study was the inclusion of provisional teachers at all levels of experience. Originally, I had assumed that it would be important to focus on first year teachers only. A chance encounter with an ACT who had just concluded her provisional licensure period alerted me to the fact that this was a mistaken assumption. After the interview, I made the following entry in my researcher's log: "Over the course of the lengthy interview, I realized that this is a very special perspective indeed--the story of the entire journey stated at the immediate conclusion of the trip." Perhaps what this insight underscores more than anything else is the lengthy nature of the induction process for ACTs.

It is also important to note the impact that the research process had on me personally. The following statement from my researcher's log is revealing in this regard:

I am struck by the power of qualitative research as a professional development tool--its capacity to reveal the mental maps of interview subjects; the investigative mindset it develops in the researcher; the continuous exposure to the professionalism of one's colleagues who, in spite

of incredible demands on their time, invest generously in assisting with research they believe will aid the profession.

Without question, the memory of the dedication and professionalism of my colleagues at all levels of the educational environment will be a valued and lasting legacy of this study.

Concluding Statements

The opening vignette in Chapter 1 of this study described Mr. Brown, a new high school ACT, who embodied the major characteristics that proponents of ACT applaud. Following this, I posed the question as to whether Mr. Brown's story was mainly fact, mainly fiction, or a combination of the two. The findings of this study suggest that Mr. Brown's profile and story, as related in the scenario, match some of the experiences of the ACTs interviewed in Smith District and differ from others. Like Mr. Brown, Smith District's ACTs are primarily motivated to enter teaching by the intrinsic rewards they anticipate. Many of them also come to teaching with advanced degrees and make financial sacrifices to enter the field. For the most part, they find their prior work experiences useful in making learning relevant for students. Above all, they value their mentors as lifelines in negotiating the profound and multi-dimensional sense of culture shock they experience during the induction process.

On the other hand, the challenges of classroom management are not usually negotiated as handily as they were in Mr. Brown's scenario, nor is the acquisition of instructional skills an easy process. While many of Smith District's ACTs had difficulty locating practical coursework that supported learning on the job, future

ACTs will profit from a new licensure program based on collaboration between a group of neighboring school districts and a partner university. Finally, while Mr. Brown's maturity and life experience were a tremendous asset to him and to many ACTs in my study, the findings indicate that maturity does not necessarily expedite the transition into teaching.

Given the special needs that ACTs bring to the classroom, it is absolutely essential that educators focus on patterns of practice that shape high schools into true learning communities for both teachers and students. Recognizing that pre-service training is just the first step in teacher education for all novice teachers is of paramount importance. Finally, merging theory and practice in an ever tighter bond must be the consistent goal of educators at all levels of the high school educational environment.

Epilogue

My study concluded where it started--at the macro-system level of the educational environment where I defended my work to the members of my dissertation committee. In introducing my study to the committee, I highlighted three aspects of my experience that will have the most enduring significance for me. The first point is that, as a novice researcher, I have been impressed with the extent to which my study validated the research I explored in my literature review. Furthermore, through my data collection and analysis process, I began to understand the findings of other researchers more deeply. Specifically, the phrases and terms they used assumed a deeper meaning. For example, Neapolitan (1996) emphasized that, during their induction period, ATCs must learn to compromise with the past. Initially, that concept made sense to me on an intuitive level. However, as I listened to the stories and experiences of many ATCs, I realized the power of this insight. Compromising with the image of themselves as experts in other fields to take on the role of novice teacher and compromising with the assumptions they made about teaching while they viewed the profession from the outside are struggles of major psychological significance during the induction years.

A second area of enduring significance for me is the commitment to personal advocacy for qualitative research. My experience has underscored Merriam's (1998) observation that "reality is constructed by people interacting with their social worlds" (p.6). I end my study convinced that qualitative research has enormous potential to contribute to the field of education.

Finally, as I described to committee members, this study has represented a personal search for answers to questions about teacher education. As an individual who entered the classroom with little background in pedagogy during an earlier period of enthusiasm for ATC, I understand the phrase “learning to teach by teaching” on a personal level. Having observed the rebirth of enthusiasm for this concept in recent years, I wanted to explore how the experience played out for others. I also wanted to understand more deeply why we have come full circle in teacher education to the point at which I started several decades ago. My findings impressed me with the importance of continuing the quest to achieve what Cochran-Smith (1993) referred to as “collaborative resonance” (p.107) between schools and higher education. As the educational environment becomes increasingly more complex and challenging, this goal takes on greater and greater urgency.

The conversation with committee members at my dissertation defense was, in itself, an experience with “collaborative resonance.” As we reflected together on the findings and conclusions of my study, some important new insights emerged. Particularly significant was the observation of one member who used the term the “culture of beginningness” to describe the collective experiences of the ACTs I had summarized in my study (J. Niles, personal communication, March, 2002). Because beginnings are unsettling experiences, it is tempting for us to set aside the challenges and issues they entail. Above all, I am grateful to my study participants for the way in which their words and stories embedded in my memory powerful

images of the culture of beginningness. Without question, this culture will become an increasingly important dimension in the public schools of the next decade.

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Appendix A

Appendix A
Table A1

Alternative Teacher Certification Studies

Author/Year	Purpose	Sample and Methodology	Findings	Implications
Bendixen-Noe, M.K. & Redick, S.S. (1995) Teacher Development Theory: A Comparison Between Traditional-Aged and Nontraditional-Aged Beginning Secondary Teachers	To compare and contrast the professional development of traditional-aged and non-traditional-aged beginning secondary teachers in terms of Fuller's (1976) concern-stages theory.	430 nontraditional beginning secondary teachers and 430 traditional beginning secondary teachers participated. The Teacher Concerns Checklist, developed by Fuller and Borich (1974) was administered. A t-test was utilized to compare the mean scores for each group in the concern stages of self, task, and impact concerns.	The nontraditional-aged beginning teachers scored significantly lower ($p=.03$) in self concerns. No differences were found in task or impact concerns.	Beginning teacher programs should take into account the differences in teacher characteristics and concern stages when designing their programs. Individualizing parts of the program may serve teacher candidates better.
Bennett, C. & Spalding, E. (1991) A Study of Teaching Perspectives Held by Career-Change Preservice and Novice Teachers in an Alternative Teacher Education Program	To explore differences between traditionally trained beginning teachers and ACTs during their first year in the elementary school classroom.	66 traditionally certified teachers and 58 ACTs in seven Southern California school districts participated. Classroom observations assessed by the Teacher Evaluation Scale, the Teacher Concern Survey based on concern-stages theory (Rogan, 1988), and follow-up telephone interviews were utilized. Data analysis was based on a multivariate analysis of variance.	After one full year of teaching, no classroom management or instructional differences were detected between the two groups of teachers; however the multivariate analysis of variance on responses to the Teacher Concern Survey indicated a significant difference between the two groups with traditionally certified teachers demonstrating lower levels of confidence in their abilities.	Further work is needed to determine the significance of the higher levels of insecurity demonstrated by the traditionally trained teachers. The higher concern levels of traditionally trained teachers may indicated greater involvement in teaching and greater developmental growth.
Darling-Hammond, L. (1999) Teacher Quality and Student Achievement: A Review of State Policy Evidence	To examine how teacher quality is related to student achievement across states.	The 1993-1994 Schools and Staffing Survey database of 65,000 public school teachers was utilized. Data was aggregated to the state level. A teacher quality variable reflecting "well-qualified teachers" (p.27) was defined as the proportion holding state certification and the equivalent of a major in the field taught. State average achievement scores from the 1996 National Assessment of Educational Progress for students in reading and mathematics were utilized to conduct both bivariate and multivariate analyses of correlations including student demographic characteristics, teacher quality characteristics,	The most significant predictor of achievement in reading and mathematics in each year tested is the proportion of well-qualified teachers in a state (r between .61 and .80, $p<.001$). The strongest negative predictors are the proportions of uncertified new teachers (r between -.40 and -.63, $p<.05$) and the proportion who hold less than a minor in the field they teach (r between -.33 and -.56, $p<.05$).	States may impact the quality of teachers by implementing policies that influence the employment standards of school districts. More studies using other data and other methodologies are needed to fully test all possible explanations for the role of certification in student achievement.

		and per pupil spending.		
Ebert, C.L. & Risacher, B.F. (1996) Alternative Pathways to Teaching: An Investigation of the Factors that Influence the Acquisition of Pedagogical Content Knowledge for Traditional and Non-Traditional Teachers	To determine how knowledge and beliefs about mathematics, learners, and learning influenced the instructional practices of undergraduate mathematics majors and scientists and engineers seeking mathematics certification.	10 teacher credential students and 10 undergraduate secondary mathematics students participated. Subject-matter knowledge was assessed in terms of GPA and number of course hours in mathematics, statistics, or computer science; beliefs were assessed through a 32-item Likert scale; and instructional practices were assessed through a vignettes task in which students were asked to identify and address student misconceptions related to functions and graphs.	Statistical analysis using a t-test of difference of means indicated that subject-matter knowledge and beliefs about teaching mathematics were very similar among both groups of teachers. However, although subject-matter knowledge was substantial and philosophical commitment to constructivist beliefs about learning were evident, the vignette responses of both groups were teacher-directed with the teacher providing an explanation and the student receiving knowledge.	The process of acquiring pedagogical content knowledge is complex. It is significantly influenced by both content knowledge and the belief structures that prospective teachers hold.
Goldhaber, D.D. and Brewer, D.J. (2000) Does Teacher Certification Matter: High School Teacher Certification and Student Achievement	To determine whether teacher certification is related to test score gains after controlling for family background and to determine whether differences in state teacher licensure requirements affect student achievement.	Based on the National Educational Longitudinal Study of 1988, a nationally representative sample of 3,786 public school Grade 12 mathematics students, 2,524 science students, 2,098 mathematics teachers, and 1,371 science teachers participated. A multiple regression framework was employed to apportion student scores to type of certification and to state licensure variables.	Students are not randomly distributed across teachers by type of certification; students of teachers who have a mathematics degree or certification outperform those without subject-matter preparation; mathematics and science students who have teachers with standard teaching credentials do no better than students whose teachers have emergency credentials; variables related to differences in state licensure requirements such as teacher exams, pass rates, and field experience requirements are not significantly related to student achievement.	The study calls into question the contention that standard certification should be required of all teachers. Further studies on the impact of teacher licensure policies are needed. Currently, no national data is available that matches teachers with the licensure requirements they completed. Furthermore, the question of whether more rigorous licensure standards would increase student achievement cannot be answered definitively without additional research.
Houston, W.R., Marshall, F. & McDavid, T. (1993) Problems of Traditionally Prepared and Alternatively Certified First-Year Teachers	To determine if there were differences in the problems faced by traditionally trained teachers and ACTs after two months of teaching and at the end of the first year; if there were differences in the assistance provided by mentors to traditionally trained and ACTs; and if there were differences in confidence, satisfaction, and plans	Participants were 69 regularly certified elementary school teachers and 162 ACTs at the elementary school level. Study participants completed a survey instrument in November after two months of teaching and in April after eight months of teaching. A t-test of differences of means was utilized to analyze the results.	After two months of teaching, problems of ACTs were greater than traditionally trained teachers; however, after eight months there were no differences. After two months of teaching, traditionally trained teachers received greater assistance from mentors; however, by the end of a year, there were no differences. After two months of	The qualities of ACTs including life experience, experience in other careers, maturity, and determination may offset the advantages of traditionally trained teachers. Universities preparing teachers need to restructure their programs to introduce theory concurrent with or following practice.

	to continue teaching between traditionally trained and ACTs after two months and at the end of the first year.		teaching, traditionally trained teachers indicated greater satisfaction with teaching; after 8 months there were no differences between traditionally trained and ACTs.	
McDiarmid, C.W. & Wilson, S. M. (1991) An Exploration of the Subject-Matter Knowledge of Alternate Route Teachers: Can We Assume They Know Their Subjects?	To assess the mathematical knowledge of teachers in two alternate route programs and to determine what these teachers learned and did not learn about their subject-matter from teaching it.	Participants consisted of 55 individuals with degrees in mathematics from two alternate route programs. A 306-item questionnaire was administered before, during, and after the teacher education program to assess beliefs about mathematics, teaching and learning, and knowledge of diverse learners. Highly structured interviews consisting of a series of teaching scenarios were also conducted.	Alternate route teachers with majors in mathematics provided correct answers to questions requiring algorithmic knowledge; however, a significant number of them had difficulty demonstrating the meaning of the algorithms or how they could be explained to students. Although some teachers learned more between initial and final interviews, the responses of others showed no change.	Further investigation of what alternate route teachers learn from their undergraduate studies in mathematics, and from their experiences teaching mathematics needs to be conducted.
Neapolitan, J.E., (1996) Developing a Conceptual Framework Toward Change: A Cross-Case Analyses of Six Career-Changers	To examine the extent to which career-changers entering teaching hold proactive beliefs about school reform and improvement.	Participants included six randomly selected individuals from a sample of 58 career-changers who were beginning teachers. In-depth interviews were utilized to collect qualitative data concerning the career-changers academic background, career experience, teacher preparation experience, and philosophy about school reform.	A proactive approach to teaching is a function of the extent to which career changers are capable of identifying with the role of classroom teacher, focus on investigation regarding their classroom work, and have resolved their personal developmental issues.	Early counseling regarding the "hidden costs" of entering teaching as a second career, a formal course of study combined with an extended field experience beyond traditional student teaching, and initiatives to professionalize teaching conditions can help increase the development of proactive beliefs in career changers.
Rodriguez, Y. E. & Sjostrom, B.R., (1998) Critical Reflection for Professional Development: A Comparative Study of Nontraditional Adult and Traditional Student Teachers	To study and compare the professional growth, perceptions, and experiences of traditional and non-traditional teacher candidates during their student teaching experiences.	Participants included 27 elementary traditional pre-service teacher candidates and 18 nontraditional adult teacher candidates. Autobiographical critically reflective journal writing collected over one academic year was the main source of data. Structured questions were used to guide participants weekly reflections.	The process of accomplishing program objectives was substantially different for traditional versus non-traditional teacher candidates. Non-traditional candidates were more self-confident and adapted more quickly particularly during the first ten weeks of the program.	Further research is needed on how to use strategies and techniques that match the special needs of non-traditional teacher candidates.
Sandlin, R.A., Young, B.L., & Karge, B.D. (1993) Regularly and Alternately Credentialed Beginning Teachers: Comparison and Contrast of their Development	To explore differences between traditionally trained beginning elementary teachers and ACTs at the elementary level during their first years in the classroom.	Participants included 66 traditionally certified teachers and 58 alternatively certified teachers in seven Southern California school districts. Classroom observations based on the Teacher Evaluation Scale; a Teacher Concern Survey	After one full year of teaching, no classroom management or instructional differences were detected between the two groups of teachers; however, a multivariate analysis of variance for responses to the Teacher Concern	Further work is needed to determine the significance of the higher levels of insecurity demonstrated by the traditionally trained teachers. The higher concern levels of traditionally trained teachers may indicate, for example, greater

		<p>based on Fuller's (1976) and Rogan's (1988) work; and follow-up telephone interviews were utilized.</p>	<p>Survey indicated a significant difference between the two groups with the traditionally certified teachers demonstrating lower levels of confidence in their abilities.</p>	<p>involvement in teaching and greater developmental growth.</p>
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Appendix B

Appendix B

Letter to Superintendent Requesting Permission to Complete the Study

May 10, 2001

Dear Superintendent:

I am currently a doctoral candidate at Virginia Polytechnic and State University. I have successfully completed my course work and my prospectus examination and am seeking permission to conduct my dissertation study in your school district.

The purpose of my study is to examine a school district's response to the induction needs of alternatively certified teachers at the high school level. Although other research studies have examined how maturity, subject-matter expertise, teacher beliefs, and type of certification have impacted alternatively certified teachers' performance and the achievement of their students, there is a gap in information concerning the patterns of practice that meet the special induction needs of this important group of novice educators. In this period of growing teacher shortage and increasing support for alternative teacher certification, I believe that my study will contribute to administrators' understanding of the special characteristics and needs of nontraditional first-year teachers.

I am enclosing the first three chapters of my study. They describe the problem and the purpose of the study, provide a literature review, and explain the proposed methodology. I propose to interview alternatively certified high school teachers, their school-based instructional supervisors, and central office personnel who are in support roles to the teachers. I also plan to collect and analyze relevant documents and to observe some professional growth conferences. The study will not involve any students.

Thank you for considering my request to conduct the study in your school district. I believe that the results of my study will be beneficial to your district as well as to other districts in the state. Please do not hesitate to let me know if you have any questions or if you need further clarification. I may be contacted at 804-228-2745 or via e-mail at rsvschwab@henrico.k12.va.us.

Sincerely,

Regina V. Schwab

Jean B. Crockett, Ph.D. (advisor)

Appendix C

Appendix C

VIRGINIA POLYTECHNIC AND STATE UNIVERSITY

Informed Consent for Participants of Investigative Projects

Title of Project: Examining the New Layers of Teacher Education: A Comparative Case Study of the High School Induction Process for Alternatively Certified Teachers

Investigator(s): Regina V. Schwab, Jean B. Crockett (faculty advisor)

I. The Purpose of this Research Project

The purpose of this research is to describe how the total educational environment of the high school is responding to the induction needs of alternatively certified teachers. A comparative case study will be conducted with two alternatively certified teachers at each of six suburban high schools with different demographic characteristics. Bronfenbrenner's (1976) model of the educational environment will provide the conceptual framework for the study. A minimum of 12 teacher interviews will be conducted. The number of interviews with instructional supervisors will be determined based on the extent of overlap among supervisor-teacher teams. (Some teachers may have the same instructional supervisor.)

II. Procedures

The procedures included in this study were interviews, observations, and collection of school documents. Interviews will be conducted with alternatively certified teachers, their instructional supervisors, directors of human resources and staff development, central office subject specialists and teacher educators at the college and university level. Your interview may take place at your school during the regular school day or at a mutually agreeable time that is more convenient to you. Interviews will be 45 minutes in length. They will be tape-recorded and then transcribed at a later time. You will have the opportunity to review the transcript of your interview and to add hand-written comments or post-scripts to the contents.

Observations of Professional Growth Conferences between three supervisor/teacher teams will be conducted with the permission of the subjects. Permission to examine documents, such as Professional Growth Plans and observation reports, may also be requested.

III. Risks

There are no risks to you as a subject in this study. Any potential discomfort you may experience related to discussing supervision and/or support while still working in the setting you are describing should be relieved by the assurance of confidentiality.

IV. Benefits of this Project

This study is intended to increase understanding of approaches that support the high school induction process for alternatively certified teachers. At the conclusion of the research project, you will receive a summary of the research results.

V. Extent of Anonymity and Confidentiality

Your identity as a subject in this study will not be disclosed. A pseudonym will replace your name, the name of your school, and the name of the school district in any reports of the information collected through interviews, observations, or document analysis. However, the investigators will be able to identify you individually in terms of the data collected.

The only copies of the audiotapes of interviews and the transcripts of the interviews will be maintained by the primary investigator except when being transcribed by a professional transcriptionist. The tapes will be stored in the investigator's home office and will be destroyed within one year of the completion of the study.

VI. Compensation

No monetary compensation is provided for participation in this study.

VII. Freedom to Withdraw

Participants are free to refuse to answer particular questions during interviews. You are also free not to participate in observations and not to provide school documents at any time you choose. Finally, you are free to withdraw from the study at any time without penalty.

VIII. Approval of Research

This research project has been approved by the Institutional Review Board for Research Involving Human Subjects at Virginia Polytechnic and State University, by the Department of Educational Leadership and Policy Studies, and by the school district.

IX. Subject's Responsibilities

I voluntarily agree to participate in this study. I understand that I have the following responsibilities:

- to participate in a 45 minute tape-recorded interview
- to be observed by the investigator during professional growth conferences

- to provide documents pertaining to school support during the induction process (examples: observation report, professional growth plan).

X. Subject's Permission

I have read and understand the conditions of this project and my role within the project. I have had an opportunity to ask questions and my questions have been answered satisfactorily. Based on the information provided above, I give my voluntary consent for participation in this project.

I understand that I may withdraw at any time without penalty. I agree to abide by the conditions outlined in this document.

Signature

Date

Should you have any questions about the project, you may contact:

Regina V. Schwab, Investigator	(804) 754-0268
Jean B. Crockett, Faculty Advisor	(540) 231-4546
David Moore, Chair, IRB Research Division	(540) 231-4991

Subjects receive a complete copy of the signed informed consent.

Appendix D

Appendix D

Participant Characteristics: Teacher Educators in the Macro-system

Teacher Educator Number	University Title	Previous Experience	Years of Experience in Education	Years in Current Position
01	Professor of Education	School Principal, Special Education Teacher	32	26
02	Professor of Education	Secondary mathematics and science teacher	29	22

Appendix E

Appendix E

Participant Characteristics: Central Office Educators in the Exo-system

Position	Years of Experience in Education	Years of Experience in Current Position	Other Positions Held
Director of Staff Development	23	4	Director of Magnet Schools, Elementary Principal, Middle School, Teacher
Staff Development Specialist for Mentor Coordination	11	2.5	Resource Teacher, Classroom Teacher
Director of Human Resources	30	5	Principal, Leadership Trainer, Director of Staff Development, Special Education Teacher
Human Resources Specialist for Teacher Licensure	4	2	Substitute Teacher Coordinator

Appendix F

Appendix F

Participant Characteristics: School Administrators in the Meso-system

Participant Number	Position Title	Years of Experience in Education	Years in Current Position	Other Positions Held
1A	Assistant Principal	10	7	High School English Teacher, Journalist
1B	Assistant Principal	26	3	Coordinator for Suspension and Intervention
2A	Assistant Principal	25	6.5	High School Science Teacher
2B	Assistant Principal	27	13	High School English Teacher
3A	Assistant Principal	28	17	High School English Teacher
4A	Assistant Principal	28	5	History Teacher
5A	Principal	29	8	Assistant Principal, High School Social Studies Teacher

Appendix G

Appendix G

Participant Characteristics: ACTs in the Micro-system

Participant Number	Age	Years of Experience in Smith District	Educational Background	Prior Work Experience
1AA	52	1	B.A. in History; Masters of Arts in Teaching	Park Ranger
1BB	34	1	B.A. in Theatre Arts; Masters in Fine Arts	Lighting Designer
1CC	48	1	B.A. in Culinary Arts	Business Owner
2AA	26	1	B.S. in Chemistry	Chemist for Pharmaceutical Company
2BB	35	2	B.S. in Biochemistry; Masters of Science in Environmental Science	Medical School Laboratory Supervisor
3AA	39	2	B.A. in Public Administration; Law Degree	Attorney
3BB	48	3	B.A. in Mass Communications; Masters in Fine Arts	Theatre Manager; Assistant Personnel Director
4AA	43	3	B.S. in Home Economics	Administrative Assistant: Grocery Chain
4BB	43	2	B.A. in Visual Arts	Customer Service Representative: Credit Union
4CC	50	2	B.S. in Mathematics	Sales; Collections Representative
5AA	50	2	B.S. in Engineering	Engineer
5BB	46	2	B.S. in Physics; Ph.D. in Physics	University Physics Professor

Appendix H

Appendix H
Documents Collected

- D/1 Guidelines for Mentor Teacher Programs for Beginning and Experienced Teachers (Virginia Board of Education)
- D/2 Smith District Mentor Program Handbook (2000-2001)
- D/3 Smith District Mentor Program Handbook (2001-2002)
- D/4 Smith District Summer Staff Development Catalog (2001)
- D/4 Smith District Memo to Principals Regarding Mentor Program
- D/5 Smith District Mentor Program Mid-Year Evaluation Data (2000-2001)
- D/6 Smith District Mentor Program Summary Report (June, 2001)
- D/7 Smith District New Teacher Academy Evaluation Data (August, 2001)
- D/8 Smith District Memo to Provisional License Holders Regarding Praxis Preparation
- D/9 Smith District List of Provisional License Holders (February, 2001)
- D/10 Smith District Elementary and Secondary Civil Rights Compliance Report (2000)
- D/11 Smith District School Profile Data Summaries (2001)
- D/12 Smith District Mentor Training: Powerpoint Presentation
- D/13 The Metropolitan Alternative Licensure Program: Brochure
- D/14 Classroom Management: Everybody's Job (Local School Document)

Appendix I

Appendix I1
Interview Protocol-College or University Teacher Educator

Interviewee _____

Date _____

Location _____

Years of experience in education _____

Years of experience in current position _____

Other positions held: _____

Suggested question guide:

What do you think a new teacher needs to know in order to be effective?

Describe the characteristics you associate with the best teacher candidates you have worked with.

Some people believe that older individuals with prior work or life experience become effective teachers more quickly than traditional-aged first year teachers. What would you say to them?

How do you define alternative teacher certification?

What role have you played in alternative teacher certification programs?

What would an ideal induction program for alternatively certified teachers look like?

In your experience, what types of induction support do most alternatively certified teachers receive?

What role do you believe teacher educators play in the induction process for alternatively certified teachers?

In your experience, how does the performance of first-year alternatively certified teachers compare to the performance of traditionally trained and certified teachers?

In your opinion, how important to job performance is the timing of an individual's formal course work in teacher education?

Are there any other aspects of alternative teacher certification or the teacher shortage that my questions have not touched upon and that you feel are important?

Appendix I2

Interview Protocol-Central Office Directors of Human Resources and Staff Development

Interviewee _____

Date _____

Location _____

Years of experience in education _____

Years of experience in current position _____

Other positions held: _____

Suggested question guide:

Describe the responsibilities of your position that relate to the recruitment and retention of new teachers.

How does your district evaluate the first-year teachers that are hired?

Looking ahead to the next five years, what impact do you expect the teacher shortage to have on your school district?

Virginia's new legislation permits localities to offer three-year provisional certificates to individuals who have had no formal training in teacher education. What impact has this legislation had on your district? What impact do you expect it to have in the future?

How do you define "alternative teacher certification?"

Some people say that alternative teacher certification will improve the teacher corps by recruiting more mature, more experienced, and more knowledgeable individuals to teaching. How would you respond to them?

Suppose that I am a new alternatively certified teacher in your school district. What kind of help would I receive during my first year on the job?

In your experience, how does the performance of first-year alternatively certified teachers compare to the performance of traditionally trained and certified teachers?

Are there other aspects of alternative teacher certification or the teacher shortage that my questions have not touched upon and that you feel are important?

Appendix I3

Interview Protocol-High School Instructional Supervisor

Interviewee _____
Position _____
Date _____
Location _____
Years of experience in education _____
Years of experience in current position _____
Other positions held: _____

Suggested questions:

Describe your responsibilities related to the recruitment, induction, and supervision of new teachers in your building.

Virginia's new legislation permits localities to offer three-year provisional certificates to individuals who have had no formal training in teacher education. What impact, if any, has this legislation had on your school?

How do you define "alternative teacher certification"? To what extent are there different kinds of alternatively certified teachers in your school?

What do you think a new teacher needs to know in order to be effective?

What would an ideal induction program for new high school teachers look like?

Suppose that I am a new alternatively certified teacher in your school. What kind of help would I receive during my first year of teaching?

In your experience, how does the performance of first-year alternatively certified teachers compare to the performance of traditionally trained and certified teachers?

In your opinion, how important to job performance is the timing of an individual's formal course work in teacher education?

Appendix I4

Interview Protocol-Alternatively Certified Teacher

Interviewee _____

Age _____

Date _____

Location _____

Years of experience in education _____

Other positions held _____

Suggested interview questions:

Why did you become interested in being a teacher?

From your perspective, what are the advantages and disadvantages of teaching as a profession?

What are the characteristics of the best teachers you ever had? To what extent do you try to be like them?

What do you think a teacher needs to know in order to be effective?

How do you define the term alternative teacher certification? To what extent does this term describe your mode of teacher education?

Some people say that individuals with prior work experiences know how to make learning more meaningful for their students? What would you say to them?

What kinds of support and assistance are available to you as a new teacher? What additional kinds of support, if any, do you feel you need?

What are the most challenging aspects involved in making the transition to a teaching career?

What are the most rewarding aspects of being a new teacher?

Some people say that understanding subject matter well enables teachers to anticipate and resolve the common misunderstandings students experience when learning new material. What would you say to them?

In your opinion, how important to job performance is the timing of an individual's formal course work in teacher education?

Are there other aspects of alternative teacher certification or new teacher induction that my questions have not touched upon and that you feel are important?

Appendix J

Appendix J1

Data Source Matrix for Teacher Educators

Position	Creative Recruitment	Role of Maturity	Beliefs and Attitudes	Role of Mentoring	Linking University and Schoolhouse
University Professor	x	x	x	x	x
University Professor	x	x	x	x	x

Appendix J2

Data Source Matrix for Central Office Interviews

Position	Creative Recruitment	Comprehensive Support	Looking at ACT's Case-by Case	Differentiating Support	Continuous Improvement	Partnership with University
Director of Human Resources	x	x	x	x	x	x
Human Resources Specialist for Certification	x	x	x			x
Director of Staff Development	x	x	x	x	x	x
Staff Development Specialist for Mentor Coordination	x	x	x	x	x	x

Appendix J3

Data Source Matrix for School Administrator Interviews

Participant Number	Classroom Management and Instruction	Culture Shock	Role of Mentors	Role of Teacher Beliefs	Mixed Blessing of Maturity	Creative Recruitment	Differentiation of Support
1A	x	x	x	x	x		
1B	x		x	x	x		
2A		x	x		x	x	x
2B	x	x		x	x	x	x
3A			x	x		x	x
4A	x	x		x	x	x	x
5A	x	x	x			x	x

Appendix J4

Data Source Matrix for ACT Interviews

Participant Number	Intrinsic Rewards	Role of Maturity	Culture Shock	Classroom Management Challenge	Role of Mentors	Role of Teacher Education	Role of Work Experience	Subject Expertise
1AA	x	x	x	x	x			
1BB	x	x	x	x	x	x	x	x
1CC	x	x	x	x	x	x	x	x
2AA	x				x	x	x	x
2BB	x	x	x		x	x	x	x
3AA	x	x	x		x	x	x	
3BB	x		x		x	x		x
4AA	x			x	x		x	
4BB	x	x	x		x	x		
4CC			x	x				x
5AA	x	x	x	x	x	x	x	x
5BB	x	x	x	x		x	x	x

Vita

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EDUCATION

Virginia Polytechnic Institute and State University (January, 1997- present)

Major: Educational Leadership and Policy Studies
Degree: expected Ed.D. completion date- May, 2002

The Johns Hopkins University (1969-1975)

Major: Liberal Arts
Degree: Master of Liberal Arts

The Johns Hopkins University (1968-1969)

Major: Education
Degree: Master of Arts in Teaching

Randolph-Macon Woman's College (1964-1968)

Major: Political Science
Degree: Bachelor of Arts
Honors: Cum Laude, Honors in Political Science, Phi Beta Kappa

UNIVERSITY TEACHING EXPERIENCE

Instructor, Methods of Teaching Social Studies, Towson State University, 1993-1995

SECONDARY TEACHING EXPERIENCE

Social Studies Teacher, Grades 6-8 (1969-1980)

Baltimore County Public Schools

Gifted Resource Teacher, Grades 6-8 (1980-1984)

Baltimore County Public Schools

Social Studies Department Chairman- Middle School (1984-1989)

Baltimore County Public Schools

ADMINISTRATIVE EXPERIENCE

Secondary Social Studies Instructional Supervisor, Grades 6-12 (1989-1992)

Baltimore County Public Schools

Coordinator of Gifted and Talented Programs, K-12 (1992-1995)
Baltimore County Public Schools

Gifted Programs Specialist, K-12 (1995-1997)
Henrico County Public Schools

Administrator for International Baccalaureate and Gifted Programs (1997-present)
Henrico County Public Schools

PROFESSIONAL CERTIFICATES

Maryland Advanced Professional Teaching Certificate
Secondary Principal and Supervisor
Social Studies, Grades 5-12
English, Grades 5-12
History, Grades 5-12

Commonwealth of Virginia Postgraduate Professional License
Secondary School Supervisor
Provisional Secondary Principal
English
History
History and Social Science

PRESENTATIONS, WORKSHOPS, AND PROFESSIONAL SERVICE

International Baccalaureate Organization Middle Years Authorization Team Member,
(March, 2002)

International Baccalaureate Middle Years Program Coordination Training Instructor,
(December, 2001)

International Baccalaureate Middle Years Program Presentation, Mid-Atlantic Regional
Coalition of International Baccalaureate Schools (November, 2001)

Virginia School Boards Association Presentation, Advanced Learning Opportunities for
Middle School Students, (July, 1996)

Testwriter, State of Maryland School Performance Appraisal Process, (1993-1995)

Curriculum Writer, Maryland Center for Thinking Skills, (1993-1995)

Instructor, Phase II Program for Instructional Leadership, Baltimore County Public
Schools, (1992-1994)

Presentation: Japanese Values Model, National Council of Social Studies Annual
Conference, (November, 1985)

Member, Master of Arts in Teaching External Advisory Committee, (1989)

Presentation: Using Oral History to Teach Ethnic and Minority History, National Oral
History Association, (October, 1988)

National Council for Social Studies/Japan Foundation Fellowship for travel and study in
Japan, (Fall, 1984)

PROFESSIONAL ASSOCIATIONS

Association for Supervision and Curriculum Development; National Association for Gifted Children; Phi Beta Kappa.