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**EVALUATION OF A DISTANCE LEARNING PROGRAM FOR THE
PREPARATION OF SPECIAL EDUCATION TEACHERS**

by

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A Dissertation Submitted to the Faculty of
Old Dominion University in Partial Fulfillment of the
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Abstract

The primary purpose of this research was to evaluate the efficacy of the distance learning Commonwealth Special Education Endorsement Program (CSEEP) delivered by Old Dominion University. The CSEEP program was designed to address economic and geographic barriers confronting teachers seeking to complete requirements for endorsement in special education, improve the quality of education teachers, help reduce the shortage of fully licensed special education teachers, and increase teacher retention in special education.

This evaluation was designed to assess program results, examine the effectiveness of the program, and determine the impact on both the participants and the schools, and identify ways to improve the program. Responses to various questionnaires and surveys were analyzed. That analysis revealed that the number of teachers who had completed the CSEEP program increased the number of special education certified teachers and improved the services for students with special disabilities. Participating in the CSEEP program helped teachers become experienced and well-trained in: (1) assessment of student performance, (2) preparation and planning, (3) instruction, (4) teaching specific content, (5) classroom management, and (6) collaboration. A high negative correlation was found between participants' satisfaction with level of preparation and additional level of training perceived to be needed in the different practices. The data indicated that the greater the level of preparation, the less additional training participants perceived they needed in each task.

A significant correlation was found between how participants rated their level of training and how mentors rated participants' level of training in instructional practices.

Ninety five percent of the participants indicated that coursework through CSEEP increased their ability to provide effective classroom instruction. Also, 99% of the participants who completed the program thought that the program increased the likelihood that they would remain in the field of education. Implications of the results, as well as suggestions for further research related to mentoring, school administrators, data collection, supportive induction program, and a follow up study are discussed.

This dissertation is dedicated to

my mom – Rachel Serfaty

my mother-in-law – Betty

my husband and best friend, Avi

my dear kids, Meirav, Adi, Eyal, Yoni, and Amir

and in memory of my father (Moshe) and father-in-law (Itzhak)

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CHAPTER I

INTRODUCTION AND OVERVIEW

Today, public education is facing enormous challenges. In response to a technology-based economy and a rapidly changing society, schools are being asked to meet higher academic standards than ever before and to educate the most diverse student population in U.S. history (Darling-Hammond, 2000). The National Commission on Teaching and America's Future (1996) has emphasized that "every school must be organized to support powerful teaching and learning. Every school district must be able to find and keep good teachers. And every community must be focused on preparing students to become competent citizens and workers in a pluralistic, technological society" (p. 3).

If "powerful teaching and learning" is to take place for *all* students, special care must be exercised on behalf of those students who have special needs, whether those needs are physical, emotional, or cognitive. "Powerful teaching" includes teaching that will help these students reach their highest potential as well as requiring teachers who are qualified to instruct students with disabilities. Although there is considerable evidence that the field of special education made great strides in the last quarter of the 20th century (Rosenberg, 1996), school systems continue to fall short of fulfilling the goal of providing effective educational services to every student with a physical, emotional, or cognitive disability. Rosenberg (1996) noted that all too many special education programs fail to respond to the challenges of a growing population of students with disabilities.

To comply with government-mandated requirements that educational opportunities be provided for students with disabilities, just as such opportunities are provided for all other students (IDEA Amendments, 1997), school systems throughout the country are struggling to hire licensed special educators. Efforts also are being made to train general educators to accommodate students with disabilities, many of whom are being taught in the regular classroom. However, there are many inconsistencies in the quality of instruction; and, according to the Council for Exceptional Children (1998d), “Many professional special educators find themselves working alongside individuals who have been hired as special educators who do not meet professionally recognized standards” (p. 1). The study was designed to evaluate a special government funded grant program that addresses these issues.

The Challenges Confronting Special Education

The rapid changes in required services for students with disabilities affect the roles and responsibilities of all educational personnel. These changes make continuous training a necessity for special education teachers (Smith-Davis & Billingsley, 1993). In addition to the constant training that special education teachers need, the shortage of teachers who are endorsed fully in their main teaching assignment also must be addressed (Boe, Cook, Bobbit, & Terhanian, 1998). As noted by Dozier (1997), “the highest standards in the world, the best facilities, and the strongest accountability measures will do little good if we do not have talented, dedicated, and well-prepared teachers in every classroom. Our Nation’s goals in education will not be achieved without the development of an excellent teacher workforce” (p. 1). That workforce must include adequate numbers of teachers trained in special education.

Numerous scholars have called attention to the shortage of fully endorsed special education teachers, a shortage that exists both nationally and in the Commonwealth of Virginia (Boe et al., 1998; Smith-Davis & Billingsley, 1993; U.S. Department of Education, 1996). Teacher shortages affect the education that students with disabilities are receiving and impact students' educational success. Teachers who do not have the background to work with different types of students or who were not provided with special training needed to serve special education children may feel frustrated as well as be less effective than trained teachers (Council for Exceptional Children, 1998c). The barriers to full endorsement for most of the uncertified teachers in Virginia are both geographic and economic. Many unendorsed teachers live in areas of the Commonwealth far from colleges and universities where they could enroll in special education preparation classes. In addition, the costs associated with completing full endorsement are beyond the capacity of many teachers. Thus, even though many teachers have completed some courses leading to endorsement, there remains a need for additional affordable courses to be made available in locations convenient to those teachers (Tonelson, Hager, Gable, & Baker, 1999). Thus, it is important to examine why an insufficient number of teachers are endorsed to teach special education students.

Barriers to Endorsement

In addition to geographic and economic barriers, the quality and consistency of an endorsement program are of vital importance in providing the needed education to those who will serve the special education population (Smith-Davis & Billingsley, 1993). Overcoming the geographic and economic barriers to endorsement, along with providing a high quality endorsement program, may help retain more teachers in the

field of special education and reduce the number of present and future expected vacancies (Smith-Davis & Billingsley, 1993).

The shortage of high quality teachers who are endorsed in special education presents a major challenge in serving children with disabilities effectively. One way of meeting this challenge has been to introduce an innovative program through distance learning to make it possible for more teachers to obtain appropriate endorsement. Through distance education, teachers can take special education courses they might not be able to access otherwise (e.g., because no nearby institution of higher learning offers the courses). Distance education also can be a solution for other teachers who cannot afford the cost of leaving jobs to move to a campus for a traditional in-residence education or who live too far away to commute to a university that offers certain desired courses (Council for Exceptional Children, 1998b).

A way of addressing the quality issue is to provide mentoring services to teachers as they begin to work in the area of special education. A mentoring component has therefore been included in the Commonwealth Special Education Endorsement Program (CSEEP). However, the efficacy of the CSEEP program, has not yet been measured. To meet that need, the proposed study has been designed to develop and implement an evaluation model for examining the effectiveness of this distance learning special education endorsement program.

Supply and Demand for Special Education Teachers

The demand for special education teachers has grown at the same time that the supply of endorsed teachers has decreased (Boe et al., 1998; Council for Exceptional Children, 1995a; Darling-Hammond, 1997; Smith-Davis & Billingsley, 1993; U.S.

Department of Education, 1996; U.S. Department of Education, 1998). Due to the shortage of fully endorsed teachers, many of the positions are filled by teachers who are not fully endorsed (U.S. Department of Education, 1998). Difficulty in filling the projected vacancies is exacerbated by the attrition of teachers who move out of special education into other fields. The loss of experienced endorsed special education teachers far exceeds the gains from traditional sources of trained special education teachers, a situation that may affect directly the education provided to students with disabilities (U.S. Department of Education, 1996).

National trends. The U.S. Department of Education (1998) reports a gradual growth in the number of teaching positions that opened nationally for teachers of students aged 6-21 with disabilities. From the 1987-88 school year to the 1995-96 school year, demand for teachers of students in that age range increased by 15 percent, from about 284,000 to about 328,000.

Many problems are associated with the imbalance between the supply and demand of special education teachers. For example, there is a mounting *need* for special education personnel at the same time that an inadequate number of teachers are entering the field of special education (U.S. Department of Education, 1998). Furthermore, attrition among special education teachers is a matter of concern (Brownell & Smith, 1993). Another problem is the insufficient supply of teachers with the particular qualities sought by school districts (Boe et al., 1998). Special education teachers often are expected to serve students with disabilities beyond the teachers' area of specialization (Rosenberg, 1996). The problem is further magnified by the fact that

more students have become eligible for special education services due to an increase in population (Council for Exceptional Children, 1995a).

State trends. Non-endorsed special education teachers are teachers who have not specialized in special education or who have had little or no formal training in special education methodology. Those teachers may be endorsed in some area other than special education or may not hold an endorsement in any area. In the Commonwealth of Virginia, the shortage of special education fully license teachers was 9.5 percent during the 1993-94 school year. During the 1994-96 school years, the shortage had grown to 10.4 percent. The shortage declined between 1996-97 to 9.8 percent and increased again between the 1997-99 school years (U.S. Department of Education, 1996; U.S. Department of Education, 1997; U.S. Department of Education, 1998; U.S. Department of Education, 1999).

The Office of Special Education Programs (OSEP), in the U.S. Department of Education, has as one of its objectives a highly trained teacher workforce. To meet this objective, a number of factors must be taken into account. Among them are (a) an anticipated need to hire more than 2 million teachers over the next decade, (b) an increasingly diverse student population—a diversity not reflected in the current teacher workforce, and (c) accountability systems which are placing heavier demands on teachers (U.S. Department of Education, 1999). This situation requires a solution in order to make it possible for special education students to be taught by qualified teachers who best can serve their needs. Addressing these challenges will require changes in personnel recruitment, preservice and inservice preparation, and initiation of new teachers into schools (U.S. Department of Education, 1999).

In sum, at a time when more adequately trained special educators are needed, the supply of newly prepared special education personnel is declining across the nation and throughout the Commonwealth of Virginia (Lauritzen & Friedman, 1993). Indeed, the Office of Special Education of the U.S. Department of Education estimates that as many as 30% of all special educators may be teaching under emergency licensure, with little or no preparation in special education (National Clearinghouse for Professions in Special Education, 1993).

Importance of workforce quality was given heightened priority by the release of data indicating that about a quarter of newly hired teachers lack the qualifications required for their jobs (National Commission on Teaching and America's Future, 1996). Evidence suggests that inadequate teacher preparation is even more common among special education teachers than in the general teacher workforce (U.S. Department of Education, 1999). Increases in the number of emergency teaching licenses among special education teachers attest to the difficulty school divisions are experiencing in recruiting and in retaining qualified personnel (Council for Exceptional Children, 1995a; Smith-Davis & Billingsley, 1993).

One solution to the shortage of special education teachers is to provide a way for those who are non-licensed teachers in special education to obtain endorsement. For many teachers who face geographic barriers to endorsement or who do not have access to quality courses, a fitting solution may be found in *distance education*.

Distance Education

The rapid development of technology, specifically the various forms of advanced communication technology, provides educators with additional options for reaching new

audiences in new ways (Florini, 1990; Halal & Liebowitz, 1994). Technological advances also allow audiences to be in different places at different times. In an effort to improve access to college courses and programs and to serve the educational needs of a growing population, courses using advanced communication technology are being delivered to students in various locations and are proving especially beneficial for people who are not financially, physically, or geographically able to obtain traditional education (McIsaac & Gunawardena, 1996).

Gold, Russell, and Williams (1993) found that lack of endorsement, travel distances, social and professional isolation, lack of training, and career opportunities singly or collectively adversely affect the ability of rural school districts to recruit and retain personnel to serve students with low incidence disabilities. Advanced technology can bridge the gap between educational needs and full licensure for teachers of students with disabilities. Technological developments open educational opportunity to more learners and improve the quality of education to the adult population (McIsaac & Gunawardena, 1996; Moore, Cookson, Donaldson, & Quigley, 1990). Communication technology allows universities to erase the boundaries of time and place and makes it possible for both on-site and distance learners to interact with each other, their teachers, and a vast array of information resources.

Emerging delivery technologies increase student and teacher access to learning resources. Because distance learning programs are recorded and distributed to many different sites, scholars can be made available to significantly larger numbers of students. According to Niemi (1987), students choose to participate in distance education rather than traditional instruction for reasons such as convenience and

flexibility and because alternative educational paths are unavailable. Those students possess unique needs, motivation, and professional goals (McIsaac & Gunawardena, 1996).

For institutions that lack access to teachers of a particular subject as well as students and populations who are unable to travel to meet with such teachers, distance education can open many new opportunities. Distance education also can have benefits for those who feel more comfortable with a program that allows for more flexibility and control over the pace of learning (Niemi, 1987). By having advanced technology available, implementation of distance education appears to provide an answer to the needs in the special education field. However, distance education alone cannot solve the problems of recruiting and retaining special education teachers. Another strategy to help address the scarcity of qualified personnel may lie in effective mentoring, which can complement formal university courses and may be a factor in helping recruit and retain special education teachers.

Mentoring and Special Education

In an examination of why special education teachers leave the field, Westling and Whitten (1996) found numerous factors, including the stress and difficulties beginning teachers face, lack of job satisfaction, and a lack of administrative support. Such factors may be alleviated to a considerable extent by effective mentoring (Carter & Francis, 2000; Kueker & Haensley, 1990). For example, well-prepared mentors can serve as sounding boards for stressed teachers, listening to their concerns and guiding them in wise decision-making. Such mentors can increase the job satisfaction of new special education teachers by fostering a sense of partnership in a common endeavor

increasing the likelihood that the new teachers will be less likely to feel overwhelmed and alone. In addition, experienced mentors also can serve as advisers and advocates—even bridge builders—between special education teachers and administrators, helping such teachers gain greater administrative support. Thus, a strong mentoring program may be a means of providing assistance and support to beginning teachers, as well as equipping them with essential knowledge and skills needed for the challenges faced in the classroom (Council for Exceptional Children, 2000; Marsal, 1997).

The first-year of teaching is one that most teachers find personally and professionally threatening (Gibb & Welch, 1998; Grant & Zeichner, 1981; Huling-Austin, 1992). New teachers have to perform their job effectively, but at the same time, they need to learn how to do that job (Wildman, Niles, Magliaro, & McLaughlin, 1989). No matter what preparation new teachers receive, some aspects of learning to teach can be acquired only in the classroom. No college course can teach a new teacher how to apply knowledge in making decisions about what to do in specific situations (Feiman-Nemser, 1991). This is particularly true for teachers in special education, who often teach in poorly equipped classrooms with a scarcity of essential supplies and resources. Teachers also report that they have insufficient time to meet, plan, and collaborate with specialists and other teachers (Cambone, Suarez, & Zambone, 1996). Within this reality, teachers are expected to meet the special needs of students who are likely to differ widely in skill level and ability. At the same time, teachers are expected to serve more students than they can reasonably serve in the limited time frame allotted to them. Teachers also are required to handle overwhelming amounts of paperwork (Council for Exceptional Children, 2000; Schaughnessy & Siegel, 1997; Weiskopf, 1980) and

implement systems for classroom organization, management, and discipline (Rosenberg, Griffen, Kilgore, & Carpenter, 1997). Thus, these teachers not only face professional challenges and difficulties, but also conditions that make retention in this field a continuing and expensive issue.

According to Cambone et al. (1996), mentorship during the novice years can be effective in providing sensitive guidance, confidence, and support to new teachers. When implemented thoughtfully, a mentorship program can help to improve a teacher's productivity, satisfaction, and professional development, and encourage job retention, as well as reduce stress and raise personal confidence. In studies on mentoring, Boyer (1999), Gold (1999), and Serpell and Bozeman (1999) report a higher retention rate as compared to programs without mentoring. Structured mentoring results in career commitment of beginning teachers as well as in quality improvement of teaching (Gaston & Jackson, 1998; Yosha, 1991). Mentorship programs can help teachers to integrate and apply theory to practice, and gain clearer goals and skills for meeting those goals (Cambone et al., 1996).

Without a doubt, the need to support new teachers is critical in light of increased demands and pressures affecting the education profession (Debolt, 1991). Having established a personal relationship, mentors can include context-specific training and ongoing support, thereby aiding education students and beginning teachers to be more confident and effective. Furthermore, successful mentoring programs may help in the retention of a significant number of special education teachers who might otherwise leave the profession in reaction to the difficulties faced in the first years of teaching (Fideler & Haselkorn, 1999; Weis & Weis, 1999). It should be remembered that

mentoring cannot substitute for the completion of the required university courses.

Mentorship programs only can address the issue of retention among those who are already special education teachers and who might otherwise become discouraged about continuing in the field. Such programs cannot in themselves provide the necessary credentials needed by special education teachers seeking initial endorsement, although they can provide supplementary assistance during the licensing process.

Teacher Shortages and Innovation

Teacher shortages in certain disciplines, combined with new licensure requirements and a lack of adequate financial incentives, have contributed to the need to find alternative methods of preparing teachers (Beare, 1989). Difficulty in increasing on-campus courses to respond effectively to the need for more and better-trained teachers has led to an increased emphasis on alternative ways to deliver course work. Distance learning is one such alternative (Collins, 1997; Spooner, Spooner, Algozzine, & Jordan, 1998). Technological advances associated with distance learning help bring education to students, no matter where they are located, and help to meet the increasing need for qualified educational personnel (Bork, 1995).

Special education in urban settings. The demographics, attitudes, values, and economies of rural, suburban, and urban communities require differing skills and capabilities on the part of teachers (Cummins, 1986). According to Kozleski, Sands, and French (1993), the shortage of special education teachers and the related problems are more severe in urban settings.

Darling-Hammond (1988) indicates that teacher vacancies are three times greater in central cities than in suburban or rural districts and city districts employ more special

education teachers who hold emergency licensure than do other districts. Some urban schools report a turnover of their student population during a given academic year of as much as 75% (Fowler & Goldberg, 1992). This turnover is one of many factors that put ongoing stress on teachers, which contributes to high attrition among urban educators (McNergney & Haberman, 1989), especially special education teachers. Not only is burn-out high among special education teachers, but also many graduates of teacher education programs are reluctant at the outset to teach in inner city schools with their characteristic low-income and culturally-diverse populations (Howey, 2000; Joyce, Yarger, Howey, Harbeck, & Kluwin, 1977).

As a result of these problematic situations—namely, burnout, attrition, and reluctance by many to teach in inner-city schools—the responsibility of educating students with complex needs often falls to teachers who lack the necessary special education training (Kozleski et al., 1993). Clearly, recruitment and retention of special education teachers in urban schools is a serious problem. The school districts defined as “most urban” have the highest number of teachers on temporary teacher eligibility certificates (Colorado Department of Education, 1991). In order to recruit and retain special educators in urban environments, a traditional preparation program for urban special education teachers is insufficient (Kozleski et al., 1993). Preservice preparation must provide skills that assist teachers in gaining competencies in addressing issues specific to the urban population and the issues urban dwellers face (Correa & Sindelar, 1993). This preparation for the urban situation should be in addition to the traditional special education competencies in assessment, identification, program planning, family involvement, professional standards, and instruction. Distance education that addresses

these concerns can fill a great need in this regard; as it opens a path to endorsement in special education that might otherwise not be traveled by many teachers serving urban schools.

Special education in rural areas. As with urban education, distance education can provide new opportunities to access information and enhance special education learning in rural areas. Rural and remote school divisions also may have difficulty in recruiting and retaining endorsed personnel, and in providing licensure programs for the teachers who are teaching under emergency certificates. Such school divisions may especially benefit from distance education (Gold et al., 1993; Helge, 1981). Without distance education some rural teachers might not have access to needed training. Technology makes available to school districts in rural areas opportunities to avail themselves to the expertise of professionals in assessment and program development (Howard, Mulligan, Knowlton, & Swall, 1992).

In summary, distance learning can be effective for learners in various locations with many different needs. When efficiently and effectively planned and implemented, distance learning provides support for many educators, solves accessibility problems raised by travel distances, helps alleviate social and professional isolation by opening interaction among professionals across distances, and provides incentives that may help retain teachers in special education, no matter in which setting they reside. Aware of the potential of distance education to accomplish such outcomes, Old Dominion University is one institution that has taken into account the varying needs of students in different places and circumstances and has implemented a distance education program aimed toward meeting those needs. It is called TELETECHNET.

The TELETECHNET Program

TELETECHNET is the largest distance learning network of its kind in the United States. Through this program, broadcast from Old Dominion University (ODU), students can earn bachelor's and master's degrees from a fully accredited university without leaving their areas of residence. The students gather at a community college or other such designated location in the area where they reside, to receive instruction. Site directors work to administer and support students and the program at the different destinations (Old Dominion University, n.d.).

TELETECHNET was developed in response to a survey that revealed a substantial need existed in Virginia for distance learning - especially for adult students, who did not have access to higher education due to family, job, or other responsibilities and life circumstances. Many adult students could not access traditional education, because most colleges and universities have focused primarily upon meeting the needs of the full time, residential student in both the scheduling of courses and admission processes (Savage, Stanley, & Swart, 1999). To be successful, TELETECHNET programs needed to be scheduled in the evenings and on week-ends, provide part-time student status, and place emphasis upon providing student support services.

Special education is one of the areas that has been given particular attention in the TELETECHNET outreach. In an effort to meet the needs that exist in the special education field, Old Dominion University offers graduate telecourses leading to a master's degree in special education. Also, ODU offers a distance learning endorsement program called the Commonwealth Special Education Endorsement Program (CSEEP) which is funded through a grant from the Virginia Department of Education.

The goal of the CSEEP program is to identify special education teachers who currently hold a conditional license to teach students in the areas of emotional disturbance (ED), learning disabilities (LD), and/or mental retardation (MR), and to provide site-based college courses that meet the requirements for endorsement. From the Norfolk campus, Old Dominion University broadcasts special education endorsement course work in ED, LD, and MR to 33 community college sites located throughout the Commonwealth (See Appendix C for Virginia TELETECHNET locations). The instructors teach multiple classrooms and students at distant sites simultaneously. The students are linked to the instructor during the broadcast via voice microphone and can participate in class discussions, answer questions, and seek clarification on instruction. Students have further access to faculty by means of telephone toll-free lines, voice mail, and e-mail (Tonelson et al., 1999).

The Commonwealth Special Education Endorsement Program

The Commonwealth Special Education Endorsement Program (CSEEP) at Old Dominion University, in collaboration with Virginia school systems, and the Virginia Department of Education, was designed to provide appropriate preparation and high quality curriculum for special education teachers in the Commonwealth of Virginia who are not fully certified in special education. The program was initiated as a response to the shortage of special education teachers both nationally and statewide.

The chronic teacher-shortage problem encouraged some faculty in the Darden College of Education at Old Dominion University to consider a long-term solution. The long-term solution was determined to be a teacher-preparation program, designed to train non-endorsed special education teachers in the appropriate knowledge, abilities,

and skills needed to become effective special education teachers (Tonelson, Hager, Gable, & Baker, 2000). Taking all these considerations into account, the CSEEP training program set the following objectives: (a) identify special education teachers who currently are teaching on waivers or conditional certificates; (b) utilize satellite interactive technology and electronic communication to provide high quality, site-based special education courses to identified individuals throughout the Commonwealth of Virginia; (c) establish a collaborative relationship among Local Education Agencies (LEAs) (school systems), the Virginia Department of Education (VDOE), and Old Dominion University (ODU) in order to facilitate full endorsement for all special education teachers; (d) create participant/mentor learning dyads within LEAs; (e) conduct rigorous individual and program evaluation of all components of the CSEEP project including overall success in providing full or additional endorsements for special education teachers in Virginia; and (f) maintain a distance learning licensing program upon expiration of external funding.

The program objectives were designed to address the severe shortage of special education endorsed teachers by increasing the number of fully licensed, well-trained special education teachers. Among these objectives, implementing a mentor program is important for retaining teachers in the profession (Marsal, 1997).

The Commonwealth Special Education Endorsement Program (CSEEP) was designed to address the geographic and economic barriers facing many students and provide them with access to quality education in the field of special education. (Tonelson et al., 1999). In order to participate in the program, students are required to (a) be full-time employees of the Commonwealth of Virginia and presently teaching

students with emotional disturbance, learning disabilities, and/or mental retardation and (b) have a valid special education conditional license in one of the three specialties listed. In addition, participants must have been recommended by the school division, a state-operated program, or a private school in which they are employed, and, they will be assigned a mentor by the school division. Any special education teacher who is able to travel a short distance to one of these 33 sites can enroll in high quality, special education courses leading to special education endorsement and/or Master's Degree in Education, with an emphasis in special education. Grant students are reimbursed for 80% of the cost associated with successful completion of appropriate courses.

Over the period of an academic year, a minimum of 12 courses is offered from ODU to each of the distance learning sites across the Commonwealth. Each of these courses specifically addresses one or more Virginia Department of Education (VDOE) licensing requirements and is designed to be content-relevant to the needs of the regional special education programs.

The CSEEP grant addresses problems teachers face when the need for additional courses to complete endorsement and the cost of these courses create economic hardship (Tonelson et al., 1999). For example, the reimbursement procedure lessens the financial burden associated with obtaining full endorsement. Funding is offered for the equivalent of 900 enrollments to courses per year. Full-time faculty or clinical adjunct faculty members teach the courses from the ODU campus, assisted by graduate assistants. On-site instructional support is provided to the students by a site coordinator, an assigned mentor already endorsed in special education and other LEA personnel. In addition to distance education broadcast courses, students have access to additional materials

provided, as well as access to online web sites designed for the different courses. There are web sites for each course, that provide course notes, presentations, resource guides, and “hot links” to additional relevant information.

In sum, an awareness of the needs in the special education field has led to the development of a site-based distance learning project (CSEEP) to provide endorsement courses for special education teachers who are not fully licensed. The present study has been undertaken to examine effectiveness of the program.

Statement of the Problem

A shortage of fully endorsed special education teachers exists nationwide as well as in the Commonwealth of Virginia. Recognizing the severe shortage of special education teachers and understanding the reasons for the shortage has led to the implementation of a distance education program. The goal of the program is to endorse special education teachers in the areas of emotional disturbance (ED), learning disabilities (LD), and mental retardation (MR), as well as to encourage special education teachers to remain in the profession. The purpose of this research was to evaluate the distance learning endorsement program (CSEEP) for special education teachers who are not fully endorsed in the Commonwealth of Virginia and to provide a comprehensive evaluation of the program.

The CSEEP program was designed to address economic and geographic barriers and provide access to quality courses in order to minimize teachers' attrition from the special education field and to provide a path to licensure. Other CSEEP objectives were to support beginning special education teachers through a strong mentoring program and to provide distance learning courses.

It was anticipated that results of the program evaluation would provide formative and summative information on whether the program has achieved the stated goals as well as help to make needed refinements in the distance learning program. Such knowledge can be invaluable in assessing what has been accomplished in the past as well as the potential such a program may in the future open alternative paths to special education endorsement.

Purpose of the Study

The purpose of this study was to develop and implement an evaluation model in order to examine the effectiveness of a special education endorsement program. The impact on the program participants with regard to the knowledge and skills gained through the program was examined. The level of satisfaction with the program, as reported by participants, also was measured.

Areas of Assessment

The research focused on the following areas of assessment:

1. Impact of the program on grant participants' learning in the ED, LD and MR areas, as indicated by:
 - a. Participants' satisfaction with course work,
 - b. Participants' satisfaction with provided service,
 - c. Participants' level of training in tasks related to the role and responsibilities in the teaching and learning process,
 - d. Usefulness of the mentoring to the participants' training.
2. Impact of the program on schools as indicated by:

- a. Number of special education endorsed teachers in the Commonwealth of Virginia, and
- b. Participants' rating of the importance of tasks.

Evaluation Questions

The following evaluation questions have been established:

1. Is there a correlation between participants' satisfaction with level of preparation in each task and between participants' additional level of training needed in each task in the different teaching assignments (in ED, LD, and MR)?
2. Is there a correlation between how participants rate their level of training in the different tasks and how mentors rate participants' level of training in each task?
3. Is there a difference in the amount of time teachers spent on each task, over time?
4. Is there a difference in how participants from different teaching assignments rate importance of each task, before and after the program?
5. Is there a difference in how participants from different teaching assignments rate the level of training in each task, before and after the program?
6. Is there a difference in how mentors rate the participants over the 3 trials for each task?

Significance of the Study

The primary objective of this study was to evaluate a distance learning program designed to provide endorsement for special education teachers. It was anticipated that this study would (a) help to assess the program's impact on teachers' learning and (b) add to the body of knowledge regarding recruitment and retention of teachers in the area of special education. It is hoped that this comprehensive program evaluation data will

assist program leaders in assessing the overall effectiveness of the program and designing future programs as well.

The program evaluated is one of the largest distance education networks in the country. Results of the study may serve as an incentive to implement a similar program at other universities in states where special education teachers are in short supply. The findings may also show the possibilities that such a program might provide for areas where a shortage of *endorsed* special education teachers exists due to economic, geographic, and personal factors have prevented teachers from taking further steps toward endorsement. The interactive distance learning program opens a way to obtain the desired education at a reasonable cost and convenient access.

Limitations of the Study

Several factors should be considered when interpreting the research findings. Those factors may have influenced the effectiveness of the distance learning program in special education. Distance learning is provided to 33 sites across the Commonwealth of Virginia. Different sites might have received different levels of administrative and technological support, with some site directors possibly giving more time and attention to students than others. Furthermore, administrative issues in different sites may have influenced the learning in each site differently. The type of relationship between mentors and mentees could have contributed to differences in the usefulness and satisfaction of the mentoring. This program was being implemented over several years; and as the program progressed, mentors and instructors became more experienced. The experience instructors and mentors gained as the program evolved might have had an

effect on participants' achievements and satisfaction. Finally, the findings rely in large part on self-report data submitted by participants.

Although the design of this evaluation had limitations, the findings generated from this study were intended to provide valuable information to program leaders in assessing the overall effectiveness of the program. Findings in this study might be applicable to other states and colleges as well, if adjustments are made to account for the unique variables.

Definitions of Terms

For the purposes of this study, the following definitions were used throughout the text:

Asynchronous instruction: an instructional approach made possible by computer-based information technology that does not require physical and/or temporal presence, or that teaching and learning occur at the same time.

Audioconferencing: interactive audio communications between individuals or groups at three or more locations.

Beginning teacher: a teacher who has not taught before; a novice, usually one who has just completed training to become a teacher (Huling-Austin, Odell, Ishler, Kay, & Edelfelt, 1989).

Broadcasting: a radio wave communication service in which the transmissions are intended for direct reception by a wide spectrum of receivers such as the general public. Broadcast service may include voice, television, or data transmissions.

Certification: a degree in special education, defined as graduation from a college or university with a major or minor in special education that entitles the individual to provincial or state certification to teach special education.

<http://www.cec.sped.org/ps/gen.html>

Conditional licensure: Special Education Conditional License means a three-year, nonrenewable teaching license issued to an individual employed as a special education teacher in a public school or a nonpublic special education school in Virginia who does not hold the appropriate special education endorsement but meets the criteria specified in 8 VAC 20-21-50 A 5. This conditional license is not applicable to individuals employed as speech pathologists. (State Board of Education, 8 VAC 20-21-10 et seq. Licensure Regulations for School Personnel, Statutory Authority: § 22.1-298 of the Code of Virginia). <http://www.vbcps.k12.va.us/qglance.html>

Distance education: the process of providing when a teacher and student(s) are physically and or temporally separated, and technology is used to bridge the instructional gap.

Distance learning: the desired outcome of distance education.

Endorsement: “an endorsement in special education is defined as the completion of a sequence of courses provided by a college or university that entitles one to provincial or state certification to teach special education.”

<http://www.cec.sped.org/ps/gen.html>

Induction: a transitional period in teacher education between pre-service preparation and continuing professional development. During this time, assistance and/or assessment may be provided for beginning teachers (Huling-Austin et al., 1989).

Hot link: in hypertext systems, such as the World Wide Web, a link is a reference to another document. Such links are sometimes called hot links because clicking on them takes the computer user immediately to a reference document.

Network: a set of computers interconnected so that they can communicate and share information. Connected networks together form an internetwork.

Non-endorsed teachers: teachers who are not fully licensed in a particular area - in this case, special education.

Satellite: an electronic retransmission device serving as a repeater, which is normally placed in orbit above the Earth in a geosynchronous orbit (having a constant position above one spot on the Earth) for the purpose of receiving and retransmitting electromagnetic signals.

Support teacher: an experienced teacher who serves as a mentor, pilot teacher, buddy teacher, helping teacher, coach, and advisor (Huling-Austin et al., 1989).

Synchronous instruction: instruction that is based on a fixed unit of time, requiring that teacher and learner be at the same place at the same time, such as in conventional college classes. A variation is used in distance education where the teacher and learner have to show up at the same time but are not in the same place; instead they communicate electronically.

Video communications system: a telecommunications system with the capacity to transmit video signals only from an origination site to a receiver site (one-way) or between all sites (two-way).

Video conferencing: live or almost live video broadcasting from one location to another to transport the visual image.

Summary

This chapter provided an overview of the current state of special education, both nationally and in the Commonwealth of Virginia. There is a specific emphasis on the shortage of licensed special education teachers, major reasons for the shortage, and the importance of retention in the field. The chapter also provided an overview of mentoring and its contribution toward reducing the shortage of special education teachers. Distance education in general—and the Commonwealth Special Education Endorsement Program (CSEEP) in particular—was discussed as an innovative solution to the barriers that hinder the full endorsement of a significant number of special education teachers. The following chapter will present the research of others who have examined this issue.

CHAPTER II

REVIEW OF RELATED LITERATURE

This chapter presents a review of relevant literature, which provides background information on the research topics. In this review, topics that will be examined include: (a) reasons for the shortage of special education teachers, (b) the contribution of mentorship to retention of new special education teachers, and (c) the contribution of distance education in helping to solve the shortage of endorsed special education teachers.

Shortage of Special Education Teachers

A shortage of fully endorsed special education teachers exists, both nationally and in the Commonwealth of Virginia. The shortage of fully endorsed teachers in the United States during the 1996-97 school year was 27,933 (8.4%). In the same school year, the shortage of fully endorsed special education teachers in Virginia was approximately 1028 (9.8%). This shortage of fully endorsed special education teachers in Virginia grew to approximately 1,505 or 13 percent of not fully licensed special education teachers, during the 1998-89 school year (U.S. Department of Education, 1998).

Personal Obstacles

Many of the unendorsed teachers have not fulfilled endorsement requirements because of a lack of interest or because they have made a deliberate choice not to seek endorsement. Some have faced obstacles that have prevented them from fulfilling endorsement requirements. Even though they may have only a conditional license, they have been asked to teach special education because the need for special education teachers in their school district is great and endorsed special education teachers are so

few. Although these uncertified teachers are willing to serve in this capacity and might even desire to obtain the required credentials, they cannot afford to leave their jobs to become full-time students. In other words, many such teachers are not able to invest either the *time* or *money* necessary to pursue the university courses required for special education endorsement—especially, if a university that offers such courses is far away. Work schedules, family obligations, and travel distance all serve to block their way, preventing them from taking the traditional route to endorsement through on-campus study, therefore, their professional training is incomplete.

Vacancies Left by Endorsed Special Education Teachers

Another factor that contributes to the shortage of endorsed special education teachers is attrition. Many special education teachers who are endorsed leave special education to follow a different career path or area of teaching. The increasing numbers of special education students, the burgeoning amount of paperwork, and the required compliance to various federal mandates, have caused many teachers to turn their backs on special education. Inadequate salaries also have discouraged many teachers from teaching. The situation is worse in some states than others. As one example, Chaika (2000) reports extreme shortages of special education teachers in Alaska, with special education comprising one-third of all teacher vacancies. One Alaska school superintendent reported that many teachers who once taught special education are no longer teaching in that field, preferring regular classroom assignments instead. According to this superintendent, some of these teachers have kept their special education licensure current, but likely would move elsewhere or leave teaching altogether if they were required to teach special education classes. One of the ways Alaska is coping with the

shortage of special education teachers is to provide waivers that allow students studying to be special education teachers to begin teaching full-time before finishing their degrees.

Stress

Brownell (1997) has written that stress is a major factor affecting the motivation of special education teachers and can lead to “alienation from the workplace, absenteeism, and attrition” (p. 1). According to Brownell, both role overload and the lack of autonomy in many schools tend to intensify the stress experienced in the special education classroom. When the workload begins to feel unmanageable and the stress too great, the teacher may decide to leave the field of special education.

Retention Strategies

Schorr (1994) has provided a list of “retention strategies”, that has been made available on the World Wide Web by the Recruitment and Retention Project of Western Oregon University’s Teaching Research Division to help school administrators find and keep experienced special education teachers. The list includes welcoming new staff, encouraging collegiality, providing assistance with work control, providing opportunities for professional development, fostering achievement and rewarding it with recognition, and most importantly, providing resources.

In a study of the effects of work-related variables on 658 special educators, including 159 teachers of students with emotional disorders, Singh and Billingsley (1996) found that workplace conditions, job satisfaction, and principal support had positive effects on *intent to stay in teaching*; whereas, role-related problems had negative effects on intent to stay in teaching. In a survey of 385 special and 313 general education teachers in Virginia, researchers found that groups had similar perceptions of the support

they received from their principals. The variables related to the workplace were better predictors of how much principal support they perceived than were variables related to demographic factors. Certain types of support (e.g., emotional, instrumental, informational, or appraisal) significantly predicted the degree of the teachers' job satisfaction, school commitment, and personal health (Littrell, Billingsley, & Cross, 1994).

Further evidence of concern about recruitment and retention of qualified special education teachers may be seen in a projected study commissioned by the Department of Education, Office of Special Education Programs, with the draft analysis plan submitted in August, 2000 (Carlson, Lee, Willig, & Kim-Sung, 2000). The research will be known as the Study of Personnel Needs in Special Education (SPeNSE). The study is designed to provide information on the quality of the workforce regionally and nationally. The researchers will also "explore ways to explain the quality of the workforce based on state and local policies, preservice education, continuing professional development, and working conditions." The results and recommendations of the study are expected to help in the recruitment and retention of qualified special education teachers at the national, state, and local levels and provide direction for institutions of higher education as they implement special education programs.

The combination of attrition, lack of endorsement, and too few new special education teachers has created a serious problem for schools at a time when the education of students with disabilities has become increasingly demanding. A major reason for this increasing importance has been the enactment and expansion of national legislation affecting special education.

Legislation Affecting Special Education

In 1973, federal regulations were adopted to enforce legislation to ensure nondiscrimination on the basis of disability. These regulations were known as Section 504 of the Rehabilitation Act of 1973 (Etscheidt & Barlett, 1999). In 1975, the United States Congress passed the Education for All Handicapped Children Act (Public Law 94-142), which was renamed The Individuals with Disabilities Education Act (IDEA) in 1991. This legislation was a major force in initiating changes in the education of students with disabilities in public schools (Gable & Hendrickson, 1997). President Clinton, at the signing ceremony for an expanded version of IDEA enacted in 1997, emphasized that there had been tremendous advances in education for students with disabilities between 1975 and the 1997 passage of the expanded version of the act (White House Press Release, June 4, 1997.) Others have assessed that thousands of students with disabilities have benefited from an education that would have been completely denied them without the protection of the IDEA (Vohs & Landau, 1999), ensuring that children with disabilities are educated “to the maximum extent appropriate” [§ 1412(a)(5)(A)].

A new approach. The thinking behind the IDEA represented a critical shift in the nation’s approach to the education of students with disabilities. Prior to the enactment of P.L. 94-192 in 1975, there were students with disabilities in public education whose needs were not met (Zigmond, 2001). Parents and advocates of children with disabilities had to devote tremendous effort and energy simply to gain access to public education. For many students with disabilities, prior to 1975 legislation, education had consisted of day-long sessions focused only on daily-living skills; for many others, a “watered-down”

curriculum in segregated classrooms or schools was all that was offered (Vohs & Landau, 1999).

The Education for All Handicapped Children Act of 1975, 20 U.S.C. Sections 1400-1461, responded to the states' financial assistance requests for providing educational opportunities to children with disabilities. This law clarified each school's responsibility for providing these students with educational opportunities and access to public schools. This legislation provided the framework and funding to assist states in meeting their legal obligation to these children. Since the primary purpose of this law was to assure the rights of children with disabilities to a "free and appropriate public education" (FAPE), the law specified four major goals: (a) to assure that all children with disabilities have access to a free, appropriate public education that emphasizes special education and related services designed to meet their unique educational needs; (b) to assure protection of the rights of children with disabilities and their parents or guardians; (c) to assist states and localities to provide for the education of all children with disabilities; and (d) to assess and assure the effectiveness of efforts to educate children with disabilities (House Report 5 n.d; Education for All Handicapped Children Act, 1975).

Important amendments and guidelines. Concerns about the quality of education for students with disabilities motivated Congress to add several important amendments to IDEA in 1997 (Vohs & Landau, 1999). The expanded law provides funds to assist states in the education of students with disabilities and to assume that these students receive an individualized education program based on their unique needs in the least restrictive environment possible. The IDEA 1997 legislation also provides guidelines for

determining what related services are necessary and outlines procedures to verify that these needs are adequately met.

Additionally, the law requires that public schools provide appropriate instruction and supportive services to meet the educational, social, emotional, and vocational needs of students with disabilities, regardless of the level or severity of their disability. To qualify for special education services, a student must have a unique learning need that differs from other similarly aged students. This need is individually determined through an interdisciplinary assessment, and the education and services to be provided are considered jointly by the child's parents, teachers, and other school professionals, and the students themselves as appropriate. Congress noted in the IDEA amendments of 1997, "supporting high-quality, intensive professional development for all personnel working with disabled children is a critical element for ensuring the effective education of these children" (U.S. Department of Education, 1998, p. 116).

The 1997 Amendments to IDEA provide important new tools that parents, students, educators, and advocates can use to ensure that all students with disabilities receive high quality education. Among other provisions, the 1997 amendments emphasize that students with disabilities must be given meaningful opportunities to acquire skills and knowledge in the same subject (or curriculum) areas as all other students; students with disabilities must be taught in ways that effectively address their unique needs and that support their progress in the general curriculum; and, students with disabilities must be included in state and district-wide assessments to ensure that they are progressing in the general curriculum (Vohs & Landau, 1999). Congress emphasized the critical importance of high expectations, maximum possible access to the general

curriculum, and effective teaching that allows children with disabilities to meet the challenging expectations that have been set for all students (Vohs & Landau, 1999).

The IDEA 1997 requires the re-evaluation of students with disabilities every three years, but provides additional flexibility to school districts in meeting this requirement. The IDEA 1997 now requires that Individualized Education Program (IEP) teams review existing evaluation data of the child and, with the parents, determine if further testing is necessary. The school must notify parents (as members of the team) if the IEP team decides that further assessments are unnecessary. However, the parents can still request additional testing. If the parents do request additional testing, the school must perform the re-evaluation requested by parents (Vohs & Landau, 1999).

The IDEA 1997 (Individuals with Disabilities Education Act Amendments of 1997, 20 U.S.C. Section 1400 et seq.) emphasize that states and districts are required to apply benefits of education reform to the education of students with disabilities. With IDEA, parents and others concerned with the education of students with disabilities have even greater legal authority to insist that their children receive real educational benefits from their years in school (Vohs & Landau, 1999). The least restrictive environment provisions of the Individuals with Disabilities Education Act require that children with disabilities be educated in regular education classrooms unless “the nature and severity of the disability is such that education in the regular classes with the supplementary aids and services cannot be achieved satisfactorily” (Etscheidt & Barlett, 1999, p. 1). Prior court decisions and the IDEA 1997 require that individualized education program teams discuss and consider a range of supplemental aids and services so that children benefit

from educational programs in the least restrictive environment (Etscheidt & Barlett, 1999).

Zigmond (2001) regards the implementation of IDEA 97 with concern. In her opinion, curriculum and instruction designed for students with disabilities should include unique skills and teaching methods and should be focused on the individual needs of each student. It follows that licensure programs must take such needs into account and provide teachers the requisite training.

Licensing and Endorsement Standards

The Council for Exceptional Children (CEC) is dedicated to ensuring that only persons deemed qualified by having met state/provincial minimum standards are employed as teachers, administrators, and related service providers for exceptional individuals (1998a). Endorsement or licensing (Smith-Davis & Billingsley, 1993) is used by state education agencies and other entities as a standard of minimal competence to practice teaching (Sykes & Wilson, 1988) and as a public assurance of protection from harm (Smith-Davis & Billingsley, 1993). The Council for Exceptional Children recommends standardized endorsement requirements for special education teachers for each state and province and makes sure that special education preparation programs align themselves with CEC's validated professional standards (Council for Exceptional Children, 2000).

“As states make their licensing requirements more stringent (with the intent of improving teacher quality and students' achievements), the supply of available teachers may be reduced. Conversely, during periods of teacher shortage, states have eased teacher licensure requirements to allow greater numbers of teachers to enter the work

force” (Smith-Davis & Billingsley, 1993, p. 211). When licensure requirements are eased, many of the committed professionals serving students with disabilities are teachers who have not received adequate preparation for the job (Rosenberg, 1996). Thus, licensure requirements have an important role in affecting both the number and quality of special education teachers who are employed both nationally and in the Commonwealth of Virginia.

National and Local Trends in Special Education Employment

The demand for teachers in public education relates to the number of teaching positions that have been established and funded (Barro, 1992, as cited in Boe et al., 1998). Because all states require that teaching positions be filled with fully endorsed teachers (Andrews, Andrews, & Pape, 1996, as cited in Boe et al., 1998), the demand for teachers ideally should match the supply of teachers who are fully endorsed. However, according to the U.S. Office of Special Education Programs and the Council for Exceptional Children, there is a scarcity of licensed teachers and demand for special education teachers continues to grow (Boe et al., 1998; Council for Exceptional Children, 1995b; Smith-Davis & Billingsley, 1993; U.S. Department of Education, 1996; U.S. Department of Education, 1998). For example, in 1994, more than 50 percent of schools with vacancies in special education and other selected areas had difficulty filling the positions (Darling-Hammond, 1997).

Why the need is growing. Experts cite several reasons for the rising need for special education teachers: a higher demand for special education teachers than for teachers in general education (Boe et al., 1998), an inadequate number of teachers who enter special education (U.S. Department of Education, 1998), teacher attrition (Brownell

& Smith, 1993), an insufficient supply of teachers with the qualities sought by school districts (Boe et al., 1998), and a higher number of students who have become eligible for special education services as the population has increased. According to Lauritzen and Friedman (1993), the teacher in a family is often not the primary wage earner, which makes it unlikely for a family to relocate where there is a need for teachers, and salary levels make education less likely to attract primary wage earners.

An overview of national trends. The U.S. Department of Education (1998) has shown that the shortage of fully endorsed teachers has resulted in some positions being filled by teachers who are not fully endorsed. This report, relying on statistics from OSEP's Data Analysis System (DANS), presents the following national trends in demand for special education teachers and the shortage of special education teachers who are fully endorsed:

1. There has been dramatic growth in the number of positions nationally for teachers of students, aged 3-5 with disabilities. From 1987-88 to 1995-96, the number of teaching positions increased by more than 100 percent from about 13,000 to about 27,000.
2. In contrast to the rapid growth in teacher demand for students aged 3-5, the growth in the number of total teaching positions nationally for students aged 6-21 with disabilities has been gradual. From 1987-88 to 1995-96, demand increased by 15 percent, as the need went from about 284,000 teachers to about 328,000.
3. Teaching positions in special and general education expanded by comparable percentages from 1987-88 to 1995-96; therefore, the serious chronic shortage of teachers in special education cannot be attributed to extraordinarily rapid expansion of special education teaching positions in contrast to positions in general education.

Evidence suggests that the number of graduates in special education teacher preparation programs is much too low to satisfy the need for fully endorsed special education teachers.

4. High teacher attrition affects the number of unfilled positions within a school, the number of positions that are held by unqualified personnel, and the personnel costs of filling vacant positions (Wald, 1998).

Tables 1 and 2 present the national trend of special education teachers employed and needed to serve students with disabilities aged 3-21. Data in Table 1 consist of number of teachers employed, teachers needed, and shortage for the years 1982 –1991.

Table 1

Special Education Teachers Employed and Needed To Serve Students Aged 3-21 With Disabilities, 1982 -1991 (USA and Outlying Areas).

Year	Teachers Employed	Teachers Needed	Shortage %
1982-83	263,374	285,012	7.6
1984-85	274,519	297,371	7.7
1986-87	296,196	322,994	8.3
1988-89	300,503	330,709	9.1
1989-90	304,626	333,728	8.7
1990-91	312,682	342,193	8.6

Data source: Council for Exceptional Children, 1994

The data in Table 2 present the number of teachers employed, the percentage of not fully endorsed teachers and the number of vacant positions for the years 1992-93, 1994-95, and 1996-97. Missing values are due to unavailable data.

Table 2

Special Education Teachers Employed and Needed To Serve Students Aged 3-21 with Disabilities, 1992-93, 1994-95, and 1996-98 (USA and Outlying Areas).

<u>Teachers Employed</u>				
<i>Year</i>	<i>Fully certified</i>	<i>Not fully certified</i>	<i>Not fully Certified%</i>	<i>Vacant positions</i>
1992-93	18,997	2,209	10.4	
1994-95	24,396	3,219	13	713
1996-97	22,644	2,710	10.7	538
1997-98	23,359	2,701	10.4	391

Source: 16th, 18th, 20th, 22nd Annual Report to Congress, 1996-1998

The shortage of special education teachers employed increased gradually during the years 1982-89. The shortage declined somewhat during 1989-91 but increased during 1992-93, remained high in the 1994-95 and declined during 1996-98 school years. This same trend is presented for children and youth with disabilities aged 6-21 during the years 1993-1999 statewide as shown in Table 3.

Table 3

Total Number of Teachers Employed and Vacant Funded Positions (Full-Time Equivalency) for Children and Youth With Disabilities Aged 6-21, 1993-1999 (USA and Outlying Areas).

<u>Teachers Employed</u>				
<i>Year</i>	<i>Fully Certified</i>	<i>Not fully certified</i>	<i>Not fully certified %</i>	<i>Vacant positions</i>
1993-94	310338	21054	6.4	3643 (1.1%)
1994-95	300024	26206	8	3756 (1.2%)
1995-96	298253	25845	8	3757 (1.2%)
1996-97	303,795	27,933	8.4	3,626 (1.1%)
1997-98	316,611	30,091	8.7	3,635 (1%)

Source: 18th, 19th, 20th, 21st, 22nd, Annual Report to Congress, 1996-1998

For the first time, between 1993-94, the shortage of qualified special education teachers declined. In this period, the number of vacant positions or those filled by individuals who were not fully certified decreased. Fully certified teachers held 92.6 percent of the special education positions. Approximately 6 percent of the teachers were employed on a conditional or emergency basis (U.S. Department of Education, 1996).

As a general trend, the number of personnel needed to serve students with disabilities has grown along with the increase in the number of children with disabilities. During the 1993-94 school year, the number of special education teachers employed to serve children aged 6-21 increased 6.5 percent to 331,392, and the number of teachers needed to fill vacant positions and positions that non-fully certified teachers were holding, declined 4.4 percent to 24,697. This rate of not fully certified teachers increased gradually and was 8.7 percent in the 1997-98 school years.

Projections of future needs nationally. According to the U.S. Department of Labor, by the year 2005, between 594,161 and 648,131 special education teachers—a growth of 66-81 percent—were projected to be needed as compared to the 358,137 who were teaching students with disabilities in 1995 (Council for Exceptional Children, 1995b). At a time when more adequately trained special educators are desperately needed, the number of new special education personnel is decreasing across the nation and throughout the Commonwealth of Virginia (Lauritzen & Friedman, 1993). Indeed, the Office of Special Education of the U.S. Department of Education states that a large number of special educators are teaching under emergency licensure, with little or no preparation in special education (National Clearinghouse for Professions in Special Education, 1993). The increases in the number of emergency teaching licenses attest to

the difficulty school divisions are experiencing in finding and in retaining qualified personnel (Council for Exceptional Children, 1995b; Smith-Davis & Billingsley, 1993).

Trends in Virginia. This growing shortage of special education certified teachers is a trend in Virginia, just as elsewhere. Table 4 presents data from annual reports to Congress, U.S. Department of Education, over several years, which show this trend.

Table 4

Total Number of Teachers Employed and Vacant Funded Positions (Full-Time Equivalency) in Virginia for Children and Youth with Disabilities, aged 6-21, 1993-96.

Year	<u>Teachers Employed</u>			Vacant Positions
	Fully certified	Not fully certified	Not fully certified %	
1993-94	7907	831	9.5	60
1994-95	8636	919	9.6	75
1995-96	8885	1028	10.4	62
1996-97	9501	1028	9.8	59
1997-98 *	9899	1124	10.2	51
1998-99 *	10038	1505	13	

Source: 18th, 19th, 20th, 21st Annual Report to Congress, 1996-1998.

*Data for these school years were supplied by P. Raskopf, special education data manager, Virginia Department of Education, in personal correspondence, May 31, 2000.

In the 1993-96 school years, the percentage of special education teachers without endorsement in Virginia increased gradually. This trend is similar to that which existed in the United States overall in the same school years, but the overall shortage consistently exceeded the United States shortage in the same school years. In the Commonwealth of Virginia, the shortage of special education qualified teachers was 9.5 percent during the 1993-94 school year. There was a gradual increase in the shortage of special education

qualified teachers during 1994-96 school years to 10.4 percent. The shortage declined between 1996-97 to 9.8 percent and increased between the 1997-99 school years.

What the shortage means is that noncertified teachers have to fill special education teaching positions. Although they lack formal training in special education, these noncertified teachers are nevertheless responsible for teaching Virginia's children and youth with disabilities as previously suggested. The shortage of certified special education teachers is especially a problem for urban areas (Kozleski et al., 1993).

Special Education and the Urban Setting

According to Darling-Hammond (1988), teacher vacancies are three times higher in central city districts than in suburban or rural districts. Also, urban areas tend to have more special education teachers who hold emergency licensure than do other districts. In her study on the first-year teaching experiences of urban teachers, Guyton (1994) concludes that teaching in an urban setting is different from teaching in other settings and that teachers must take into account this difference if they are to succeed in schools with high numbers of students at-risk. Teachers need more education about developing the social skills of students and more information about poverty as well as about ethnic cultures in an increasingly diverse society. Urban teachers need even more opportunities to get to know the parents of their students and these teachers need interpersonal skills that will enable them to deal with rejection, discouragement, and frustration (Guyton, 1994). Stoddart's findings (1993) show that alternative paths to teacher certification are more likely than traditional paths to recruit successful urban school teachers. His findings confirm the importance of trying to attract teachers with sensitivities to urban multicultural environments to become special educators by facilitating alternative

training routes. The demographics, attitudes, values, and economies of rural, suburban, and urban communities require differing skills and capabilities on the part of teachers (Cummins, 1986).

The importance of workforce quality was given heightened priority by the release of data indicating that, overall, about a quarter of newly hired teachers lack the qualifications required for their jobs, with 75% of urban districts hiring teachers who lack proper credentials (National Commission on Teaching and America's Future, 1996). Several urban schools report a turnover of as many as three-fourths of their students during an academic year (Fowler & Goldberg, 1992). The stress experienced by teachers in such situations accounts in part for the high attrition rates among urban educators in general (McNergney & Haberman, 1989) and special education teachers in particular.

Not only is stress and burnout high among the special education teachers in urban areas, but also many graduates of teacher education programs hesitate to begin teaching in inner city schools. Those students often express anxieties about high poverty rates of students and the attendant problems, as well as uncertainties about how they might relate to and meet the needs of culturally diverse populations (Howey, 2000; Joyce et al., 1977). Thus, recruiting special education teachers for urban schools is a serious problem; keeping them in these schools is an equally serious challenge. As a result, teachers who lack preparation in special education may find themselves having to take responsibility for teaching students who need services that these teachers cannot provide (Kozleski et al., 1993).

The school districts that are considered most urban have more teachers with temporary teacher eligibility certificates than do other school districts (Colorado

Department of Education, 1991). In order to recruit and retain special educators in urban environments, pre-service preparation must help teachers gain the knowledge and skills necessary for dealing with issues unique to the urban environment. For such reasons, many low-wealth urban districts with acute shortages are turning toward beginning teacher induction programs to keep new teachers from abandoning the classroom (Weiss & Weiss, 1999). But even before their first year of teaching, teachers must be prepared for the urban setting at the university level.

Real life experiences. Kozleski et al. (1993) found that the interaction of theory and practice early in teacher education programs enhances the capacity of interns to develop expertise specifically suited to the urban classroom as opposed to the suburban or rural classroom and meets the complex demands of urban education. As Correa and Sindelar (1993) have indicated, the concentration of problems in urban schools calls for more professional development efforts in special education in order to (a) decrease the attrition rate of special education teachers and (b) reduce the number of teachers who are hired under emergency licensure allowances. Solving the problems of urban special education also can benefit rural and suburban special education schools in the future, since the problems that now seem confined to cities can easily become the problems of suburban and rural schools later on (Correa & Sindelar, 1993).

According to Boe et al. (1998), the most promising approaches to reducing the shortage of fully endorsed special education teachers lie in expanded professional development programs for employed teachers (especially for transitional teachers) who have an interest in remaining in special education or in transferring to special education. Boe et al. also suggest increasing the production number of graduates of teacher

preparation programs in special education. Incentives could be strengthened for partly endorsed teachers to qualify for full licensure and to become established in their teaching assignments. Incentives also might be strengthened to attract general educators who are fully endorsed in special education specialization; and, greater efforts must be made to place teachers in assignments for which they are endorsed.

Virginia's Commonwealth Special Education Endorsement Program

One attempt to resolve the shortage of special education teachers in Virginia is the Commonwealth Special Education Endorsement Program (CSEEP) at Old Dominion University in Norfolk, Virginia. CSEEP is a program that operates in collaboration with Virginia school systems and the Virginia Department of Education. The program was designed to provide high quality training for special education teachers who are not fully endorsed in special education in the Commonwealth of Virginia.

This teacher-training program seeks first to identify special education teachers who are teaching without full endorsement and have only conditional certificates or waivers. These teachers then are provided with the opportunity to enroll in site-based special education courses through satellite interactive technology, which ultimately leads to full endorsement through a distance education-licensing program. An important component of the program, in addition to the special education courses, is its emphasis on mentoring (Tonelson et al., 1999).

Mentoring Programs

Mentoring can help new teachers face the challenges of the classroom. It can help them know that others have faced the same or similar challenges before them and are available to provide support and guidance. Education researchers agree that the first year

of teaching is exceptionally demanding (Huling-Austin, 1992; Veenman, 1989). First-year teaching experiences are powerful influences on teachers' practices and attitudes throughout the remainder of their careers (Moir, 1999). Because of the importance and complexity of beginning teachers' experiences, their socialization into their chosen profession has received increasing attention in educational research and reform (Huling-Austin, 1990).

As teacher attrition statistics demonstrate, teachers are exiting the profession in alarming numbers, taking with them a wealth of knowledge and experience (Coppenhaver & Schaper, 1999). Approximately 15 percent of beginning teachers, some of whom are the most academically talented, leave the profession during the first year of teaching. An additional 10 percent to 15 percent leave after the second year, compared to an overall nationwide attrition rate of 6 percent per year (Huling-Austin, 1990; Schlechty & Vance, 1983). Although estimates vary, most researchers agree on an attrition rate of about 30 percent in the first five years, with an astounding 50 percent in urban and isolated rural areas (Danielson, 1999). Annual attrition rates reported for special education teachers are approximately 9 percent to 10 percent (McKnab, 1995). The lack of gradual, guided induction into teaching and the isolation that many beginning teachers experience may cause them to develop undesirable coping mechanisms which impede their effectiveness and diminish opportunities for meaningful student learning (Ganser, Marchione, & Fleischmann, 1999). Some new teachers simply abandon the profession. Teachers who leave the profession early in their careers contribute to a shortage of qualified personnel. The effect is long-term as well as immediate. The continued loss of teachers seriously drains expertise in a field in which experience is important (Turk,

1999). Nationally, 60 percent of current teachers are eligible to retire in the next six years, which will leave many classrooms in urgent need of qualified teachers.

Other factors that affect an increased demand for teachers are growing school enrollments and state and national mandates to lower teacher-student ratios (Brighton, 1999). This need for teachers makes the high attrition rate among teachers entering the profession appalling (Brighton, 1999). Therefore, a comprehensive mentoring program could help beginning teachers alleviate the difficulties associated with the newly acquired profession. According to a report of the National Commission on America's Future (1996), an investment in teacher quality needs to start at the earliest stages of a teacher's career and to continue throughout a professional lifetime. It is ironic that teachers in the United States have more college education than their colleagues in many other countries, but fewer opportunities to share expertise with other teachers in the crucial first years of teaching (National Commission on America's Future, 1996).

A mentoring program could increase beginning teachers' opportunities to share their expertise with other teachers. Brooks (1999) asserts that the responsibilities of a mentor are to (a) get involved in solving specific problems about curriculum, instruction, and relationships; (b) provide opportunities for classroom visits with feedback; (c) express positive feelings about teaching and help the beginning teacher attain those same feelings; (d) assist with the new teacher's understanding and management of school authority; (e) listen to daily concerns, progress, and questions; (f) serve as a source of ideas; (g) be easily accessible, trustworthy, and understanding; (h) offer assistance on classroom management; (i) demonstrate professional competence; (j) help expand the beginning teacher's repertoire of teaching strategies; (k) show awareness of, commitment

to, and familiarity with the new teacher's classroom; (l) schedule time willingly with the beginning teacher; (m) provide a task-oriented focus established through a two-way interchange about goals and procedures.

According to Kueker and Haensley (1990), mentorship provides an ideal environment for teachers to pursue ideas creatively with the guidance and counsel of a master teacher. However, mentorship programs must be implemented appropriately with carefully developed mentorship training and adequate support for the ongoing process in order to improve the effectiveness of induction-year teachers, assure quality instruction for students, and increase the retention of those with professional promise. Authorities assert that a well-designed mentoring program prepares teachers socially, emotionally, and academically so that teachers can spend their first year focusing their attention on teaching instead of surviving (Knudsen & Zapf, 1999). Thus, support, development, and assessment are viewed as necessary components in a comprehensive system of beginning-teacher induction program (Feiman-Nemser, Carver, Schwille, & Yusko, 1999).

Problems and Needs of Beginning Teachers

Teachers, teacher trainers, educational theoreticians, and researchers agree that the first year experience is difficult for most teachers (Gibb & Welch, 1998; Grant & Zeichner, 1981; Huling-Austin, 1988, 1992; Mcgaha & Lynn, 2000). As stated in the Guidelines for Mentor Teacher Programs issued by the Virginia Department of Education (2000): "The expectations that teachers will apply theoretical knowledge, develop effective instructional strategies, meet individual student's needs, incorporate changing curriculum frameworks, develop high stakes assessment, integrate emerging technology,

and remain sensitive to societal issues create a formidable challenge for beginning teachers and public school districts” (p. 7). In many instances, these challenges are difficult to meet with the preparation most of the beginning teachers have had.

Not every beginning teacher fulfills expectations or is able to meet challenges effectively. Sometimes, beginning teachers are assigned to teach in a field in which they are not endorsed. In other cases, those who appear qualified on paper have only minimal actual classroom preparation (Huling-Austin, 1992). This is particularly true for teachers in special education, who often need to teach in poorly equipped classrooms with limited essential supplies and resources and who have insufficient time to meet, plan, and collaborate with specialists and other teachers (Cambone et al., 1996). Within this reality, teachers are expected to meet the diverse needs of their students who are likely to differ widely in ability, serve more students than they can reasonably serve in the limited time frame, and take care of an overwhelming amount of paperwork (Ganser, 1999; Schaughnessy & Siegel, 1997; Weiskopf, 1980). Thus, those special education teachers face not only professional difficulties, but also conditions that make retention in this field a continuing and expensive issue. Besides the practical needs, beginning teachers have strong emotional or support needs as they face the stresses of their new position: new people, new job, and new roles (Ackley & Gall, 1992).

In an analysis of the learning-to-teach literature, Rosenberg and colleagues (1997) found that beginning teachers have difficulties in (a) seeing how student differences influence choice of pedagogy; (b) implementing systems for classroom organization, management, and discipline; (c) establishing relationships with students and colleagues; and (d) explaining content material in ways that students can understand. Even under

optimal conditions, beginning teachers require attention and support. According to Brighton (1999), the expectations and scope of the job overwhelm many novice teachers. Novice teachers experience a disparity between their preparation and the expectations of the job; many feel isolated and unsupported in their classrooms. Thus, a gap emerges between their expectations and the realities of the job. The identification of this gap was a major reason for the establishment of mentoring programs throughout the nation.

Growth of Mentoring Programs throughout the United States

Internships, induction programs, or other forms of mentoring help beginning professionals to learn how to *apply* the knowledge and skills they acquired in their university courses, how to acquire more advanced knowledge and skills, and how to acculturate to their profession and work environment (CEC Guidelines, 1997). The goal of mentoring is to develop strong professionals who are ready to join other educators in fostering student success (Coppenhaver & Schaper, 1999). Mentoring is designed to provide the beginning teacher with peer support to help cope with the daily challenges of teaching. According to Odell and Ferraro (1992), the three goals of mentoring, are to provide guidance and support, to promote professional development, and to increase teachers' retention in the profession.

Formal mentoring by an experienced professional in the same or similar role for new and inexperienced teachers is a relatively recent trend (Gibb & Welch, 1998). Before 1980, only one state, Florida, had mandated an induction program (Feiman-Nemser et al., 1999). The number of mentoring programs increased dramatically during the 1980s (Ackley & Gall, 1992; Feiman-Nemser et al., 1999; Reiman & Edelfelt, 1990; Thies-Sprinthall, 1986). By 1989, 31 states had adopted statewide mentoring, and 12 more

states had district level programs (Wilder, 1992). Today, more states than ever before offer mandating induction programs (Feiman-Nemser et al., 1999).

The U.S. Department of Education (1998) reports that 51 percent of teachers with up to three years of teaching have participated in some form of induction activities. This figure compares with a participation of only 16.5 percent for teachers with 20 or more years of experience. Without assistance, many potentially good teachers become discouraged and reduce their commitment to teaching to a survival level or abandon the profession altogether (Huling-Austin, 1990).

In Virginia, the Education Accountability and Quality Enhancement Act (HB 2710 and SB 1145), enacted in 1999, mandates that a mentor be provided for every beginning teacher as well as for experienced teachers whose performance was not considered to be at an acceptable level. In June 2000, detailed guidelines for mentor teacher programs were released (Virginia Department of Education, 2000).

Notwithstanding this mandate many schools have found that implementation of mentoring programs is more problematic and challenging in urban settings (Pressly, 1999). Guyton (1994) has suggested particular areas that need to be addressed in such settings. For example, teachers need more education about helping students who have not had opportunities to develop social skills. Teachers also need information about poverty and its impact on student learning. The *diversity* of modern urban settings also needs to be recognized, with teachers being provided with information, for example, about various ethnic cultures (Guyton, 1994). Howey (2000) suggests improving and extending urban teacher preparation into the first year(s) of teaching in order to support and retain those teachers in the urban schools. Beginning teachers may be helped to

reflect on the interaction between culture and teaching if they are provided with a mentoring program that assists them with a clear definition of what they are expected to do and provides them with feedback on how they are doing (Freiberg, Zbikowski, & Ganser, 1994; Rothenberg & Gormley, 1997).

Council for Exceptional Children Standards for Entry into Professional Practice

Various organizations have recognized the role of mentoring. In 1989, the Delegate Assembly of the Council for Exceptional Children (CEC) adopted standards for entry into professional practice. Standard IV states that every new special education professional should receive a minimum of a one-year mentorship at the beginning of practice in a new role. The CEC Guidelines for Developing a Mentorship Program for Beginning Special Education Teachers were adopted at the 1997 CEC Convention (Marsal, 1997). The main goals of mentorship in special education are to improve the quality of instruction for students with disabilities and to retain special educators in the field. These goals may be accomplished by the facilitators' addressing the following purposes in the development of the mentorship (CEC Guidelines, 1997): (a) conveying advanced knowledge and skills; (b) facilitating application of knowledge and skills; (c) facilitating timely acculturation to the school climate; (d) reducing stress; (e) improving job satisfaction, and (f) supporting professional induction.

For a mentorship program to be successful, CEC (1997) proposes the following features: (a) purposes are stated clearly and assessable; (b) the mentor has volunteered; (c) mentor training is provided prior to opening of the school year and throughout the year; (d) there is a high level of interaction between the mentor and the mentee; (e) the mentor has the same specialization as the mentee; (f) the mentee and the mentor have

dependable and ready access to each other; (g) the mentorship relationship is guided by mutual respect for professional views; and (h) time for interaction is provided.

Benefits of Mentoring Programs

As school systems are faced with mounting teacher shortages, there has been an increased commitment to provide support mechanisms that address the difficulties of beginning teachers (Rosenberg et al., 1997; Tonelson & Gable, in press). In response to beginning teachers' difficulties, Tonelson and Gable (in press) propose a systematic approach to the supportive induction of special education teachers into the profession. These authors suggest that beginning special education teachers undergo an induction process over several years by being strategically placed in selected classrooms and given on site support to aid them in becoming effective teachers. According to Tonelson and Gable (in press) "This process can be accomplished through a cooperative college/public school examination of the teacher preparation curriculum, selected use of co-teaching demonstration models, bi-monthly professional seminars for preservice and inservice personnel, and support provided by both administrators and mentor teachers at the building level" (p. 8).

Mentoring provides teachers with the professional and emotional support they need to successfully begin and continue their careers. Many authorities agree that all new teachers should be assigned a skilled mentor. Effective mentors should be selected for their outstanding teaching ability and be given the necessary training and time to work with their new colleagues (CEC Guidelines, 1997).

The literature suggests that mentoring can help to increase faculty-student contact, improve student development, and improve the quality of the educational experience.

Swerdlick, Bardon, Silverstein, and Esquivel (as cited in Benner & Cagle, 1987) developed a useful definition for professional application that includes the following key elements:

1. Mentors are resources, sponsors, and transitional figures;
2. Mentors are the source of knowledge, advice, challenge, and support; and
3. Mentors represent the skill, knowledge, and success the students hope to obtain.

The mentoring guidelines emphasize the immeasurable value of “the expertise of veterans to provide a clinical, real-world training process” for beginning teachers (Virginia Department of Education, 2000, p. 7). These guidelines also emphasize the benefits of mentoring to both the new teachers who are being guided and the mentors who guide them. As stated in the *Guidelines for Mentor Teacher Programs*:

New teachers who are mentored receive higher ratings from their principals, develop better planning skills, handle discipline problems more effectively, conduct more productive classroom discussion, and remain in classrooms longer than teachers who are simply left to “sink or swim.” Veteran teachers who serve as mentors report increased professional revitalization, less isolation, greater recognition, and a belief that they impact the profession more than teachers who are not involved in mentoring new professionals (Virginia Department of Education, 2000, p. 8).

Benefits reported of mentoring programs include providing teachers with practical information and advice on handling problems (Marsal, 1997), increased self-confidence and competence (Elliot, Dworet, & Harris, 1999), reduced attrition rates among new teachers and improved teaching capabilities (Fidler & Haselkorn, 1999; Weis & Weis,

1999). Huling-Austin (1988) states the following common goals of teacher induction and concludes that there is data to support the hypothesis that induction programs are successful in achieving those goals, namely, (a) improving teaching performance; (b) increasing the retention of promising beginning teachers; (c) promoting the personal and professional well being of beginning teachers; (d) satisfying mandated requirements related to induction and licensure; and (e) transmitting the culture of the system to beginning teachers. Marsal (1997) considers the support of beginning professionals through a strong mentoring program utilizing the university and local district support that views experienced teachers in the field as an important factor. Marsal further suggests that these mentors must demonstrate competency and wisdom in the practice of teaching as they interactively guide a beginning professional to use problem-solving and decision-making skills.

Mentorship during the novice years appears to be an effective way to provide sensitive guidance, confidence, and support to new teachers. When carefully implemented, mentorship can help improve the teacher's productivity, satisfaction, and professional development and ensure job retention, as well as reduce stress and raise personal confidence (Weis & Weis, 1999). Mentorship can help teachers strengthen and improve student learning, master useful material, gain clearer goals, and develop new skills to integrate and apply theory to practice (Cambone et al., 1996; Danielson, 1999). Furthermore, according to Halford (1998), studies indicate that mentoring is financially effective in reducing the teacher dropout rate and saving money on recruitment and hiring new teachers.

Research on Mentoring

The development of a strong mentoring program and the identification of special education professionals who have the knowledge and skills to provide this mentoring is an important goal. The use of experienced teachers to mentor new and newly transferred teachers has been an effective means to help those teachers adjust and develop professionally to the new environment (Saurino, 1999). Although mentoring has been recommended for beginning special education teachers, the limited research that has been conducted on mentoring programs for special educators is inconclusive (Serpell & Bozeman, 1999; Whitaker, 2000). Research on teachers in general, however, indicates that beginning teachers who had the continuous support of a skilled mentor are much more likely to stay in the profession and much more likely to get beyond classroom management concerns (Ackley & Gall, 1992; CEC Guidelines, 1997; Huling-Austin, 1988).

In a review of 17 studies on teacher induction programs, Huling-Austin (1988) found that induction programs can be successful in improving teaching performance, increasing the retention of beginning teachers and transmitting the culture of the school system to beginning teachers. Furthermore, beginning teachers who have access to intensive mentoring by expert colleagues are much less likely to leave teaching in the early years. A number of Ohio districts, including Cincinnati, Columbus, and Toledo, as well as Rochester, New York, have reduced attrition rates of beginning teachers by more than two-thirds (often from levels exceeding 30 percent to rates of under 5 percent) by providing mentors with enough time to coach the beginners in their first year on the job. These young teachers not only stay in the profession at higher rates, but also become

competent more quickly than those who must learn by trial and error (Darling-Hammond, 1998). Jackson (1999) indicates that systematic and structured induction programs in any profession have resulted in career commitment and competence of novices to a greater extent than where induction processes are casual, spontaneous or completely absent. Scandura and Viator (1994) found a negative correlation between mentoring and intentions to quit, suggesting that reduced turnover might be another organizational benefit of mentoring. Researchers at Western Oregon University's Recruitment and Retention Project, (n.d) have conducted longitudinal studies have shown that in districts which have a system in place for implementing a strong teacher support system, between 70-80% of all new teachers remain in the district for more than five years. The Council for Exceptional Children has referred to the preliminary results of a Mentoring Induction Project (MIP) designed to establish national mentoring guidelines for first year special education teachers (White, 1999). A pilot test has shown that nine out of every ten mentees and mentors reported satisfaction with the current process and about two-thirds agreed that the mentoring was a factor in their decision to teach in schools. Over two thirds of the mentors and mentees also considered the training useful.

Whitaker (2000) has identified critical components of effective mentoring as perceived by beginning special education teachers. The findings suggest that matching the personalities and subject areas of the mentor and the mentee may be crucial to the perceived effectiveness of the mentoring. Another important factor is providing opportunities for frequent contact between the mentor and the special education teacher and making sure they have sufficient time to work together.

Parker (as cited in Kueker & Haensley, 1990), assesses the efficacy of the University of Wisconsin-Whitewater's First Year Teacher Induction Experience, providing data that indicate higher attrition rates for those inductees who did not receive support versus those who were assigned a mentor. Those teachers with support indicated that mentors were highly valued, and that the mentors helped them resolve problems, especially those having to do with classroom management. In addition, in a pilot study of a year-long induction program in York County, Pennsylvania, Rupp (as cited in Kueker & Haensley, 1990), reports that strong mentor-beginning teacher relationships are associated with improved teaching performance on the part of both the mentors and the beginning teachers. According to King (1988), teachers who worked with mentors in the California Mentor Teaching Program also reported coming to feel more positive about themselves and about their teaching while learning new teaching techniques (as cited in Kueker & Haensley, 1990). Huling-Austin (1988) reports that principals rated mentored first year teachers significantly higher than their non-mentored peers. It is for reasons such as these that the Commonwealth of Virginia made mentoring programs a crucial part of the Education Accountability and Quality Enhancement Act of 1999.

In further examining increased teacher effectiveness and higher retention among inducted teachers, Serpell and Bozeman (1999) report on a mentoring program implemented in Wisconsin. In that program, 75 percent of the teachers participating in the mentoring program indicated planning to be teaching in 5 years as compared to 25 percent of non-participants. All participants completed their first year of teaching as compared to only 83 percent of non-participants who completed the first year of teaching. Researchers in Montana report 97 percent of teachers who participated in a mentoring

program were in the profession a year after completing the program as opposed to 71.5 percent of non-mentored teachers that (Serpell & Bozeman, 1999). About 91 percent were in the profession after three years as opposed to 73 percent of non-mentored teachers. The authors also report these high retention percentages for studies conducted in Texas and in California. Boyer (1999) found that among new special education teachers, who continued to teach for a second year, 20 percent noted that they stayed because of the mentoring support that they had received. In a study of beginning teachers in New Jersey, Gold (1999) reported that the first-year attrition rate of teachers trained in traditional college programs without mentoring was 18 percent; whereas, the attrition rate of first-year teachers whose induction program included mentoring was only 5 percent. In Louisiana, results of a three-year mentoring program showed a 88 percent retention rate of certified new teachers (Breux, 1999).

In light of increased demands and the resultant strain reported by teachers and with a high percentage of beginning teachers leaving the profession within the first years, the need to find ways to effectively support and sustain beginning teachers is critical (Debolt, 1991). The following conclusions can be drawn from research on mentoring. Mentorship programs are an important means of supplying such support and sustenance. Providing information, suggesting resources and support materials, and facilitating networking by encouraging interaction and the sharing of ideas among colleagues, mentors increase new teachers' independence, professional growth, and personal well-being. By so doing, they also increase the likelihood of teachers' remaining in the profession.

Along with mentoring, other efforts are also being made to aid teachers in preparing for the challenges they are likely to meet in the classroom. One of the major avenues, that has opened up for professional development (including endorsement for special education teachers) is *distance education*.

Distance Education

Distance education, sometimes described as distance learning, refers to the use of media to provide instruction while the instructor and the learners are separated by time and place (McIsaac & Gunawardena, 1996). This definition encompasses different forms of distance education, such as correspondence courses, independent study, one-way and two-way video, two-way audio via radio and telephone hook-ups, and computer conferencing. Several authors have listed characteristics of distance education programs (Evans & Nations, 1993; Verduin & Clark, 1991). All the definitions refer to the geographic dispersion of the student and the teacher, the use of media or technology to bridge this distance, and the provision of two-way communication between the student and teacher.

Historical Background

Distance learning is not a new concept. Distance learning has been a mode of teaching and learning for at least a hundred years (Moore & Kearsly, 1996). Before the widespread use of electronic communications, educators used print technology and the postal service for what became known as correspondence education. In the late 1800s, at the University of Chicago, the first major correspondence program in the United States was established in which the teacher and learner were at different locations (McIsaac & Gunawardena, 1996). With the development of the postal service in the 19th century,

commercial correspondence colleges provided distance education to students. In 1921, the federal government issued the first educational radio license to the Latter Day Saints' University of Salt Lake City. The University of Wisconsin and the University of Minnesota also received licenses to establish educational radio stations in 1922 (Saettler, 1990). Iowa State University became the first educational television (ETV) broadcasting educational programs in 1950 (Saettler, 1990). Just as with radio, educational institutions did much to develop the television medium, but were quickly left behind once that medium matured (Moore & Kearsly, 1996).

The ongoing development of technology has continued throughout the 20th century with the availability of television and other media that allowed for learning at a distance (Phipps & Merisotis, 1999). The establishment of the British Open University in the United Kingdom in 1969 marked the beginning of the use of technology to supplement print-based instruction through well-designed courses. Learning materials were delivered on a large scale to students in three programs; undergraduates, postgraduates and associate students. Although course materials were primarily print based, they were supported by a variety of technologies. No formal educational qualifications were required to be admitted to the British Open University (OU) (McIsaac & Gunawardena, 1996). The OU sent out learning materials, supplemented with conventional broadcast radio and television, by mail. The OU and other open universities drew attention to the possibilities offered by distance education and the important role it could play in higher education (Curran, 1997).

In the United States, interest in distance education increased dramatically during the 1990s. The main impetus for the increased interest was the astonishing growth rate of

242 percent of higher education tuition between 1980 and 1993 (Reiland, 1996). From the 1990s to date, distance education has been changing considerably with the use of a variety of technologies. Colleges and universities are investing in new technologies for teaching and providing distance learning programs (Phipps & Merisotis, 1999).

Keegan (1980) analyzed four commonly accepted definitions of distance education in an effort to identify its basic components. His analysis yielded these six characteristics of distance education: (a) a geographic separation of teacher and learner, (b) the influence of an educational organization in the planning and preparation of material delivery, (c) the use of media to link teacher and learner to educational context, (d) a two-way exchange of communication, (e) the instruction of learners *as individuals* rather than groups, and (f) the utilization of educators as an industrialized form.

Attitudes toward Distance Education

Because definitions of distance education imply that students can earn a college degree without physically entering a traditional college classroom, concerns have been raised over the quality of distance education (Threlkeld & Brzoska, 1994). Similar concerns were voiced back in 1890 over correspondence study, which was designed to provide educational opportunities for those who were not among the elite and who could not afford full time residence at an educational institution. Such study was considered as inferior education (McIsaac & Gunawardena, 1996). In the last decade, however, distance education has become enriched with the use of computer-mediated learning, two-way interactive video, and a variety of other technologies for teaching (Phipps & Merisotis, 1999).

According to Schrum (1999), the rapid changes in information technologies has changed the way in which distance education is conducted and it may also serve to give distance education a status which is similar to traditional education. In spite of technological advances that have changed the opinions of some who concede that education at a distance may be highly effective, others continue to view it as of less value education than received on-campus at a college or university (Spooner et al., 1998). Thus, degrees are sometimes viewed with suspicion and skepticism when they come from institutions that are highly dependent on distance learning technologies and where much of the education occurs off-campus and in off-hours. This negative perception exists among many academics, as well as the general public, despite a wealth of evidence that distance education students learn as much as or more than do on-campus students and distance learners do as well or better in specified learning outcomes (Sherron & Boettcher, 1997).

New Options Opening for Educators

The rapid development of technology—specifically, the various forms of advanced communication technologies, provides educators with additional options for reaching new audiences in new ways (Florini, 1990; Halal & Liebowitz, 1994). Technology allows those audiences to learn almost anything, anywhere, at any time. Courses using advanced communication technologies are being delivered to students in scattered locations, providing access to college courses to people who would not have access to them otherwise (McIsaac & Gunawardena, 1996).

Distance education relies on two-way, interactive technologies in real time, such as audio conferencing, audio graphics conferencing, and videoconferencing, which

makes it possible to link learners and instructors for real time interaction even though they are geographically separated (McIsaac & Gunawardena, 1996). Distance education also relies on time-delayed features of computer-mediated communications, such as e-mail and discussion groups, which offer the advantage of a class which is open 24 hours a day, seven days a week, to accommodate learners' schedules. These electronic media can be selected and adapted according to instructional needs, professional and technical expertise, and available budget (Wagner & Reddy, 1989). Such technologies are used to promote interaction between student-content and student-teacher or student-student, providing necessary feedback and giving the distance learner different levels of access to existing instructional resources.

According to the literature, distance education technologies have the advantage of using *asynchronous* communication (e.g., e-mail, Internet Relay Chat) in which sender and recipient need not be available at the same time, or *synchronous* communication (e.g., two-way audio, two-way video in real time, or two-way audio with one-way video in real time) in which sender and recipient need to be available at same time. In both asynchronous and synchronous communication, senders and receivers are able to participate in the same activity even though they may be separated by distance.

Distance education courses meet the needs of students who are unable to attend a university or whose university does not offer a desired course, students in remote locations, those already comfortable with computers or willing to learn about them, and those who prefer to work individually or without time and location constraints (Schrum, 1999). Given the capabilities afforded by advanced technology, it is easy to envision creating an electronic classroom that breaks the bonds of time and place.

Types of Distance Education

The rapid evolution of new information and communication technologies involving telecommunications has enhanced the ability to rely on more diverse human interactions (Collis, 1993). Collis presents a list of currently available telecommunications technologies used in distance education, making the distinction between *terrestrial* telecommunications (cable-or-fibre-mediated) and *satellite* telecommunications (broadcast transmission). Terrestrial technologies include audio conferencing, computer messaging, computer conferencing (teleconferencing), slow-scan video with audio conferencing, and ISDN (Integrated Services Digital Network) multi-channel networks. Satellite technologies include video only, one-way video with two-way audio, videoconferencing, narrowcasting, and combinations with satellite and terrestrial media.

The Evolution of Distance Education

Romiszowski (1993) has characterized four generations of development in distance education. The first generation is a print-based model of correspondence education, supported by distance instruction through written messages. This type of correspondence continues to be utilized widely. The second generation, through the 1960s and 1970s, is characterized by heavy reliance on open broadcast by radio or television, supported by correspondence instruction and print materials. The third phase is characterized by teleconferencing systems: beginning with audio conferencing and progressing to more sophisticated audiographic conferencing systems that support the telephone audioconference with visual and textual material (Barker & Goodwin, 1992). Video conferencing, which is becoming economically accessible (Tremblay, 1992), is

one of the developments of this phase. The fourth phase consists of integrated use of new developments in telecommunications and computing, characterized by the integrated use of remote study materials supported by computer-based multimedia teleconferencing.

Integrated multimedia computer technology provides the platform that most resembles real-time, interactive instruction and that erases the line between distance learning and traditional learning (Romiszowski, 1993). Different distance learners would be able to adjust the technology that fits their needs and their possibilities in obtaining education.

Considerations in Participating in Distance Education

Designers of distance education need to be aware of the needs of the audience that participates in the courses at a distance. The pace of modern life has made the use of distance education an attractive alternative way of learning. Delivery technologies increase student and teacher access to learning resources (McIsaac & Gunawardena, 1996). Because distance learning programs are recorded and distributed to many different sites, the best teachers can be made available to significantly larger groups of learners. Students participating in distance education usually possess unique needs, motivations, goals, and self-concepts (McIsaac & Gunawardena, 1996). According to Niemi (1987), students choose to participate in distance education rather than traditional instruction for several reasons, among them:

1. *Convenience and flexibility.* This includes family obligations, limited free time, and responsibilities. These learners are afforded the benefit of education which better suits their lifestyles and which otherwise they may not be able to receive.
2. *Lack of instructional alternatives.* Learners, particularly in rural areas, may choose

distance education because of a lack of instructional alternatives and the need to receive a particular class or specialized course of study, solving problems of travel time, cost, and distance.

3. *Educational mainstream alternatives.* For some learners whose experience with traditional instruction has not been satisfactory, the distance environment and the chance to operate outside of the educational mainstream is attractive. Thus, distance education can have a great advantage for students who face such constraints as geography, time, job and family responsibilities, or finances and for classes who do not have access to teachers of a particular subject (Sherron & Boettcher, 1997). Components of distance learning have benefits as well for those who feel more comfortable in a student-centered environment that gives the student more control over learning, and access to the World Wide Web.

Cost Effectiveness of Distance Education

The cost of delivering instruction is an important consideration in many training programs. Distance learning programs rely on technologies that are either already in place or are being considered for their cost effectiveness (McIsaac & Gunawardena, 1996). Because costly media and expensive specialists are employed and because distance education course design requires considerable time, the total cost is much higher than conventional teaching. As a result of this great investment, some distance education courses tend to be of especially high quality compared to the work of individual teachers. To ascertain the true cost of distance education, the cost needs to be calculated over a large student body so that the restructuring of resources results in lower per student expenditures, even for higher quality instruction (Moore, 1989). According to Rule,

Innocenti, Coor, Bonem, and Stowitschek (1989), distance learning training is an economical alternative for delivering individualized training to teachers in rural and remote areas, because the costs of travel and staff time are substantially reduced when training is conducted via television rather than on site.

Delivery, production, and administrative support are the main costs of distance education (Bates, 1991; Hezel, 1992). Threlkeld and Brzoska (1994) have pointed out other cost components that factor into the design of a distance education system, namely, technology, maintenance, infrastructure, and personnel. These authors contend that while ongoing costs of delivery and support should be considered in order to be able to assess the cost-effectiveness of the medium, distance education may provide benefits that are difficult to measure, such as reaching unserved students or providing isolated rural students with learning connections.

Findings regarding the cost-effectiveness of distance education are mixed. Proving that distance education is cheaper than traditional instruction is difficult, taking into account the cost of media, program development, and long-term student support. However, there is some evidence that cost-effectiveness can be demonstrated, if one examines cost over an extended period of time, rather than just in the short run (Ganzel, 1999; Threlkeld & Brzoska, 1994).

The National Teletraining Center (NTC) staff has developed a cost efficiency model to assist clients in selecting a media suited for their budget and needs. The National Teletraining Center located in Cincinnati investigates, develops, and demonstrates creative applications for the most current telecommunications technologies. Working cooperatively with AT&T laboratories, institutions of higher learning, and

skilled research experts, the Center addresses the problems, challenges, and possibilities that are provided by teletraining, that is, distance learning through interactive instructional television and other advanced telecommunication services, (Chute, Balthazar, & Poston, 1990). Cost-benefit studies conducted by the NTC provide evidence that Teletraining (TT) is an economical alternative to traditional instruction (Chute 1991; Chute, Balthazar, & Poston, 1990). Teletraining makes it possible to reach remote, low-density locations, to increase the number of students who can be reached at a certain time, to quickly disseminate information, and to share limited instructor resources (Chute 1991). AT&T's experience in utilizing audiographic teleconferencing has demonstrated cost reductions of more than 50 percent in the real costs of training if these are calculated to include the cost of transporting and accommodating participants from remote sites (Chute, 1988). Furthermore, the cost associated with telecommunication is falling, whereas the cost of educational space, staffing, and transportation is rising. The assumption is that over time the economical equation will favor the increased use of telecommunications-based education (Ludlow, 1994b; Romiswowski, 1993). One attempt to ascertain the benefits and cost of mediated instruction and distributed learning was the evaluation project of Old Dominion University's (TELETECHNET-Old Dominion University and "Two Plus Two" programs, 1998).

During the 1996-97 academic year, the TELETECHNET had 17 major programs in place that delivered 101 courses to 17 community college sites plus some military and hospital sites. Approximately 4,600 students were enrolled. The project evaluators found TELETECHNET more effective than classroom instruction in increasing student access and providing incentives and opportunities for faculty development and for institutional

renewal and growth (TELETECHNET-Old Dominion University and "Two Plus Two", 1998). When comparing the intercampus instructional television network's costs with the cost of on-campus courses, TELETECHNET costs were found to be competitive with classroom costs for high-demand courses and, in some cases, for medium-demand courses. TELETECHNET courses were found to be more expensive than classroom instruction for low-demand courses.

Similar results, regarding the cost-effectiveness, were found in case studies evaluating the benefits and costs of mediated instruction and distributed learning (Jewett, 1998; Young, 1998). According to Young, network instruction is subject to scale economies. Because of the start-up and fixed costs associated with network courses, they are more expensive than classroom instruction for courses with relatively small enrollments. As course enrollments grow, network instruction becomes less expensive than classroom instruction.

Jewett (1988) indicates that classroom instruction was the least expensive mode for low enrollment courses (25 students) and that the costs of moderate enrollment courses (110 students) were essentially equal for classroom and network instruction. In high demand courses (220 students), network instruction was estimated to be 47 percent less expensive than classroom instruction. Thus, distance education is no longer viewed as a marginal educational activity, but as a viable and cost effective way of providing individualized instruction (McIsaac & Gunawardena, 1996).

The most visible trend in technology in higher education is that nearly 80 percent of all institutions are racing to develop distance education programs, fearing that unless they stake out their territory, another institution will. Because geographic boundaries are

irrelevant to online learning, higher education institutions are being driven to think in terms of capturing a share of the national and global market (Molenda & Sullivan, 2000). It is therefore expected that distance education will spread, as more students will find it suitable to their needs.

Evaluation and Research in Distance Education

The delivery of distance instruction often is considered a new approach to education. As a result, it is open to criticism. However, distance education has been an accepted educational approach for decades (McIsaac & Gunawardena, 1996). Studies have shown that the method of delivery, whether traditional or technology assisted, has little to do with student performance, if delivery methods are appropriate to the content being delivered and the characteristics of the learner (Willis, 1994). In an extensive review of the research on distance delivery systems, McClelland and Saeed (1986) found that there were no substantive differences in achievement or cost-effectiveness among the various media. They suggested it is important to reconceptualize instruction and to focus the research on instructional design, learning tasks, and the learner. Other research tends to support similar conclusions. For example, Beare (1989) compared five delivery systems, from traditional to telecourse and found no differences in student achievement or course evaluations.

Clark's critical analysis (1989) of the evaluation of distance learning technology pointed to the need for a change in the way distance learning and distance education were evaluated. In his opinion, it is important to examine the effects of different instructional *designs* rather than the effectiveness of various technologies that deliver content to learners. Clark (1989) concluded that too much attention was paid to the delivery

technology and not enough to the instructional technology used in distance education, he stated that future evaluators must distinguish between the two. While the delivery technology increased accessibility, only instructional technology enhanced student achievement. Research that compared the learning benefits of different media could be summarized by the analogy that media “do not influence learning any more than the truck delivering groceries influences the nutrition of a community” (Clark, 1983, p.445).

Russell (1999) studied more than 400 reports of distance-education methods and found no significant difference between teaching and learning with different media. Russell explains the disagreement in the conclusions of many researchers by indicating that the mediated treatment consistently outperforms the conventional treatment only if and when that treatment incorporates more powerful instructional methods than the competing treatment.

Thus, media is a vehicle to deliver instruction but does not influence student achievement. Rather, the methods being employed by the media influence learning. Successful learning comes as well from other factors related to learners, such as support, course design, motivation, and need (Phipps & Merisotis, 1999; Threlkeld & Brzoska, 1994). Clark (1994) claims that any effective teaching methodology can be delivered to students via different media, or a variety of mixed of media, with similar learning results. Similarly, Phipps and Merisotis (1999) contend that distance education is just like any other form of education—it can be done well or badly. Furthermore, Salomon (1976) argues that each technology has its unique strengths and each medium may be more suitable to a particular content. Certain media may have attributes that make unique cognitive representations available (Salomon, 1979), facilitating constructive learning,

rather than conveying instruction (Salomon, Perkins, & Globerson, 1991). Technology assessment has been the primary focus of research in distance education rather than assessment of learning.

Whittington (1989) also supports Clark's view. He reviews the available research, questioning whether instructional television is educationally effective and concludes the following:

1. Comparative studies indicate that students taking courses via television achieve, in most cases, results as good as those of students taking courses via traditional methods. Student achievements do not differ significantly, even when tested by rigorous methodological research.

2. Television is a technological device for transmitting communication and has no intrinsic effect, for good or ill, on student achievement.

3. Effective instructional design and techniques are the crucial elements in student achievements, whether instruction is delivered by television or by traditional means.

Recently, Willis (1994) argued that in order to overcome uncertainty with regard to distance learning and technology, inservice training, and distance delivery, methods must be (a) appropriate to the requirements of the content, (b) insightful in their incorporation of relevant content examples, and (c) easy to use by faculty and students. Thus, institutions of higher education must restructure and redesign their educational programs to take advantage of the choices available from distance education and its enabling technology (Halal & Liebowitz, 1994).

In many distance education programs, effectiveness is measured by course completion, graduation, and output of products (Moore et al., 1990). According to

Cookson (1990), persistence (or dropout) constitutes the most frequently researched of outcomes of participation in distance education. Because most distance education students are adults who enroll as volunteers, the rate of persistence is a significant indicator of the effectiveness of the program. Although it may not be true in every case, if persistence rates are high, it may be assumed that learners are reasonably satisfied with the program. Conversely, if the rates of withdrawal are high, it may be assumed that learners are dissatisfied with the program. Even so, further research on this and on new aspects of distance education is needed if a true measure of effectiveness is to be found.

In his extensive review of the literature, Moore (1989) concluded that three critical gaps exist in the state of practice and research in education in general, and in distance education in particular. First, there has been a wide disparity in the country's educational needs and what actually has been provided. Traditional education alone cannot fill that gap but, with the help of properly applied distance education, it can be bridged, and some of the problems brought about by the information age can be alleviated. Distance education has the potential of opening up many new sources of education and putting students in contact with authorities in many fields—particularly as the World Wide Web has grown. Second, at the time he was writing, Moore considered the actual application of distance education to be falling short of its full potential in assisting traditional education in many areas, such as providing educational opportunities for greater numbers of learners and increasing the quality of education for all—especially adult and continuing education students. He saw a need to close this gap between the reality of what *was* and the potential of what *could be*. Moore's third point was that even though research pointed to many unanswered questions, there was still a great store of

knowledge and research available concerning the use of technology in education that was not being applied in practice. Moore believed that distance education could help provide solutions to these educational problems. Relating Moore's insights to the present time, it would seem that the shortage of special education teachers would be another such problem that distance education could help solve.

Distance Education and Special Education

The shortage of special education trained personnel who are well prepared to teach students with disabilities has contributed to a growing need for alternative teacher education (Beare, 1989). Thus, teacher training in the field of special education may need to make changes to meet the vast need for qualified special education personnel in urban, rural, and suburban settings. In response to the need for qualified special education personnel in urban, rural, and suburban settings, a number of alternative programs have been developed. The University of Kentucky (UK), for example, uses distance learning technology to train rural special education personnel (Collins, 1997). The program at UK has evolved from on-site delivery at a single location to delivery using a combination of on-site, satellite, and compressed video delivery at nine locations throughout the state. Through the program at UK, special educators and related service delivery personnel in rural areas of Kentucky have been trained in order to obtain licensure and advanced degrees.

Collins (1997) described the results of a survey distributed to UK students that validates the effectiveness of the project, which has implications for refining program delivery in the future. Reasons for the success included: (a) the mode of delivery used was the one most accessible to the students, (b) the mode of delivery was suited to course

content, and (c) a faculty member assigned to the project has received continued funding and has been available to students across semesters to provide continuity to the program. Distance learning technology offers an opportunity to improve special education services in remote and isolated areas through training local personnel and increasing the chance that they will remain in those regions.

Chapman (as cited in Miller, Smith, & Tilstone, 1998) reported on a course by distance education at the University of Birmingham in Britain. The aim of the course was to train teachers of visually handicapped children, a development supported by the Department of Education and Science. The main reasons for establishing this mode of professional development were financial and geographical. Although a full-time course was well subscribed, there were teachers who, for many reasons, could not leave home for a year to gain a qualification in Birmingham. The small numbers of pupils with visual impairments could not justify establishing of new campus-based courses throughout Britain, so an initiative was required to reach relatively small numbers of teachers spread across the country. This course led to the development of other specialist courses at the University of Birmingham, where practitioners are registered for a range of programs in special education by distance education. These courses often have been developed in response to identified national needs for specialist training for teachers of children with complex and low incidence disabilities—for example, sensory impairments and autism. In other areas, courses have offered a path to professional development for teachers who can no longer attend full-time or part-time courses if these require special arrangements for release from school or for whom other commitments make regular weekly evening attendance difficult.

At Indiana University, the Collaborative Teacher Education Program (CTEP) was created to address the critical shortage of special education teachers in rural communities (Knapczyk, Rodes, & Haejin, 1998). In Indiana, the number of students categorized as mildly or seriously disabled has increased, and much of the increase has occurred in rural school districts. The lack of fully endorsed teachers in rural communities in Indiana is due, in part, to the difficulty teachers have in obtaining university training. Faced with the growth in the numbers of students with special needs, school divisions have been forced to rely heavily on teachers with emergency certificates. In many areas of Indiana, there is an excess of elementary and secondary teachers and many of them take positions in special education on emergency licenses. Typically, these teachers move to larger communities or into other job positions when they are unable to obtain the coursework they need for licensure. CTEP was designed so teachers could complete the entire 36-credit hour requirement for earning special education licenses in their local communities. CTEP offers coursework to cohort groups of as many as 35 teachers, from a single school system. The use of cohort groups in this way allows instructors to design course activities and practicum projects that specifically encourage collaboration among the trainees in the context of their teaching circumstances.

Special education programs and the actual courses offered through distance education vary. They include programs such as a distance education program in West Virginia, which provides coursework in early intervention to school personnel (Ludlow, 1994a), coursework in early childhood special education to personnel in Nevada (Cheney, Cummings, & Royce 1990), licensure coursework in special education to

graduate level personnel in Alaska (Johnson & Amundsen, 1983), and coursework to rural teachers in Indiana (Knapczk, 1993).

An innovative program has been implemented at University of Louisville to prepare educators for the 21st century via distance education (University of Louisville, 1997a). The University of Louisville uses distance learning along with activities such as satellite links to experts around the globe, inviting students to phone in questions, e-mail their comments, fax in their assignments, participate in forums, listservs, access electronic library systems and conduct research through e-mail. Fifty courses are offered per year through satellite-beamed interactive television and the Internet. Among the courses offered are a teacher preparation program in Visual Impairment, masters and certification in moderate and severe disabilities, and special education with a concentration in Autism or Assistive Technology. Students may also seek course work in the areas of Learning Disabilities, Emotional Disturbance, Mental Retardation, Assistive Technology, Autism, Transition, Parent Involvement, Classroom Management, Technology and Distance Learning (University of Louisville, 1997b). Before the distance course work begins, students attend a two-day preparation period in order to learn about distance learning, the World Wide Web, library support, electronic communication, and course content. Upon completion of this Institute, the students return to their home to complete their course work.

Notwithstanding the growing number of institutions offering distance education, the largest distance learning network of its kind in the United States is TELETECHNET. TELETECHNET originates from Old Dominion University (ODU) in Norfolk, VA and makes possible the earning of bachelor's and master's degrees from a fully accredited

university entirely through interactive distance education. ODU began its distance learning initiative in 1984, by broadcasting programs through interactive video technologies. The distance learning efforts at ODU were gradually expanded; and, in 1992, Old Dominion University began development of an instructional television network, TELETECHNET, to deliver the upper division coursework for baccalaureate programs to community college sites in the Commonwealth of Virginia (TELETECHNET - Old Dominion University and "Two Plus Two", 1998). In 1994, the ODU distance learning network, TELETECHNET, was established with funding from the Commonwealth of Virginia and the University developed sites at each of the Virginia Community Colleges (VCCS), which are connected to the TELETECHNET network (Savage, Stanley, & Swart, 1999; TELETECHNET, 1999).

Today, Old Dominion University delivers over 200 live, interactive courses per year in 29 undergraduate and graduate degree programs to more than 50 sites throughout Virginia, the District of Columbia, and in the states of Washington, North Carolina, Indiana, Texas, and Michigan. Courses also are transmitted to the U.S. Navy facility in the Bahamas and to Navy ships deployed to areas such as the Mediterranean Sea or the Persian Gulf. In the academic year 1997-98, TELETECHNET registered 15,000 course enrollments. All TELETECHNET academic programs are fully accredited by the Southern Association of Colleges and Schools as well as by the specific discipline accrediting bodies in the different areas (TELETECHNET, 1999).

Site directors administer the TELETECHNET program at each distance location. Distance learning site coordinators are the communication and instructional link between the campus-based instructors and the participating teachers. These coordinators help to

insure program continuity and support. Their responsibilities include answering questions that relate to local program policies and practices, distributing and collecting materials, communicating with the course instructors regarding teachers' attendance, and arranging make-up sessions for approved absences. The individual community college campuses were established according to a plan for geographical distribution, and thus are dispersed across the Commonwealth of Virginia in such a way that higher education access, including Old Dominion University's undergraduate and graduate programs, is no more than half an hour's drive from every resident of the state. Each individual TELETECHNET site provides access to higher education for the citizens of the Commonwealth in that region. Combined, the sites form a statewide network that meets the needs identified by the State Council for Higher Education and the Virginia General assembly (See Appendix C for a Map depicting the Virginia TELETECHNET locations.)

All of the Old Dominion University's distance learning initiatives involve two-way interactive technologies. The large size of the TELETECHNET network and available delivery technologies dictate that the majority of courses are broadcast through satellite technology, providing one-way video and two-way audio for student interactivity with access to the Internet provided through computer workstations at each site (TELETECHNET, 1999).

Students are able to interact with each other and the faculty member through (a) interactive audio during class session; (b) e-mail accounts assigned to each registered student; (c) 1-800 voice mailboxes assigned to each faculty member; (d) listservs or chat rooms established on the computer; and (e) printed material delivered. All of the computer workstations at the sites are equipped with software required for each course

and networked to Old Dominion University. On the campus, each faculty member teaching a TELETECHNET course has developed a home page outlining the course syllabus and assignments and can receive electronic transfer of papers. Under some circumstances, two-way compressed video systems are used for specific applications where students need to give presentations (Savage et al., 1999).

The majority of TELETECHNET instructors are full-time faculty who are required to complete a series of training options before teaching in TELETECHNET. All the degree programs offered on TELETECHNET meet national standards of excellence defined by their respective professional and disciplinary accrediting bodies. A recently published study funded by the U.S. Department of Education to the California State University system indicates the quality of education offered via TELETECHNET is equal to that of the programs offered on the Norfolk campus (Savage, Sharpe, Smith, & Dunn, 1998). Another sign of the program's effectiveness is the positive impact of the faculty training programs and articulation programs that grew out of the two-plus-two partnership with the community college, resulting in substantial institutional growth and renewal. Further, TELETECHNET increased statewide access to higher education by about 3.3 percent. In other words, for 1996, access was provided to 4,000 individuals who would not have been able to attend college without the distance learning option (Savage, Stanley, & Swart, 1999).

Since the program began in 1994, over 600 TELETECHNET students have completed their degree programs and graduated from ODU. Results of surveys that were conducted from 1995 through 1998 indicate that the distant students as satisfied with their educational experience as their main campus counterparts. Students involved in

TELETECHNET courses communicate with faculty by e-mail (49%), telephone (86%), voice mail (68%), and written form (56%). Old Dominion University also offers graduate telecourses leading to master's degrees in special education.

TELETECHNET and Special Education

As stated earlier, Old Dominion University has initiated a distance learning endorsement program known as the Commonwealth Special Education Endorsement Program or CSEEP, which is funded through a grant from Virginia Department of Education. The aim of the grant is to identify special education teachers who currently hold a special education conditional license to teach students in the areas of emotional disturbance (ED), learning disabilities (LD), and mental retardation (MR), and to provide site-based college courses in order to meet the requirements for full licensure. Through the TELETECHNET system, courses in ED, LD and MR areas of special education are broadcast to 33 community college sites located throughout the Commonwealth. Grant students receive reimbursement for 80 percent of the costs of successful completion of the necessary courses.

CSEEP addresses the problems many teachers face when they need additional courses for full endorsement, but are unable to afford them. The reimbursement procedure eliminates the financial hardships that would otherwise be associated with obtaining full endorsement, and the funding is offered for the equivalent of 900 enrollments to courses per year. Each course is the same regardless of the site. Full-time faculty or clinical adjunct faculty members teach the courses from the Old Dominion University campus, assisted by graduate assistants. On-site instructional support is provided students by a site coordinator, an assigned mentor already endorsed in special

education, and personnel from the training and technical assistance center (TTAC) and local educational agencies (LEA).

During the spring and summer of 1998, in addition to having all course presentations videotaped and providing a video library for the students, CSEEP incorporated several new practices into the special education program. Students were provided course notes and multimedia presentations. These course notes and multimedia presentations were made available on a web site, which allowed students to concentrate on the course lectures. In addition, an on-line resource guide was introduced with “hot links” to professional organizations and other sources of information that corresponded to the course instruction. Co-teachers also were added at some sites.

Summary

This chapter provided an overview of the current state of special education with regard to the teacher shortage, the issue of licensure in special education, and the importance of encouraging retention. In connection with these issues, the chapter also provided an overview of mentoring and its potential for reducing the shortage of special education teachers. Distance education in general and the Commonwealth Special Education Endorsement Program (CSEEP) through TELETECHNET, specifically, were presented as possible solutions to overcoming the barriers that prevent a significant number of special education teachers from earning full endorsement. The next chapter will include information regarding the research design, sample, and instrumentation. The statistical analysis that has been used in the evaluation model will also be presented.

CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

This chapter describes how the research was designed and conducted. Included in the chapter is a general introduction to the study, a description of its purpose, the research questions guiding the study, and the hypotheses that were tested. The research setting and population also are described. A discussion of the instrumentation and methodology to be used concludes the chapter.

Introduction

Through a grant funded by the Virginia Department of Education, the Darden College of Education of Old Dominion University has developed a distance learning endorsement program for special education teachers in the Commonwealth of Virginia. The program, called the Commonwealth Special Education Endorsement Program (CSEEP), is a collaborative effort involving school divisions, state operated programs, private special education schools, the Virginia Department of Education, as well as Old Dominion University. The aim of the collaboration is to provide site-based college courses designed to meet the requirements for special education endorsement in the areas of emotional disturbance, learning disabilities, and mental retardation. To fulfill this aim, the program integrates content knowledge, technology standards, instructional strategies, and the Virginia Standards of Learning throughout the course work ((Tonelson et al., 1999). The program is an effort to improve the quality of special education teachers, help reduce the shortage of fully licensed special education teachers, and increase retention in the special education field.

Purpose and Research Design

The primary purpose of this research was to design an evaluation of the effectiveness of the Commonwealth Special Education Endorsement Program. Drawing upon the theory and work of Wholey (1979, 1987), the evaluation consists of three steps as follows:

Wholey's Three-Step Process

Step one: Examine written goals. Wholey (1979) proposed that the first step in analyzing the structure of a program is to examine its stated goals as set forth in its written statements. This is a way to determine the extent to which the program is suitable for effective evaluation. From these written documents, a "program document model" can be conceptualized and formulated. Figure 1 is a *program document model* summarizing the basic components, immediate goals and intended effects, and ultimate desired outcomes of CSEEP, as it has been analyzed for the proposed research project.

Step two: Examine managers' perspectives. The second step in an evaluation process, as described by Wholey (1979), is to ascertain how the managers of a program view the program. Thus, a focus-group interview was conducted with the program director and the other members of the grant team to get additional input. The purpose of the focus-group interview was to (a) identify goals and effects, and other components that may not have been included in the program document model; (b) clarify the operation of program components; (c) define the goals, and suggest appropriate evaluation measures; and (d) confirm the links specified between program components. The focus-group interview helped conceptualize a "program manager's model," depicting the grant team's perception of the program. The *program manager's model* is shown in Figure 2.

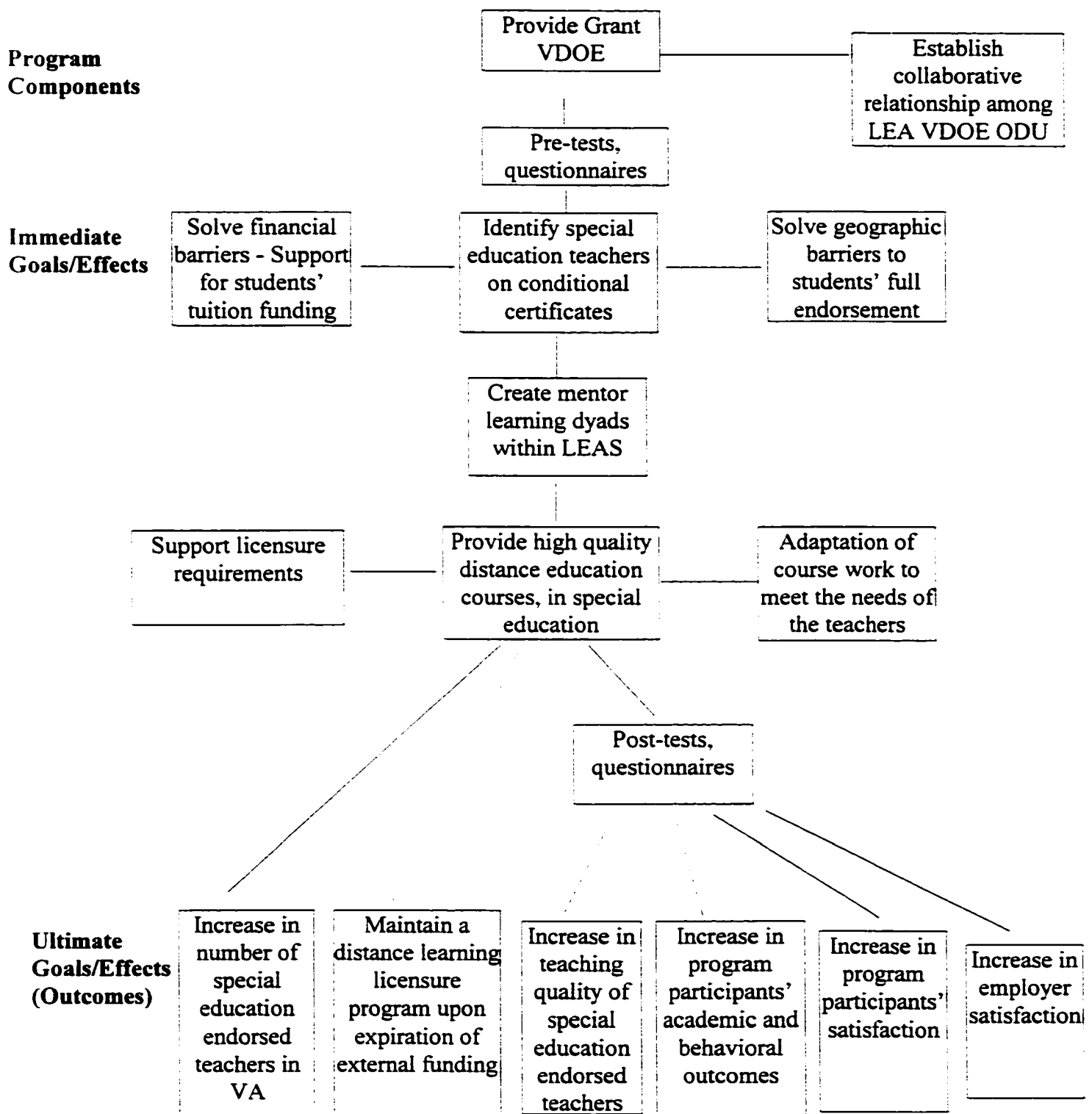


Figure 1. Program Documents Model.

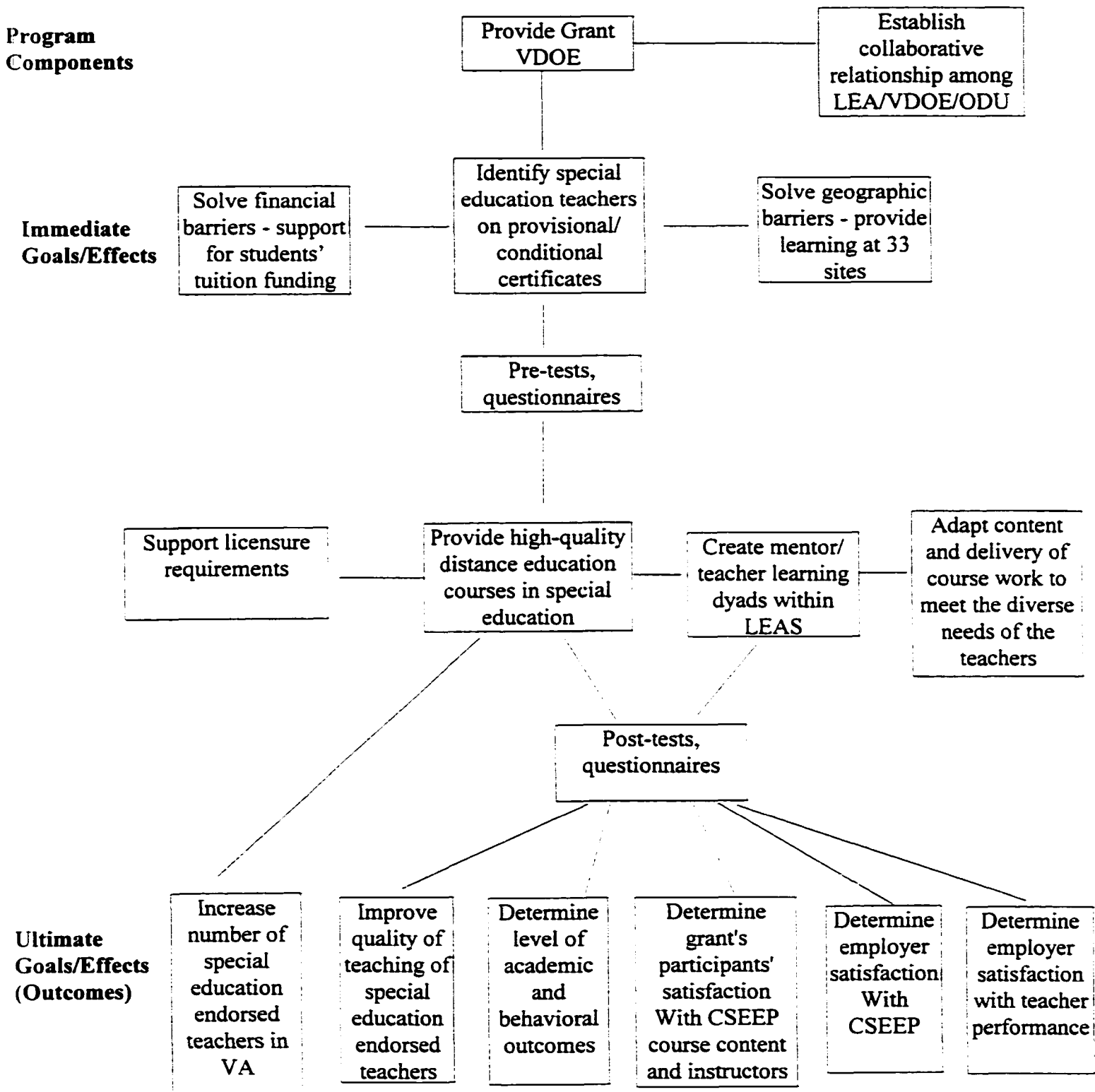


Figure 2. Manager's Model.

Step three: Conceptualize an evaluation model. As a third step, an *evaluation model* was conceptualized, depicting the types of evaluation questions that should be considered for this study. The evaluation model addresses the following areas of assessment:

1. Impact of the program on participants' learning in the ED, LD, and MR areas.
 - a. Determine Participants' satisfaction with CSEEP course work,
 - b. Determine Participants' level of academic training,
 - c. Determine Participants' satisfaction with service that has been provided by the CSEEP grant staff,
 - d. Determine the usefulness of the mentoring to the Participants training.
2. Impact of program on schools, as indicated by:
 - a. Number of special education endorsed teachers in the Commonwealth of Virginia, and
 - b. Participants' rating of the importance of tasks.

Figure 3 shows the program evaluation model and its various components. All goals and effects that can be assessed are included in boxes formed by a solid line. The box framed by broken lines indicates elements that do not meet preconditions and could not be evaluated in this investigation. Due to the limited scope and duration of the present evaluation, the learning licensure program *after* the expiration of external funding cannot be included among the goals measured.

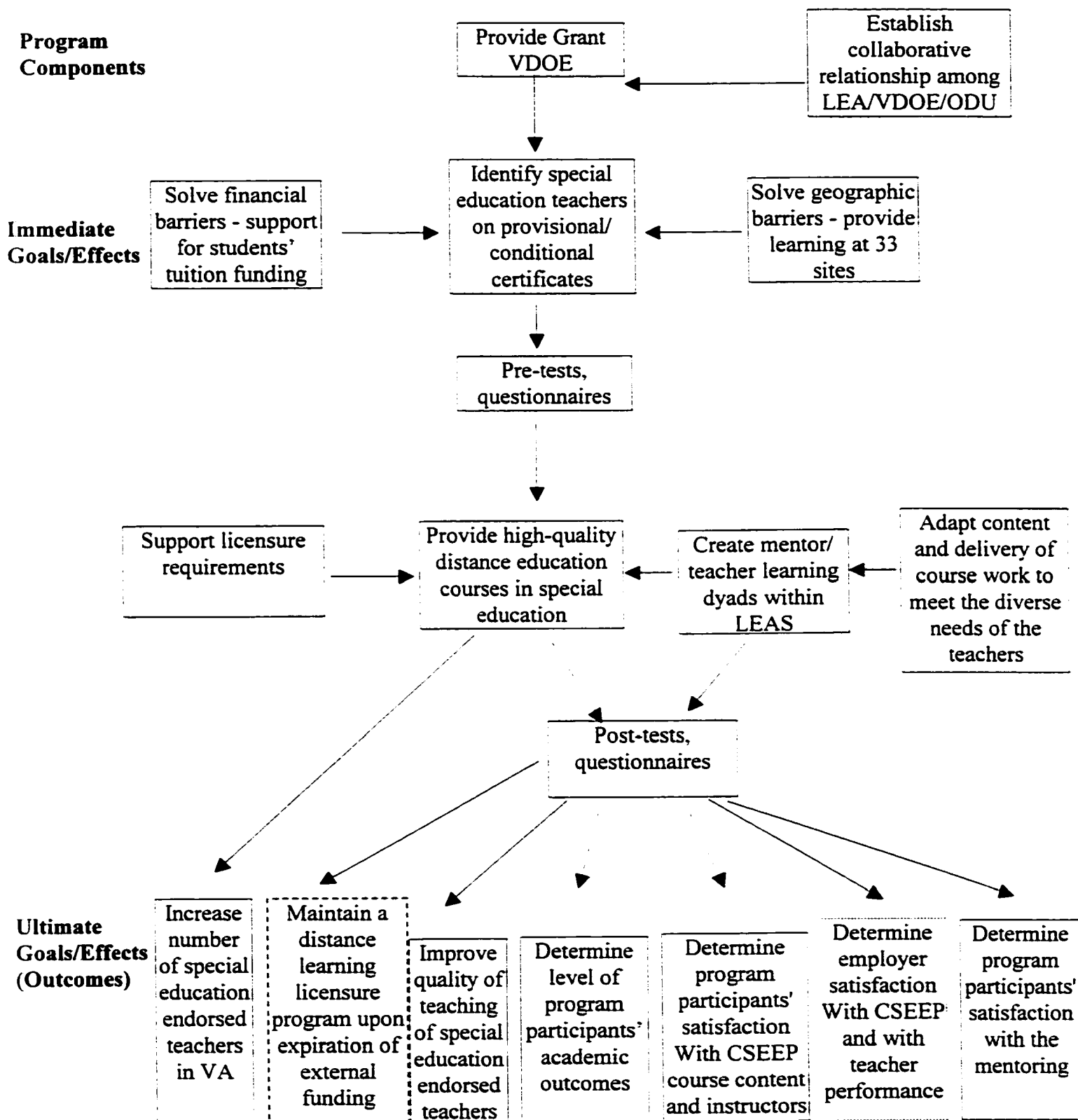


Figure 3. Evaluation Model.

Research Questions

The evaluation was based upon findings guided by the following questions:

1. Is there a correlation between participants' satisfaction with level of preparation in each task and between participants' additional level of training needed in each task in the different teaching assignments (in ED, LD, and MR)?
2. Is there a correlation between how participants rate their level of training in each task and between how mentors rate participants level of training in each task?
3. Is there significant difference in the amount of time participants spent on each task, over time?
4. Is there a significant difference in how participants from different teaching assignments rate the importance of each task, before and after the program?
5. Is there a significant difference in how participants from different teaching assignments rate the level of training in each task, before and after the program?
6. Is there a significant difference in how mentors rate the participants over the 3 trials for each task?

General Hypotheses

The following null hypotheses have been formulated to guide the study:

1. There is no significant difference between participants' satisfaction with level of preparation and between grant participants' additional level of training needed in the different teaching assignments (in ED, LD, and MR).
2. There is no significant difference between participants' rating of level of training in the different tasks and mentors' rating teachers' level of training in those tasks.
3. There is no significant difference in the amount of time participants spent on different tasks, over time.
4. There is no significant difference in how participants from different teaching assignments rate importance of each task, before and after the program.
5. There is no significant difference in how participants rate the level of training in each task, before and after the program.

6. There is no significant difference in how mentors rate the participants over the three trials for each task.

Research Setting

The study examined the Commonwealth Special Education Endorsement Program of Old Dominion University in Norfolk, Virginia. Through TELETECHNET, the program was administered at 33 sites across the Commonwealth of Virginia to which Old Dominion University broadcasts college courses via satellite. Participants in the CSEEP Program traveled to the site of their choice or that was nearest to their home community to take the courses required for endorsement in special education.

Population and Sample

The subjects of this study included 153 special education teachers in the Commonwealth of Virginia who have completed the distance learning endorsement program for special education teachers. Those teachers, who were teaching on conditional licensure, desired a high-quality licensure program but were unable to complete full endorsement in the traditional manner because of geographic, economic and/or personal barriers. The CSEEP program enabled them to obtain licensure by taking courses at designated sites via satellite.

The Special Education Conditional License is a three-year, non-renewable teaching license issued to an individual employed as a special education teacher who has not met all special education endorsement requirements. To receive a Special Education Conditional License an individual must be employed by a Virginia public or non-public school and have the recommendation of the employing agency. The participant must hold a baccalaureate degree from an accredited college or university. He or she must have an

assigned mentor endorsed in special education, a program of study in the assigned endorsement area, and have completed six semester hours in the core competencies, including knowledge of characteristics of students with disabilities and legal aspects associated with students with disabilities.

To identify and recruit those teachers, each local education agency in the Commonwealth of Virginia was asked to provide the CSEEP staff with the names of teachers with conditional licenses. Staff then contacted these persons in order to invite them to participate in the distance education endorsement program. At this time, all questions were answered and applications were processed.

Additionally, each participating teacher was assigned a mentor who had earned special education endorsement and who was trained for school-based mentoring responsibilities. Mentors in this program were selected on the basis of similarity of position, proximity to the mentee, and experience/expertise. A key consideration in the selection process is the mentor's support for this program. The Commonwealth Special Education Endorsement Program (Tonelson et al., 1999) states that mentors' responsibilities include:

1. Reading and becoming familiar with the CSEEP program policies and outlines,
2. Acquainting the mentee with school and special education policies and procedures related to their positions as appropriate,
3. Sharing resources, materials, and information,
4. Providing technical assistance in the process of implementing special education services,
5. Assisting the mentee in communicating with general educators, administrators, and support personnel,

6. Observing the mentee and providing an opportunity to have the mentee observe the mentor and other professionals whose work relates to the mentee's position requirements,
7. Meeting with the mentee on a regular basis and keeping logs of contacts and discussions,
8. Attending the mandatory orientation teleconference meeting during the first semester of grant participation,
9. Completing and submitting all required evaluation forms by the appropriate due date.

Protection of Human Subjects

The grant proposal was submitted to the Human Subjects Review Committee of the College of Education and the Old Dominion University Institutional Review Board prior to the implementation of this study and was approved. Documents of approval of the study are retained by the committee.

Instrumentation

The following instruments were used in this study:

1. A teacher application form (Appendix A). This form was completed by grant participants at the beginning of the program, in order to collect demographic information from all study participants. The form contained items concerning the background and experience of the student. The items covered teaching experience and teacher endorsement status.
2. A mentor application form (Appendix B). Mentors at the beginning of the program completed this form in order to collect demographic information. The form contained information concerning the background and experience of the mentors. The items covered teaching experience and teacher endorsement status.

3. A pre/post task-rating form to be completed by participants. This instrument (Appendix D) was created to assess Commonwealth Special Education Endorsement Program participants' performance in the following tasks: (a) assessment of student performance; (b) preparation and planning; (c) instruction; (d) teaching specific content; (e) classroom management; and (f) collaboration activities. The participants had to rate the importance of the tasks and their level of training. This form was written in the same format, one for use as the pretest and the other for use as the posttest. The pretest and posttest were each composed of 36 test items. Those 36 items were presented in 6 parts with 5-9 items in each part. The first set of items, assessment of student performance, included (1) administer standardized/norm-referenced measures; (2) administer informal measures/alternative assessments; (3) analyze test results; (4) develop and write IEP; (5) monitor student progress. The second set, preparation and planning, addressed the following items: (1) select goals and objectives; (2) prepare lesson plan; (3) prepare materials/equipment; (4) arrange physical space; (5) prepare instruction environment. The third set, instruction, covered present pre-instruction activities; implement instruction; monitor instruction; evaluate instruction. The fourth set, teaching specific content, included (1) mathematics; (2) science; (3) language arts; (4) social studies; (5) reading; (6) health; (7) technology; (8) integrated instruction. The fifth set, classroom management, comprised (1) observe/record behavior; (2) develop and implement intervention; (3) implement affective/social skills instruction; (4) supervise transitions; and the sixth set, collaboration activities, covered (1) confer and consult with school personnel regarding: (a) assessment; (b) goals/objectives; (c) instructional activities; (d)

- behavior; (e) eligibility/placement services; (f) administrative requests; (2) confer and consult with students; (3) confer and consult with parents; and (4) interagency collaboration.
4. A task-rating form to be completed by mentors. This instrument (Appendix E) was created to assess Commonwealth Special Education Endorsement Program participants' performance, preparation and planning, instruction, teaching specific content, classroom management and collaboration activities. The purpose of the teacher observation form, completed by the mentor, was to document skills demonstrated by the teacher during the observation period. The mentors were asked to rate the teacher in the different areas. These forms were completed three times during each semester that the participant was enrolled and were submitted separately from the mentee's evaluation forms to ensure confidentiality.
 5. A Commonwealth Special Education Endorsement Program Daily Teacher Time Log. The purpose of the daily teacher time log (see Appendix F) was to document the amount of time teachers allocate to various instructionally related activities each day. This instrument included the documentation of the following tasks: student performance, preparation and planning, instruction, teaching specific content, classroom management and collaboration activities. The teachers completed this instrument six times during the semester.
 6. A special education teacher survey. (See Appendix G). This survey is a follow-up of graduates from the Old Dominion University Special Education program aimed to determine the level of their preparedness as professional educators. The participants

are asked to rate their current knowledge skills and additional training they believed they needed, using a 1-5 Likert scale.

7. CSEEP service evaluation (See Appendix H). The survey included ten tasks, which the participants had to rate, indicating the perceived level of importance they assigned to each task and rating the CSEEP performance in those tasks, in a 1-5 Likert type scale.

Those instruments were developed based on the literature, and some of them have been adapted from previously published research. Panels of experts reviewed the instruments (content validity). Some of the instruments were piloted several times when administered to different groups across the country in order to obtain construct validity.

Methodology

The proposed research is an evaluation study, based upon data from the completed forms that are part of the Commonwealth Special Education Endorsement program, as described above, with some additional questionnaire material. Table 5 presents the measurement chart of the evaluation questions in this study as they were conceptualized in the evaluation model (Figure 3), including the data collection sources (surveys and forms), the proposed design, and the statistical analysis that was used.

Table 5

Measurement Chart

Impact of the Program on Grant's Participants' Learning and Satisfaction in the ED, LD, and MR Areas

Areas of Assessment	Data Source	Design	Statistical Analysis	Descriptive	Results in Pages
1. Determine participants' satisfaction with CSEEP course work	Survey (Appendix - G) Level of preparation Additional training needed	16 tasks		Frequencies	113-122
2. Determine participants' satisfaction with service that has been provided by the CSEEP grant staff	Survey (Appendix - H) CSEEP evaluation rating of importance level of training	10 tasks		Frequencies	122-124
3. Determine participants' level of academic training	participants' grades in program courses	participants' achievements in program courses		Frequencies	124-125
4. Usefulness of the mentoring to the participants' training.	Phone survey			Frequencies	125

Table 5 (continued)

Impact of Program on Schools

Areas of Assessment	Data Source	Design	Statistical Analysis	Descriptive	Results in Page
1. Increase number of special education endorsed teachers in the Commonwealth of Virginia.	Counting number of endorsed teachers before and after the program	Pre and post test design	Percentage comparison		126
2. Participants' rating the importance of tasks.					122-123

Table 5 (continued)

Evaluation Questions	Data Source	Design	Statistical Analysis	Descriptive	Results in page
1. Is there a correlation between participants' satisfaction with level of preparation in each task and between participants' additional level of training needed in each task in the different teaching assignments (in ED, LD, and MR)?	Survey (Appendix - G) Level of preparation Additional training needed	Tasks – 6 Mentors/ participants: rating of importance level of training	Analysis of correlation (Pearson correlation)		130-132
2. Is there a correlation between how participants rate the level of training in each task and between how mentors rate level of training in each task?	Student's task rating form (Appendix – D) mentor's observation forms (Appendix – E)	Tasks – 6 Mentors/ participants: rating of importance level of training	Analysis of correlation (Pearson correlation)		132-135
3. Is there a significant difference in the amount of time teachers spent on different tasks, over time?	evaluations of daily teacher time log for the different tasks for different semesters (Appendix – F)	1 IV – 6 levels (trial) 1 IV – task (6 tasks) 1 DV – recorded time demands in minutes	ANOVA for repeated measures		135-138
4. Is there a significant difference in how participants rate importance of each task, before and after the program?	participants task rating form (2 forms – before/after) (Appendix – D)	1 IV 2 levels-pre/post 1 IV – task (6 tasks) 1 DV – importance	ANOVA for repeated measures		138-142
5. Is there a significant difference in how participants from different teaching assignments rate the level of training in each task, before and after the program?	participants task rating form (2 forms – before/after) (Appendix – D)	1 IV 2 levels-pre/post 1 IV – task (6 tasks) 1 DV level of training	ANOVA for repeated measures		142-144
6. Is there a significant difference in how mentors rate the participants over the 3 trials for each task?	mentor's observation in different semesters (Appendix – E)	1 IV–X levels (3 trials) 1 IV – task (6 tasks) 1 DV – rating	ANOVA for repeated measures		144-146

Summary

This chapter has presented the design of the proposed study and the method in which it was conducted. Included in the chapter is a general introduction to the study, a description of its purpose, the research questions guiding the study, and the hypotheses that were tested. This chapter also includes information regarding the research design, sample, instrumentation, and the statistical analysis that was used in the evaluation model. A discussion of the instrumentation and methodology that was used concludes the chapter.

CHAPTER IV

RESULTS

Introduction

Chapter III discussed information about the research setting and population, the research questions guiding the study, and the hypotheses that were tested. A discussion of the instrumentation and methodology used concluded the chapter. Chapter IV presents the procedures used in the analysis, an analysis of data, and the results of the study.

In order to simplify the organization and presentation of the data, this chapter is divided into 4 sections. Section I provides pertinent information about the program participants. Section II provides an analysis of the program's impact on the grant participants' learning and satisfaction in the ED, LD, and MR areas. Section III provides an analysis of findings showing the impact of the program on schools. Section IV provides the answers to the evaluation questions.

Section I: Demographics

The demographic data were analyzed using descriptive statistics. This study was conducted over 9 semesters and is planned to continue for at least two more years. The total participants in this evaluation include 91 mentors and 250 participants, with 97 dropouts, resulting in 153 measured participants who finished the program by spring 2000.

Program Participants

Results of the demographic data indicated that twenty-six participants (17%) were male, and 127 participants (83%) were female. Three percent were American Indian/Alaskan native, 15% were of African-American descent, 80% were white, 1% were Hispanic and 1% described their identity as "other." Sixty-three participants (42%) were assigned to teach LD,

29 participants (19%) were assigned to teach ED, 19 participants (13%) were assigned to teach MR, 19 participants (13%) were assigned to teach ED/ LD, 7 participants (5%) were assigned to teach LD/MR, 3 participants (2%) were assigned to teach ED/MR and 9 participants (6%) were assigned to teach ED/LD/MR. Table 6 presents the participants' teaching assignments organized by frequency and percentages.

Table 6

Teaching Assignment

Teaching assignment	Frequency	Percent
LD	63	42.3
ED	29	19.5
MR	19	12.8
ED/LD	19	12.8
LD/MR	7	4.7
ED/MR	3	2.0
ED/LD/MR	9	6.0
Total	149	100.0

Note. Information is missing for 4 participants (2.6%)

N= 149

To better indicate the percentage of program participants in each concentration, Table 7 presents the disability concentration areas of the CSEEP program participants during the years 1997-2000 as compared with number of children ages 6-21 served under IDEA, Part B in Virginia and in the other states during the 1998-99 School Year. The table shows the dispersion of the different disabilities.

Table 7

Number of Children Ages 6-21 Served Under IDEA, Part B by Disability During the 1998-99 School Year

	All disabilities	Specific Learning Disabilities (LD)	Mental Retardation (MR)	Emotional Disturbances (ED)
CSEEP Program endorsed teachers	153 (ED, LD, MR)	61 (48%)	9 (6%)	22 (14%)
Virginia	140,003	67,604 (48%)	24,376 (17%)	12,722 (9%)
United States and Outlying Areas	5,541,166	2,817,148 (51%)	611,076 (11%)	463,262 (8.4%)

Note. Data provided for Virginia and for States is from 22nd Annual Report to Congress, 2000

As shown in Table 7, the number of intended endorsement area is the highest in Learning Disabilities concentration (48%). This number fits the fact that in Virginia (48%), as well as in the United States and outlying areas (51%), the number of Learning Disabilities children is larger than any other category of children with special needs. On the other hand, the number of teachers intending endorsement in the area of Mental Retardation (6%) is much smaller than the 17% of MR children reported to be in Virginia and the 11% reported to be in the United States. While 14% of program participants intend to be endorsed on Emotional Disturbance concentration, the reported number of Emotional Disturbance children in Virginia is 9% among all disabilities and 8.4 in the United States. Thus, the percentage of teachers seeking endorsement in Emotional Disturbance through CSEEP program, far exceeds the percentage of Emotional Disturbance children in Virginia and in the United States. These data present the CSEEP program in a larger perspective. It is well

known that since there is a greater demand for teachers than the supply, any number of certified teachers contributes to the system. However, vacant positions still remain.

Of 92 participants, fourteen participants (15.2%) hold an undergraduate degree in special education, and 78 participants (84.8%) do not hold an undergraduate degree in special education. Seventeen participants (18.5%) do not have a Virginia teaching license. Fourteen participants (15.2%) have a Virginia teaching license in special education, 28 participants (30.4%) have a Virginia teaching license in other areas of education, and 33 participants (35.9%) have a teaching license in other disciplines.

Table 8 presents data addressing whether the participants hold a Virginia teaching license and the type of license. The table is organized by frequency and percentages.

Table 8

VA Teaching License

VA teaching License	Frequency	Valid Percent
None	17	18.5
Special Education	14	15.2
Other Education	28	30.4
Other Discipline	33	35.9
Total	92	100.0

Note. Data are missing for 61 participants (39.9%)

N= 92

The participants' intended endorsement area organized by frequency and percentages is presented in Table 9. With regard to the intended endorsement area, most of the participants (46%) intend to be endorsed in LD, 21% in ED, 9% in MR, 13% in ED/LD, 3% in ED/MR and 5% in ED/LD/MR. The mean years of teaching was 10.57 (SD=10.6), with a range of 1 to 20 years.

Table 9

Intended Endorsement Area

Intended Endorsement Area	Frequency	Percent	Valid Percent	Cumulative Percent
LD	48	31.4	46.2	46.2
ED	22	14.4	21.2	67.3
MR	9	5.9	8.7	76.0
ED/LD	13	8.5	12.5	88.5
LD/MR	4	2.6	3.8	92.3
ED/MR	3	2.0	2.9	95.2
ED/LD/MR	5	3.3	4.8	100.0
Total	104	68	100.0	
Missing	49	32.0		
Total	153	100.0		

N= 104

Table 10

Classroom Setting

Classroom Setting	Frequency	Percent
Self-contained	53	36.6
Resource	24	16.6
Inclusion	5	3.4
Collaboration	2	1.4
Itinerant/homebound	2	1.4
Resource/collaboration	4	2.8
Resource/inclusion	9	6.2
Self-contained/resource	39	26.9
Self-contained/inclusion/collaboration	7	4.8
Total	145	94.8

Note. Information is missing for 8 participants (5.2%)

N= 145

In Table 10, the classification of classroom setting is presented, with data organized by frequency and percentages. The most common classroom settings of the participants were self-contained (36.6%), resource (16.6%) and a combination of the two (26.9%).

Participants' teaching level is represented in Table 11. Most of the participants teach in the elementary school (30.6%), with 25.7% reporting middle school employment and 20.1% are teaching in a high school. The least represented teaching level is pre-k.

Table 11

Teaching Level

Teaching Level	Frequency	Percent
Pre-k	1	.7
Primary	9	6.3
Elementary	44	30.6
Middle	37	25.7
High	29	20.1
Pre-k/primary	4	2.8
Primary/elementary	7	4.9
Elementary/middle	4	2.8
Elementary/middle/high	3	2.1
Middle/high	5	3.5
Other	1	.7
Total	144	100

Note. Data is missing for 9 participants (5.9%)

N= 144

Based on the employers' reported geographical categories, 41 participants (49%) were found to be employed in rural schools, 33 participants (40%) in urban schools, and 9 participants (11%) in suburban schools. Because 91(52 %) participants did not fill out this form of the questionnaire information on these participants was not available. The average

age of the participants was 37, the minimum age being 26 and the maximum being 58 with a standard deviation of 8.4.

Program Mentors

Ninety-one mentors participated in this study. Some of the mentors mentored more than one participant during the course of the program. In Table 12 and 13, the participants are reported by gender and ethnicity. Most of the mentors were female (87.9%) and white (68.2%). Only 11 mentors were male.

Table 12

Mentors' Gender

Gender	Frequency	Percent
Female	80	87.9
Male	11	12.1
Total	91	100.0

N = 91

Table 13

Mentors' Ethnicity

Reported Ethnicity	Frequency	Percent
Black	11	25.0
Hispanic	2	4.5
White	30	68.2
Other	1	2.3
Total	44	100.0

Note. Data are missing for 47 participants (51.6%)

N = 44

The mentors were asked to state the number of years of teaching experience. The mentors' average years of teaching were 14.15. The mentors' years of teaching ranked between 2 –31 with a standard deviation of 8.25.

Table 14 presents the mentors' average age (44.49). The mentors' age range was between 28-63 with an 8.54 standard deviation.

Table 14

Mentors' Age

	Minimum	Max	Mean	SD
Age	28	63	44.49	8.54

N= 88 Data is missing for 3 participants (3.3%)

Participants Who Did Not Complete the Program

Inactive participants were surveyed by phone to discover reasons for their inactivity and to verify whether they had dropped out of the program. While some of the participants were inactive temporarily, others had dropped out of the program completely.

Numbers who dropped out. This evaluation covers the semesters between fall 1997 and Fall 2000. During that period, 250 participants registered in the program, and 97 of them (40.4%) dropped out. Table 15 presents the classification of the number of participants in each semester who dropped out of the program. The percentage of dropouts each semester is presented in relation to both the total number of overall dropouts and the total number of participants who registered in the program in the specified semesters. The highest number of dropouts was in Fall 2000 (26.8% of those who over the period covered by the evaluation dropped the program, 10.8% from all registered participants). During 1998, 36 participants dropped out of the program (37.1% of those who dropped the program, 15% of all registered participants).

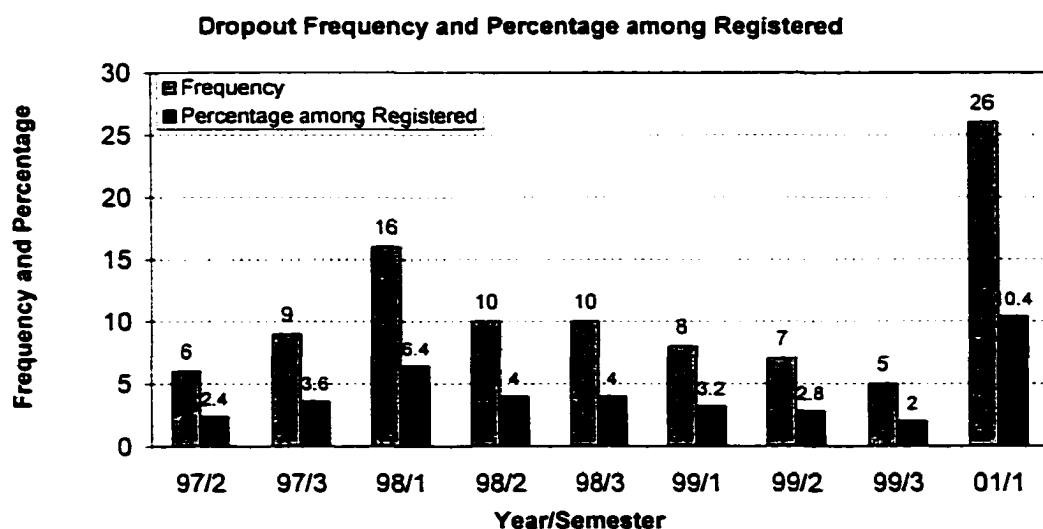
The information regarding the number of participants who did not complete the program is presented in Figure 4. This figure further illustrates the dropout phenomenon.

Table 15

Semester when Participant Dropped out

Year when dropping	Semester	Frequency	Percent	Dropout Percent among the registered participants
1997	Spring	6	6.2	2.4
	Summer	9	9.3	3.6
	Fall	16	16.5	6.4
1998	Spring	10	10.3	4
	Summer	10	10.3	4
	Fall	8	8.2	3.2
1999	Spring	7	7.2	2.8
	Summer	5	5.2	2
2000	Fall	26	26.8	10.4
Total	9 semesters	97	100.0	100.0

N= 97

**Figure 4.** Dropout Frequency and Percentage among Registered.

Reasons for dropping out. The reasons why participants dropped out of the program vary. Table 16 presents the reasons provided by participants, organized by frequency and

percentages. The main reasons given for dropping out of the program are lack of continued interest in the program (35.1%), expired conditional license (16.5%), no longer being in special education (14.4%), having finished on their own (10.3%), and having moved out of State (9.3%). Among other reasons for dropping the program are bad grades, no longer being eligible, not teaching full-time, no need for the program, the participant's death, and retirement.

Table 16

Reasons for Dropping out of the Program

Reason	Frequency	Percent
No longer interested	34	35.1
Expired License	16	16.5
No Longer in Special Education	14	14.4
Finished on Own	10	10.3
Moved out of State	9	9.3
No Longer Teaching	3	3.1
Retired	2	2.1
Other	9	9.3
Total	128	100.0

N=97

In order to learn more about participants' perception of CSEEP program, a telephone interview was conducted with 15 participants who dropped out the program. The interview revealed the following:

All 15 participants indicated that CSEEP was responsive to their needs. Twelve participants (82%) indicated that the grant staff was accessible. Fourteen participants (91%) were satisfied with distance learning experience and sites. All 15 participants indicated

satisfaction with the quality, usefulness, and content of instruction, and 100% of the participants were satisfied with the grant experience.

Participants Who Completed the Program

Telephone interviews were conducted with 104 participants who completed the program to learn how the program participants perceived the program. Telephone interviews revealed that 93% were teaching in their specialty area and only 7% were no longer teaching in their specialty area. As presented in Figure 5, 92% of program participants indicated CSEEP helped them obtain full licensure.

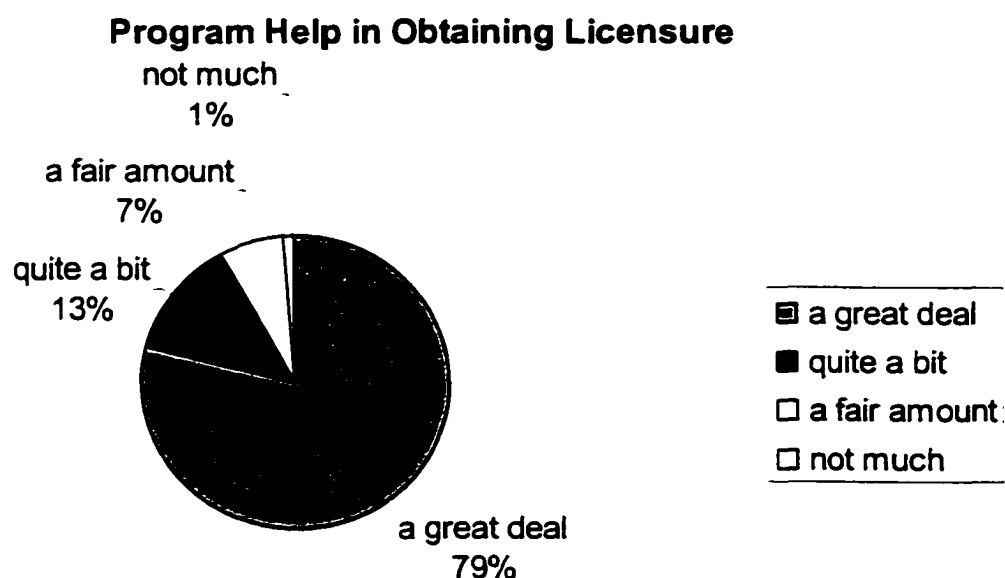


Figure 5. Program Help in Obtaining Licensure.

With regard to the contribution of the program to the participants' ability to provide effective classroom instruction, 95% of the participants indicated that coursework through CSEEP increased their ability to provide effective classroom instruction. The distribution of responses is presented in Figure 6.

Program Help in Ability to Provide Effective Classroom Instruction

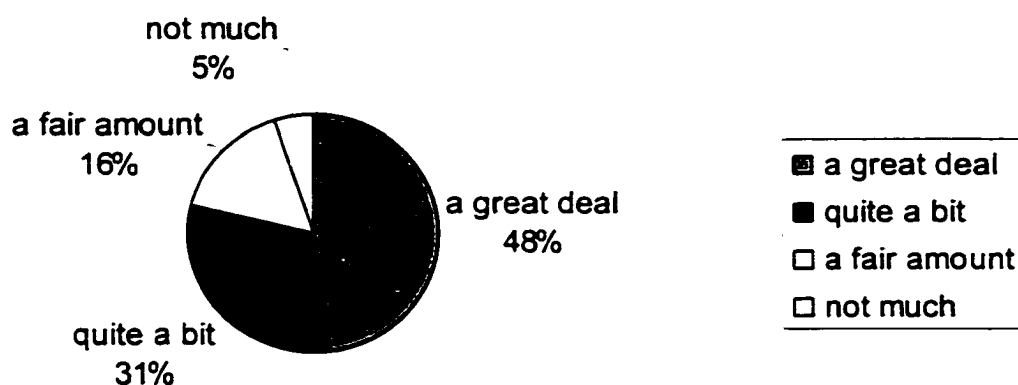


Figure 6. Program Help in Ability to Provide Effective Classroom Instruction.

Participants who completed the program were asked whether the completion of the program through CSEEP increased the likelihood that they would remain in the field of education. As shown in Figure 7, 99% of the participants who completed the program thought that the program increased the likelihood that they would remain in the field of education. Only one participant did not think that the program increased the likelihood that he would remain in the field of education.

Program Help in Retaining Participants in the Field

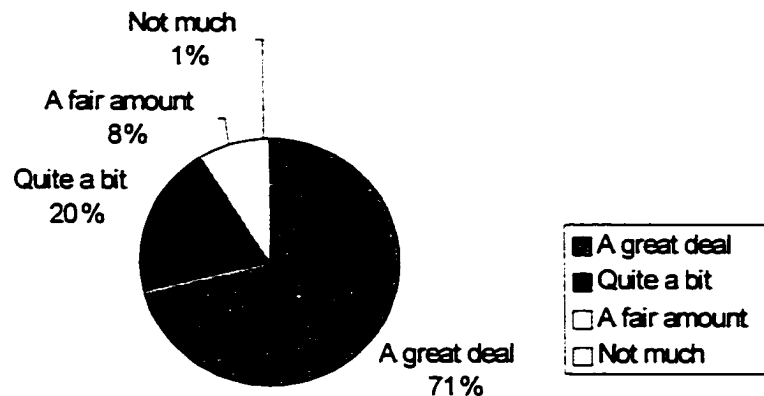


Figure 7. Program Help in Retaining Participants in the Field of Education.

Section II: Impact of the Program on Grant's Participants' Learning and Satisfaction in the emotional disturbance (ED), learning disabilities (LD), and mental retardation (MR) Areas

Participants' satisfaction with CSEEP course work

In order to assess participants' satisfaction with CSEEP coursework, a special education teacher survey was developed (See Appendix G). This survey was designed as a follow-up of program graduates to determine the level of their preparedness as professional educators. Using a 1-5 Likert scale, the participants were asked to rate (a) their current knowledge and skills and (b) any additional training they believed they needed. Survey items were divided into five major categories: Assessment of Student Performance, Preparation and Planning, Instruction, Classroom Management and Collaboration Activities; and the survey results are discussed in this order. Frequencies of responses for the 16 Likert scale items are displayed in Table 17 through Table 26. Tables 16-25 follow with the results of the five major categories of the survey.

Assessment of Student Performance. Responses to items 1 through 3 regarding Assessment of Student Performance, as shown in Table 17, reveal that the majority of the participants feel well prepared or extremely well prepared to conduct effective academic/functional/developmental assessments and instruction. Most also reported feeling well prepared or extremely well prepared to conduct effective assessments of student conduct/behavior and effective academic/developmental/social skills assessments. About 4 percent reported feeling that they had little or no preparation.

Table 17

Survey Responses to Determine Participants' Level of Preparation as a Professional Educator

Survey Items	EWP	WP	AP	UP	L/N	N/R	Mean	SD
ASSESSMENT OF STUDENT PERFORMANCE								
I feel prepared to conduct effective academic/functional/ developmental assessments and instruction.	40 (26.1%)	81 (52.9%)	25 (16.3%)	4 (2.6%)	3 (2%)	0	3.99	.84
I feel prepared to conduct effective assessments of student conduct/behavior.	48 (31.4%)	73 (47.7%)	30 (19.6%)	2 (1.3%)		0	4.09	.75
I feel prepared to conduct effective academic/developmental/ social skills assessments.	51 (33.3%)	67 (43.8%)	29 (19.0%)	5 (3.3%)	1 (.7%)	0	4.06	.84

N=153

EWP=Extremely Well Prepared, WP=Well Prepared, AP=Adequately Prepared, UP=Under Prepared, L/N=Little or No Preparation, N/R=No Response

Instruction. Responses to items 4 through 6 regarding Instruction, as shown in Table 18, reveal that the majority of the participants feel well prepared or extremely well prepared to use academic/ functional/ developmental/ strategies. Most also feel well prepared or extremely well prepared to use effective behavioral management strategies to increase

desired student behavior and decrease undesirable students behaviors and to teach effective social skill strategies. Only one participant reported having little or no preparation.

Table 18

Survey Responses to Determine Participants' Level of Preparation as a Professional Educator

Survey Items	EWP	WP	AP	UP	L/N	N/R	Mean	SD
INSTRUCTION								
I feel prepared to use academic/ functional/ developmental/ strategies.	55 (36.2)	68 (44.7%)	26 (17.1%)	3 (2%)		1 (.7%)	4.15	.77
I feel prepared to use effective behavioral management strategies to increase desired student behavior and decrease undesirable students behaviors.	53 (34.6%)	73 (47.7%)	24 (15.7%)	3 (2%)		0	4.15	.75
I feel prepared to teach effective social skill strategies.	46 (30.1%)	63 (41.2%)	36 (23.5%)	6 (3.9%)	1 (.7%)	1 (.7%)	3.97	.87

N=153

EWP=Extremely Well Prepared, WP=Well Prepared, AP=Adequately Prepared, UP=Under Prepared, L/N=Little or No Preparation, N/R=No Response

Preparation and planning. Items 7, 12, 13 of the survey regarding Preparation and Planning, revealed similar results. As shown in Table 19, the majority of the participants feel well prepared or extremely well prepared to use academic/functional/developmental/ strategies, effective behavioral management strategies to increase desired student behavior and decrease undesirable students behaviors and to teach effective social skill strategies. One participant indicated little or no preparation.

Table 19

Survey Responses to Determine Participants' Level of Preparation as a Professional Educator

Survey Items	EWP	WP	AP	UP	L/N	N/R	Mean	SD
PREPARATION AND PLANNING								
I feel prepared to develop and implement basic academic programs and to utilize appropriate learning strategies and compensatory techniques for content area participants.	55 (35.9%)	62 (40.5%)	31 (20.3%)	3 (2.0%)	1 (.7%)	1 (.7%)	4.10	.84
I feel prepared to make curricular adaptations to enhance/ remediate learning development.	66 (43.1%)	67 (43.8%)	13 (8.5%)	4 (2.6%)		3 (2.0%)	4.30	.74
I feel prepared to use methods that promote maintenance/ generalization of learning.	53 (34.6%)	72 (47.1%)	19 (12.4%)	5 (3.3%)		4 (2.6%)	4.16	.77

N=153

EWP=Extremely Well Prepared, WP=Well Prepared, AP=Adequately Prepared, UP=Under Prepared.

L/N=Little or No Preparation, N/R=No Response

Classroom management. Responses to items 8 through 11 regarding Classroom Management, as shown in Table 20, reveal that the majority of the participants feel well prepared or extremely well prepared to apply individualized instructional techniques to specific classroom problems and to organize the physical environment of the classroom to facilitate effective instruction. About 5 percent reported having little or no preparation. Regarding the use of data-based methods to increase desired student behaviors, decrease undesirable behaviors, and increase academic/ functional/ developmental performance about 40% reported they feel adequately prepared to complete these tasks.

Table 20

Survey Responses to Determine Participants' Level of Preparation as a Professional Educator

Survey Items	EWP	WP	AP	UP	L/N	N/R	Mean	SD
CLASSROOM MANAGEMENT								
I feel prepared to use data-based methods to increase desired student behaviors and decrease undesirable behaviors.	35 (22.9%)	65 (42.5%)	39 (25.5%)	13 (8.5%)	1 (.7%)	0	3.78	.92
I feel prepared to data-based methods to increase academic/ functional/ developmental performance.	35 (22.9%)	63 (41.2%)	40 (26.1%)	13 (8.5%)	2 (1.3%)	0	3.76	3.7 6
I feel prepared to apply individualized instructional techniques to specific classroom problems.	63 (41.2%)	68 (44.4%)	17 (11.1%)	3 (2%)	1 (.7%)	1 (.7%)	4.24	.78
I feel prepared to organize the physical environment of the classroom to facilitate effective instruction.	79 (51.6%)	54 (35.3%)	13 (8.5%)	4 (2.6%)	1 (.7%)	2 (1.3%)	4.36	.80

N=153

EWP=Extremely Well Prepared, WP=Well Prepared, AP=Adequately Prepared, UP=Under Prepared, L/N=Little or No Preparation, N/R=No Response

Collaboration activities. Responses to items 14 through 16 regarding Collaboration Activities, as shown in Table 21, reveal that the majority of the participants feel well prepared or extremely well prepared to work collaboratively with colleagues and families, to facilitate transition and the appropriate placement of students, to communicate effectively with general education teachers and others allied professionals to successful inclusion of students with diverse learning needs. About 6 percent reported feeling that they are under prepared to perform these activities. None of the participants reported having little or no preparation.

Table 21

Survey Responses to Determine Participants' Level of Preparation as a Professional Educator

Survey Items	EWP	WP	AP	UP	L/N	N/R	Mean	SD
COLLABORATION ACTIVITIES								
I feel prepared to work collaboratively with colleagues & families to facilitate transition and the appropriate placement of my students.	79 (51.6%)	51 (33.3%)	17 (11.1%)	3 (2.0%)		3 (2.0%)	4.37	.76
I feel prepared to communicate effectively with others.	88 (57.5%)	50 (32.7%)	10 (6.5%)	2 (1.3%)		3 (1.3%)	4.49	.68
I feel prepared to collaborate with general education teachers and others allied professionals to successful inclusion of students with diverse learning needs.	82 (53.6%)	53 (34.6%)	13 (8.5%)	1 (.7%)		4 (2.6%)	4.45	.68

N=153

EWP=Extremely Well Prepared, WP=Well Prepared, AP=Adequately Prepared, UP=Under Prepared, L/N=Little or No Preparation, N/R=No Response

Level of Additional Training Needed

Assessment of student performance. Responses to items 1 through 3 regarding assessment of student performance, as shown in Table 22, reveal that the majority of the participants feel little need for additional training in conducting effective academic/ functional/ developmental assessments and instruction, effective assessments of student conduct/behavior and effective academic/ developmental/ social skills assessments. About 10 percent reported great need for additional training.

Table 22

Survey Responses to Determine Participants' Level of Additional Training Needed

Survey Items	GN	MN	LN	NN	N/R	Mean	SD
PREPARATION AND PLANNING							
I feel prepared to conduct effective academic/ functional/ developmental assessments and instruction.	11 (7.2%)	37 (24.2%)	63 (41.2%)	30 (19.6)	12 (7.8%)	2.21	.87
I feel prepared to conduct effective assessments of student conduct/behavior.	8 (5.2%)	32 (20.9%)	55 (35.9%)	41 (26.8%)	17 (11.1%)	2.05	.88
I feel prepared to conduct effective academic/ developmental/ social skills assessments.	9 (5.9%)	30 (19.6%)	58 (37.9%)	39 (25.5%)	17 (11.1%)	2.07	.88

N=153

GN=Greatly needed, MN=Moderately needed, LN=Little needed, NN=None Needed, N/R=No Response

Instruction. Responses to items 4 through 6 regarding Instruction, as shown in Table 23, reveal that the majority of the participants feel no need or little need of additional training in using academic/ functional/ developmental/ strategies, effective behavioral management strategies to increase desired student behavior and decrease undesirable students behaviors and in teaching effective social skill strategies. About 7 percent reported great need for additional training to accomplish the instruction tasks.

Table 23

Survey Responses to Determine Participants' Level of Additional Training Needed

Survey Items	GN	MN	LN	NN	N/R	Mean	SD
INSTRUCTION							
I feel prepared to use academic/ functional/ developmental/ strategies.	6 (3.9%)	31 (20.3%)	53 (34.6%)	45 (29.4%)	18 (11.8%)	1.99	.86
05: I feel prepared to use effective behavioral management strategies to increase desired student behavior and decrease undesirable students behaviors.	9 (5.9%)	26 (17.0%)	55 (35.9%)	46 (30.1%)	17 (11.1%)	1.99	.89
I feel prepared to teach effective social skill strategies.	5 (3.3%)	36 (23.5%)	48 (31.4%)	46 (30.1%)	18 (11.8%)	2.00	.87

N=153

GN=Greatly needed, MN=Moderately needed, LN=Little needed, NN=None Needed, N/R=No Response

Classroom management. Responses to items 8 through 11 regarding Classroom Management, as shown in Table 24, reveal that the majority of the participants (50.3%) feel no additional training is needed to organize the physical environment of the classroom to facilitate effective instruction, while only 3% of the participants reported great need for more training to accomplish this task. Most of the participants state little need or no need for additional training in applying individualized instructional techniques to specific classroom problems. Most also reported little or no need to use data-based methods to increase desired student behaviors, decrease undesirable behaviors, and increase academic/ functional/ developmental performance. Eleven percent of the participants reported great need in using data-based methods to increase academic/functional developmental performance and to be able to use data-base methods in order to increase academic/functional/developmental performance.

Table 24

Survey Responses to Determine Participants' Level of Additional Training Needed

Survey Items	GN	MN	LN	NN	N/R	Mean	SD
CLASSROOM MANAGEMENT							
I feel prepared to use data-based methods to increase desired student behaviors and decrease undesirable behaviors.	11 (7.2%)	41 (26.8%)	53 (34.6%)	34 (22.2%)	14 (9.2%)	2.21	.90
I feel prepared to data-based methods to increase academic/ functional/ developmental performance.	11 (7.2%)	40 (26.1%)	59 (38.6%)	30 (19.6%)	13 (8.5%)	2.23	.88
I feel prepared to apply individualized instructional techniques to specific classroom problems.	5 (3.3%)	27 (17.6%)	53 (34.6%)	53 (34.6%)	15 (9.8%)	1.88	.85
I feel prepared to organize the physical environment of the classroom to facilitate effective instruction.	3 (2%)	11 (7.2%)	43 (28.1%)	77 (50.3%)	19 (12.4%)	1.55	.74

N=153

GN=Greatly needed, MN=Moderately needed, LN=Little needed, NN=None Needed, N/R=No Response

Preparation and planning. Items 1, 7, 13 of the survey regarding Preparation and Planning, elicited similar results to each other. As shown in Table 25, the majority of the participants feel low or no need for additional training in order to use academic/ functional/ developmental/ strategies. Nor did most participants report an additional need for effective behavioral management strategies to increase desired student behavior and decrease undesirable students behaviors. Most also did not feel a need to learn strategies for teaching effective social skill strategies. About 6 percent reported great training need for those tasks.

Table 25

Survey Responses to Determine Participants' Level of Additional Training Needed

Survey Items	GN	MN	LN	NN	N/R	Mean	SD
PREPARATION AND PLANNING							
I feel prepared to develop and implement basic academic programs and to utilize appropriate learning strategies and compensatory techniques for content area participants.	8 (5.2%)	29 (19%)	54 (35.3%)	46 (30.1%)	16 (10.5%)	1.99	.89
I feel prepared to make curricular adaptations to enhance/ remediate learning development.	5 (3.3%)	20 (13.1%)	57 (37.3%)	51 (33.3%)	20 (13.1%)	1.84	.82
I feel prepared to use methods that promote maintenance/ generalization of learning.	5 (3.3%)	23 (15.0%)	58 (37.9%)	48 (31.4%)	19 (12.4%)	1.89	.82

N=153

GN=Greatly needed, MN=Moderately needed, LN=Little needed, NN=None Needed, N/R=No Response

Collaboration Activities. Responses to items 14 through 16 regarding Collaboration Activities, as shown in Table 26, reveal that the majority of the participants feel low need or no need for additional training in order to be able to work collaboratively with colleagues and families, to facilitate transition and the appropriate placement of students, to communicate effectively with general education teachers and others allied professionals to successful inclusion of students with diverse learning needs. Only about 5% of the participants reported

having great training need in order to be able to perform these activities. About 46% reported no additional training need to be able to communicate effectively with others.

Table 26

Survey Responses to Determine Participants' Level of Additional Training Needed

Survey Items	GN	MN	LN	NN	N/R	Mean	SD
COLLABORATION ACTIVITIES							
I feel prepared to work collaboratively with colleagues & families to facilitate transition and the appropriate placement of my students.	5 (3.3%)	18 (11.8%)	47 (30.7%)	62 (40.5%)	21 (13.7%)	1.74	.83
I feel prepared to communicate effectively with others.	5 (3.3%)	15 (9.8%)	41 (26.8%)	71 (46.4%)	21 (13.7%)	1.65	.83
I feel prepared to collaborate with general education teachers and others allied professionals to successful inclusion of students with diverse learning needs.	6 (3.9%)	15 (9.8%)	47 (30.7%)	64 (41.8%)	21 (13.7%)	1.72	.84

N=153

GN=Greatly needed, MN=Moderately needed, LN=Little needed, NN=None Needed, N/R=No Response

Participants' Satisfaction with Service Provided by the CSEEP Grant Staff

To assess students' satisfaction with service that has been provided by the CSEEP grant staff, a CSEEP service evaluation survey was developed (See Appendix H). The survey included ten tasks, which the students had to rate in a 1-5 Likert scale, indicating the perceived level of importance they assigned to each task and rating the CSEEP performance in those tasks.

Rating the importance of service provided. Responses to items 1 through 10, as shown in Table 27, reveal that the majority of the participants rated CSEEP staff professionalism, timely responses to requests, responsiveness to identified needs and CSEEP staff resourcefulness, as critically important. Accuracy of billing statements and newsletter quality were determined by 8.5% of the participants as needing improvement. About 64%

participants rated overall satisfaction with grant service as excellent, 23.1% participants thought the grant service was good and 8.4% thought the grant service was satisfactory.

Table 27

Survey Responses to Determine Participants' Rating the Importance of Service Provided

Survey Items	E	G	S	NI	P	N/R	Mean	Std. Dev
Timely Responses to Requests.	93 (65%)	33 (23.1%)	10 (7%)	1 (.7%)		6 (4.2%)	4.59	.66
Responsiveness to identified needs.	85 (59.4%)	41 (28.7%)	10 (7.0%)	1 (.7%)		6 (4.2%)	4.53	.66
Accuracy of Billing Statements	74 (51.7%)	30 (21%)	17 (11.9%)	11 (7.7%)	1 (.7%)		4.24	1.02
CSEEP Staff Professionalism.	98 (68.5%)	33 (23.1%)	6 (4.2%)	1 (.7%)		5 (3.5%)	4.64	.64
OS: CSEEP Staff Accessibility.	87 (60.8%)	30 (21%)	14 (9.8%)	3 (2.1%)		9 (6.3%)	4.45	.77
CSEEP Staff Resourcefulness	80 (55.9%)	37 (25.9%)	14 (9.8%)	3 (2.1%)		9 (6.3%)	4.21	.90
Newsletter Quality.	63 (44.1%)	46 (32.2%)	19 (13.3%)	6 (4.2%)	1 (.7%)	8 (5.6%)	4.21	.75
Transcript/ Record Review.	74 (51.7%)	46 (32.2%)	16 (11.2%)	1 (.7%)		6 (4.2%)	4.41	.72
E-mail Communication.	61 (42.7%)	40 (28%)	14 (9.8%)	1 (.7%)	1 (.7%)	26 (18.2%)	4.35	.79
Overall Satisfaction with Grant Experience.	92 (64.3%)	31 (21.7%)	12 (8.4%)	1 (.7%)	1 (.7%)		4.55	.75

N=143

E=Excellent, G=Good, S=Satisfactory, NI=Needs Improvement, P=Poor, N/R=No Response

Rating the performance of service provided. Responses to items 1 through 10, as shown in Table 28, reveal that the majority of the participants reported that CSEEP staff professionalism, timely responses to requests, responsiveness to identified needs and CSEEP staff resourcefulness were performed excellently. Accuracy of billing statements and transcript/ record review were determined by 7.7% of the participants as needing improvement in their performance. About 64.3% participants rated overall performance and

satisfaction with grant experience as excellent, 21.7% participants rated the performance of service that has been provided as good and 7.7% thought the experience with grant staff performance was satisfactory.

Table 28

Survey Responses to Determine Students' Rating the Performance of Grant Staff

Survey Items	E	G	S	NI	P	N/R	Mean	Std. Dev
Timely Responses to Requests.	93 (65%)	33 (23.1%)	10 (7%)	1 (.7%)		6 (4.2%)	4.59	.66
Responsiveness to identified needs.	86 (60.1%)	40 (28%)	10 (7%)	1 (.7%)		6 (4.2%)	4.54	.66
Accuracy of Billing Statements	74 (51.7%)	30 (21%)	17 (11.9%)	11 (7.7%)	1 (.7%)	10 (7%)	4.24	1.02
04: CSEEP Staff Professionalism.	99 (69.2%)	33 (23.1%)	6 (4.2%)	1 (.7%)		4 (2.8%)	4.65	.60
CSEEP Staff Accessibility.	87 (60.8%)	30 (21%)	14 (9.8%)	3 (2.1%)		9 (6.3%)	4.50	.77
CSEEP Staff Resourcefulness	80 (55.9%)	37 (25.9%)	14 (9.8%)	3 (2.1%)		9 (6.3%)	4.45	.77
Newsletter Quality.	63 (44.1%)	46 (32.2%)	19 (13.3%)	6 (4.2%)	1 (.7%)	8 (5.6%)	4.21	.90
Transcript/ Record Review.	74 (51.7%)	30 (21%)	17 (11.9%)	11 (7.7%)		10 (7%)	4.24	1.01
E-mail Communication.	61 (42.7%)	41 (28.7%)	14 (9.8%)	3 (2.1%)		24 (16.8%)	4.34	.79
Overall Satisfaction with Grant Experience.	92 (64.3%)	31 (21.7%)	11 (7.7%)	1 (.7%)	1 (.7%)	7 (4.9%)	4.56	.74

N=143

E=Excellent, G=Good, S=Satisfactory, NI=Needs Improvement, P=Poor, N/R=No Response

Participants' Level of Academic Training

The course grades of the program participants were computed by calculating for each participant the average of all the courses, followed by computing the average of total courses for all participants. Table 29 presents the mean and the standard deviation of the participants' course grades

Table 29

Grades Level of Participants in the CSEEP Program Courses

N	Minimum	Maximum	Mean	SD
118	2.80	4.00	3.8	.3

Note. Data is missing for 35 participants (27%)

N= 118

Grades for 35 participants from the two first semesters of 1997 were missing from the database. Participants' grades are considered to be high with a very low variance. The lowest average grade obtained was 2.80 out of 4.00.

Usefulness of the mentoring to the participants' training

Data on the usefulness of the mentoring to the participants' training was obtained through phone interviews. Fifteen participants were randomly selected and interviewed by phone. They were asked whether the mentoring had been useful to them. Eighty-seven percent indicated that the mentor program provided appropriate support.

Table 30

Mentoring Evaluation by Participants

Kind of Support	Frequency	Percent
A great deal	9	60
Quite a bit	3	20
A fair amount	1	6.7
Not much	2	13.3
Total	15	100.0

Note. N= 15. SD= 9.8. M=3.3.

Section III - Impact of Program On Schools

Number of special education endorsed teachers in the Commonwealth of Virginia

As stated in the literature review, there is a shortage of special education certified teachers, both in the United States and in Virginia. Data regarding the number of fully certified special education teachers, the number of not fully certified teachers, and number of vacant positions in Virginia is presented in Table 31 as well as in Figure 8.

Table 31

Total Number of Teachers Employed and Vacant Funded Positions (full-time equivalency) in Virginia for Children and Youth with Disabilities, Aged 6-21, 1993-96.

Year	<u>Teachers Employed</u>			Vacant Positions
	Fully certified	Not fully certified	Not fully certified %	
1993-94	7907	831	9.5	60
1994-95	8636	919	9.6	75
1995-96	8885	1028	10.4	62
1996-97	9501	1028	9.8	59
1997-98 *	9899	1124	10.2	51
1998-99 *	10038	1505	13	

Source: 18th, 19th, 20th, 21st Annual Report to Congress, 1996-1998.

The data in this section revealed that although the number of fully special education certified teachers increased between the years 1993-1999, the number of not fully certified special education teachers also increased from 831 to 1505 (9.5%-13%). This can be due to the growing number of students with disabilities. Although the number of fully certified teachers increased over the years, the student population grew as well, and more children with special education needs required the services of special education programs.

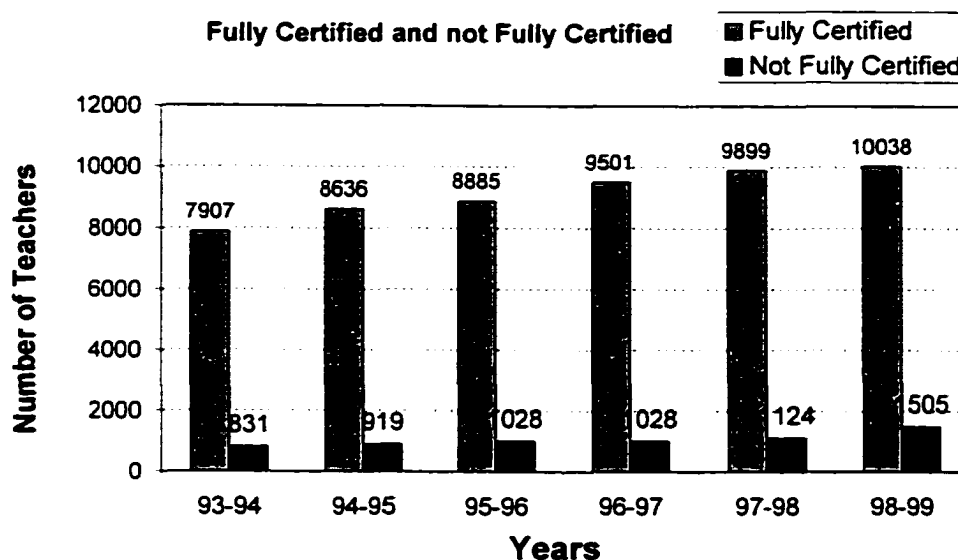


Figure 8. Total Number of Teachers Employed and Vacant Funded Positions.

As seen in Figure 8, the number of fully certified special education teachers and not fully certified teachers grew during the years 1993-1999. Although the CSEEP program produces certified teachers, population growth has resulted in Virginia's education system continuing to face a scarcity of special education teachers. Still the CSEEP program increases the number of certified teachers by enabling some of the Virginia unendorsed teachers to obtain licensure. Table 32 presents the numbers and percentages of CSEEP program's participants who obtained certification in the years 1997-2000.

Table 32

Semester when Program was finished

Year when finished	Semester	Frequency	Percent
1997	Fall	1	.7
	Spring	10	7.0
	Summer	19	13.4
1998	Fall	27	19.0
	Spring	26	18.3
	Summer	22	15.5
1999	Fall	15	10.6
	Spring	20	14.1
	Summer	1	.7
2000	Fall	1	.7
Total	10	142	100.0

Note. Data is missing for 11 participants (7.2%)

N= 142

As presented in Figure 9, during the three semesters of 1998 the largest number of teachers finished the program and obtained certification. At the beginning of the program there were few participants who completed the requirements and obtained licensure through the program. During the third semester of year 1999 and the first semester of 2000, only one participant among the participants included in this evaluation obtained licensure. However, this does not necessarily mean that there were not more participants who finished. Data were unavailable for those who may have finished in the summer of 1999 or the fall of 2000 and who were not in the pool of participants examined for this study.

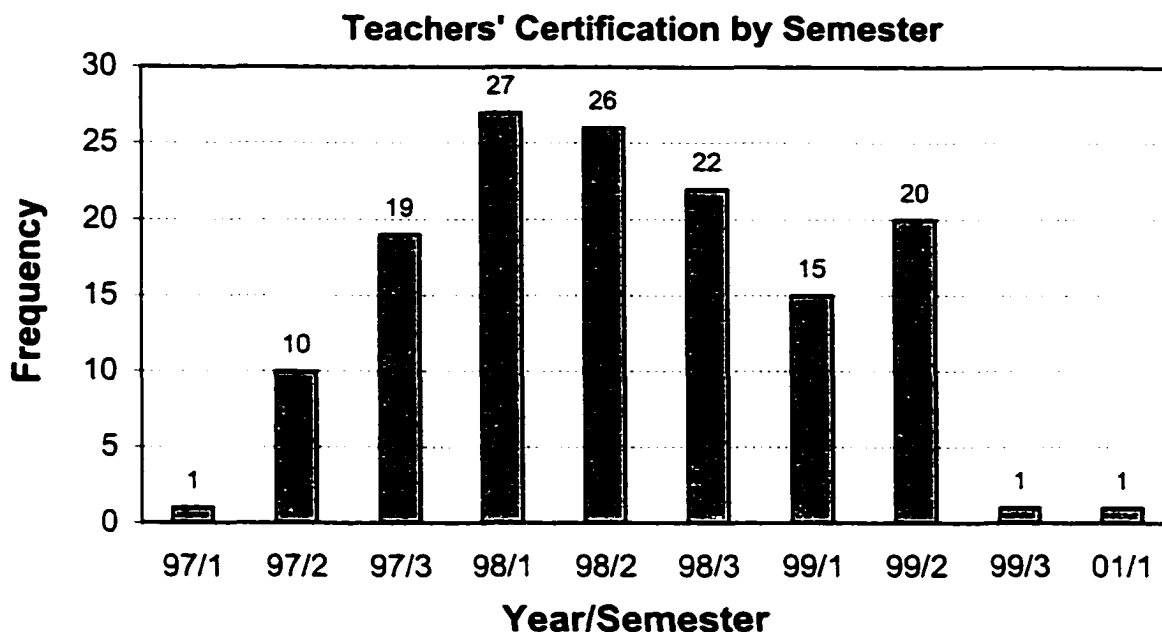


Figure 9. Teachers' Certification by Semester.

This program is still in process, as mentioned earlier, for at least two more years, and in the last two years has produced additional certified teachers. This evaluation includes 153 participants, but during the years 1997-2000, 240 teachers have finished the program and thus have obtained licensure, thereby increasing the number of certified teachers in Virginia.

Section IV – Evaluation Questions

The evaluation was guided by the following questions:

1. Is there a correlation between Participants' satisfaction with level of preparation in each task and between participants' additional level of training needed in each task in the different teaching assignments (in ED, LD, and MR)?
2. Is there a correlation between how participants rate their level of training in each task and between how mentors rate participants level of training in each task,
3. Is there significant difference in the amount of time participants spent on each task, over time?

4. Is there a significant difference in how participants from different teaching assignments rate the importance of each task, before and after the program?
5. Is there a significant difference in how participants from different teaching assignments rate the level of training in each task, before and after the program?
6. Is there a significant difference in how mentors rate the participants over the 3 trials for each task?

These responses to the questions were gathered using a variety of instruments: questionnaires, program evaluation surveys, phone surveys. This researcher, with the assistance of the program managers and the on-site program directors, administered the instruments and collected data.

Evaluation Question Number 1

Evaluation question 1 sought to determine if there is a correlation between participants' satisfaction with level of preparation in each task and between participants' additional level of training needed in each task in the different teaching assignments (in ED, LD, and MR). The items in each part of the survey were computed. A measurement or scale presented in Table 33 was created for each task and tested for reliability. Cronbach's alpha revealed a high internal consistency (from .75 to .93) indicating that the items in each part of the survey are strongly related.

Table 33

Means, Standard Deviations and Reliability Coefficients Analysis

Task Items	N of Cases	Means	Sd	N of Items	Alpha
S1 Preparation - Assessment of Student performance	75	4.13	0.61	3	0.83
S2 Preparation - Instruction	75	4.13	0.61	3	0.75
S3 Preparation - Preparation and Planning	75	4.29	0.63	3	0.88
S4 Preparation - Classroom Management	75	4.07	0.58	4	0.77
S5 Preparation - Collaboration Activities	73	4.53	0.53	3	0.88
SS1 Training - Assessment of student performance	67	2.08	0.74	3	0.89
SS2 Training - Instruction	65	2.02	0.80	3	0.86
SS3 Training - Preparation and Planning	66	1.81	0.73	3	0.93
SS4 Training - Classroom Management	69	1.96	0.70	4	0.85
SS5 Training - Collaboration Activities	62	1.66	0.79	3	0.91

A One-tailed Pearson Correlation was computed between participants' satisfaction with level of preparation and between participant's additional level of training needed in each task, for all participants and for different teaching assignments. The correlation results are presented in Table 34.

Table 34

Correlations between Participants' Satisfaction with level of Preparation and Between Participant's Additional Level of Training Needed in Each Task, for all People and for Different Teaching Assignments

The Task	All People (n=69)	ED (n=7)	LD (n=43)	MR (n=20)
Assessment of Student Performance	-.52**	-.21	-.54**	-.60**
Instruction	-.58**	-.41	-.53**	-.80**
Preparation and Planning	-.49**	-.29	-.32*	-.84**
Classroom Management	-.46**	-.29	-.32*	-.81**
Collaboration Activities	-.55**	-.51	-.47**	-.72**

* $p \leq .05$ ** $p \leq .01$

As shown in Table 34, there is a high negative correlation between participants' satisfaction with level of preparation and between participant's additional level of training needed in each task for all people. The more participants are satisfied with level of preparation the less training they need in each task and the less participants are satisfied with level of preparation in each task the more training they need. The correlation results computed for the different teaching assignments reveal as well a high negative correlation between participants' satisfaction with level of preparation and between participant's additional level of training needed in each task. The negative correlation results for the ED teaching assignment is not significant due to a small number of participants included in this group ($N=7$).

Evaluation Question Number 2

Evaluation question 2 sought to determine if there is a correlation between how participants rate their level of training in each task and how mentors rate participants' level of training in each task. The items in each part of the survey were computed. A measurement presented in table 35 was created for the level of training in each task (6 tasks) as reported by program participants and tested for reliability. A measurement was created for the level of training for each task (6 tasks) as reported by mentors. Scales were computed by using the average of the items in each task. The range of scores for the participants' rating ranged between 1-5, 1 being "little or no training" and 5 being "extremely well prepared". The range of scores for the mentors' rating the participants ranged between 1-4, 1 being "teacher has not yet developed the skill" and 4 being "teacher uses this skill consistently and with a high degree of competence and confidence".

Cronbach's alpha revealed a high correlation of items, indicating that the items in each part of the survey are strongly related and suggesting consistency of items. Rating importance of each task was used as an additional measurement.

A Two Tailed Pearson Correlation was computed between participants' assessment of their level of training, between participants' rating the importance of tasks and between participants' task performance as assessed by mentors. The correlation results are presented in Table 36.

Table 35

Means, Standard Deviations and Reliability Coefficients Analysis Coefficients for Level of Training Scales and Mentor's Level of Training Scales

Scales	N of Cases	Means	Sd	N of Items	Alpha
Level of Training – Assessment of student performance	125	3.94	.76	5	.885
Rating of Importance – Assessment of student performance	125	4.47	.52	5	.785
Mentor Level of Training – Assessment of student performance	108	3.70	1.32	5	.868
Level of Training – Preparation and Planning	124	3.90	.93	5	.927
Rating of Importance – Preparation and Planning'	125	4.36	.61	5	.875
Mentor Level of Training – Preparation and Planning'	115	3.63	.50	5	.917
Level of Training – Instruction'	125	4.00	.86	4	.945
Rating of Importance – Instruction'	125	4.49	.54	4	.902
Mentor Level of Training – Instruction'	111	3.63	.50	4	.923
Level of Training - Teaching Specific Content'	124	3.36	.94	8	.909
Rating of Importance – Teaching Specific Content'	124	4.31	.62	8	.861
Mentor Level of Training – Teaching Specific Content'	107	3.67	.51	8	0.96
Level of Training - Classroom Management'	124	4.11	.76	4	.861
Rating of Importance – Classroom Management	124	4.47	.55	4	.841
Mentor Level of Training – Classroom Management	115	3.58	.47	4	.884
Level of Training – Collaboration Activities	124	4.05	.76	9	.939
Rating of Importance – Collaboration Activities	124	4.45	.67	9	.587
Mentor Level of Training - Collaboration Activities	106	3.63	.48	9	.890

Table 36

Intercorrelations Between Level of Training, Rating of Importance and Mentor Level of Training, for all the Tasks

The Task	Level of Training with Rating of Importance	Level of Training with Mentor Level of Training
Assessment of Student Performance	.35**	.09
Preparation and Planning	.44**	.07
Instruction	.51**	.24*
Teaching Specific Content	.37**	.07
Classroom Management	.57**	.14
Collaboration Activities	.37**	.10

* $p \leq .05$ ** $p \leq .01$

As shown in Table 36, there is a high positive correlation between rating of importance and between level of training in all tasks. There is no significant correlation between how participants rate their level of training in assessment of student performance, preparation and planning, teaching specific content, classroom management and collaboration activities and between how mentors rate participants' level of training in these tasks. There is a significant correlation only between how participants rate their level of training in instruction and between how mentors rate participants' level of training in instruction ($r=.24$, $p \leq .05$).

Evaluation Question Number 3

Evaluation question 3 sought to determine if there is significant difference over time in the amount of time participants spent on each task. In order to answer this question, variables were computed summing up the total time devoted to all items in each task. A paired sample t-test was computed, making a comparison between the time participants reported they spent

in each item in the six tasks (M1-M6) and the total time participants reported they spent in all the tasks altogether (Totmin1-totmin6). A difference was computed between the time the participants reported they spent in each task and between the total time participants reported they spent in all the tasks. This difference is due to the fact that in the total time reported there were tasks that overlapped so teachers reported them twice, stating amount of time for each of those tasks, while in the total time there was no overlapping.

In order to answer this question, an Analysis of Variance was conducted on the amount of time teachers spent over time (6 trials) on different tasks (6 tasks). A post-hoc Bonferroni was administered in order to identify the source of the effects. Results with significance level of $p \leq .05$ will be reported.

Table 37

Table 37 Means and Standard Deviations of Amount of Time Teachers Spent on Different Tasks, Over Time ($N=129$)

Time	Time 1		Time 2		Time 3		Time 4		Time 5		Time 6	
Task	Mean	Sd	Mean	Sd	Mean	Sd	Mean	Sd	Mean	Sd	Mean	Sd
Assessment of student performance	69.51	101.3	61.24	78.94	73.42	108.8	57.64	63.98	56.82	81.07	58.71	68.42
Preparation and planning	64.71	54.57	64.43	84.73	56.24	42.06	55.60	44.49	48.29	35.69	50.95	37.76
Instruction	156.9	109.0	152.0	174.6	137.7	106.8	127.1	98.86	129.5	100.1	134.6	104.1
Teaching specific content	182.5	94.03	180.3	95.99	186.1	98.72	178.4	107.5	179.7	99.76	185.2	113.7
Classroom Management	58.49	101.3	49.40	75.70	51.41	84.88	54.28	92.13	48.98	78.49	52.84	91.72
Collaboration Activities	50.93	67.75	53.65	74.00	57.41	99.94	53.23	67.59	50.44	69.88	48.78	51.94

Table 38 presents the results for the Analysis of Variance.

Table 38

Analysis of Variance of Amount of Time Teachers Spent on Different Tasks, Over Time

Source of Variance	SS	df	MS	F
Time	75660.37	5	15132.07	3.69**
Within Cells	2621914.6	640	4096.74	
Task	12061513.2	5	2412302.6	108.10**
Within Cells	14281940.12	640	22315.53	
Time X Task	100566.23	25	4022.65	1.23
Within Cells	10435582.11	3200	3261.12	

** $p \leq .01$

Results suggest that there are significant differences between the six evaluations ($F(5,640)=3.69$, $p \leq .01$). Figure 10 presents the results.

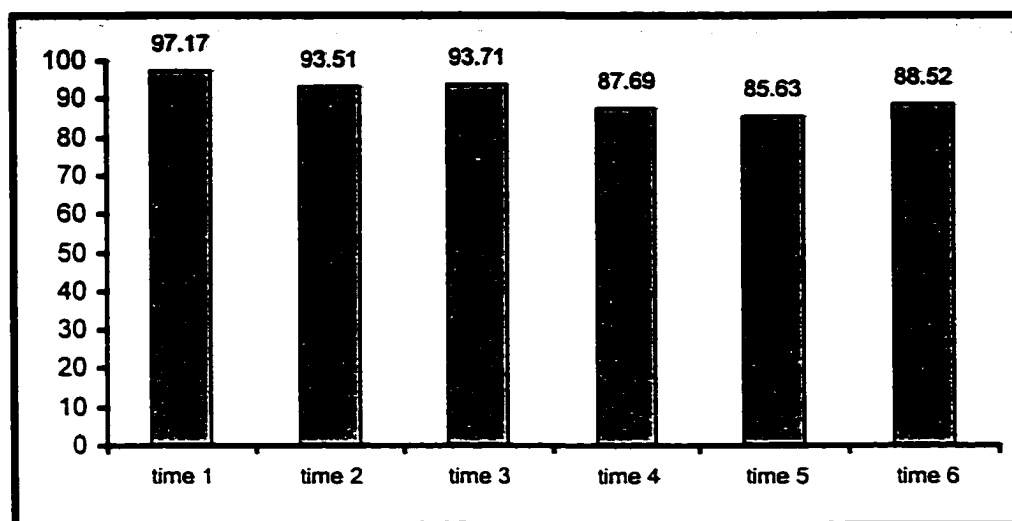


Figure 10. Means of Amount of Time Teachers Spent over Time.

Findings reveal that teachers spend the most time in the different tasks in the first time measured ($M=97.17$). Teachers spent the least time in the fifth time measured ($M=85.63$). Differences were found according to type of task ($F(5,640)=108.10, p \leq .01$). Means of amount of time teachers spent on different tasks are presented in Figure 11.

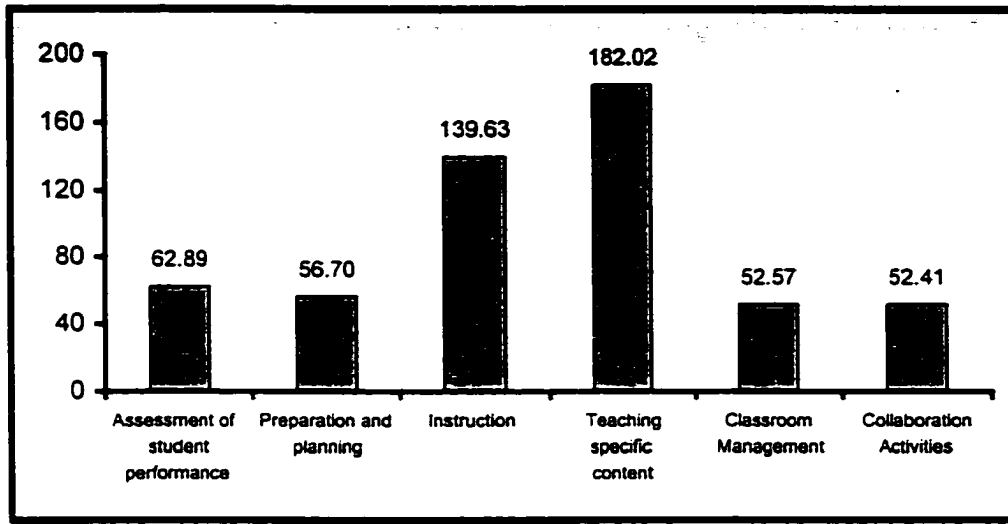


Figure 11. Means of Amount of Time Teachers Spent on Different Tasks.

Findings reveal that teachers spend the most time in “teaching specific content” ($M=182.02$), The second most time is spent on instruction ($M=139.63$), followed by assessment of student performance ($M=62.89$), preparation and planning ($M=56.70$), classroom management ($M=52.57$) and collaboration activities ($M=52.41$).

No interaction was found between kind of task and between time of the evaluation ($F(25,3200)=1.23$, (non-significant). Thus, differences between time allotted to different tasks are similar over time.

Evaluation Question Number 4

Evaluation question 4 sought to determine if there is a significant difference in how participants from different teaching assignments rate the importance of each task, before and

after the program. In reference to evaluation question 4, a three-way ANOVA with repeated measures for rating of task importance (6 tasks) time (pre-post) and teaching assignment (LD, ED, MR) was conducted. Table 39 provides a summary of the data analysis.

Table 39

Means and Standard Deviations of Rating of Importance by Task, Time and Teaching Assignments

Time	Before						After					
Teaching Assignments	LD (n=50)		ED (n=19)		MR (n=16)		LD (n=50)		ED (n=19)		MR (n=16)	
Task	Mean	Sd	Mean	Sd	Mean	Sd	Mean	Sd	Mean	Sd	Mean	Sd
Assessment of student performance	4.11	0.46	4.31	0.39	4.05	0.39	4.50	0.53	4.47	0.48	4.36	0.65
Preparation and planning	4.19	0.56	4.25	0.46	4.38	0.50	4.30	0.63	4.65	0.34	4.25	0.71
Instruction	4.39	0.50	4.28	0.52	4.36	0.56	4.46	0.46	4.59	0.43	4.53	0.56
Teaching specific content	4.15	0.62	4.07	0.58	3.95	0.60	4.29	0.57	4.41	0.56	4.30	0.59
Classroom Management	4.08	0.56	4.50	0.48	4.13	0.53	4.39	0.54	4.63	0.46	4.46	0.55
Collaboration Activities	4.09	0.54	4.33	0.44	4.00	0.51	4.34	0.60	4.58	0.40	4.29	0.61

Table 40 reveals that there are significant differences according to time ($F(1,82)=22.58, p \leq .01$). It was found that in the post test participants rate the different tasks as more important ($M=4.41$) than in the pre-test ($M=4.18$). Significant differences were found according to type of task ($F(5,410)=4.68, p \leq .01$). The participants rated the Instruction ($M=4.40$) as the most important task, and Teaching Specific Content as the least of the most important tasks ($M=4.17$). Three Way Interaction was found between task, time,

and teaching assignments regarding rating of importance. Table 40 presents results of three-way ANOVA analysis. Rating importance presented by Task, Time and Teaching Assignments.

Table 40

Analysis of Variance of Rating of Importance by Task, Time and Teaching Assignments

Source of Variance	SS	df	MS	F
Between Subjects Effects				
Assignment	1.92	2	0.96	0.62
Within Cells	126.05	82	1.54	
Within Subjects Effects				
Time	10.83	1	10.83	22.58**
Time X assignment	0.31	2	0.15	0.32
Within Cells	39.32	82	0.48	
Task	4.15	5	0.83	4.68**
Task X assignment	2.71	10	0.27	1.53
Within Cells	72.70	410	0.18	
Time X Task	0.57	5	0.11	0.91
Time X Task X assignment	2.97	10	0.30	2.38**
Within Cells	51.18	410	0.13	

** $p \leq .01$

Figure 12 presents the interaction between task, time and teaching assignments.

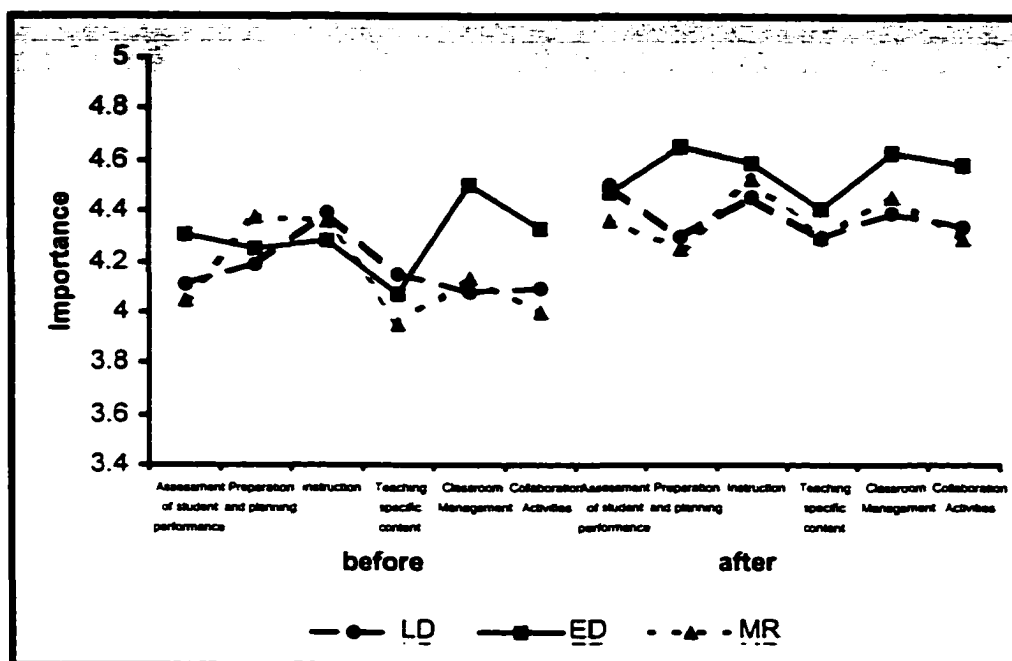


Figure 12. Interaction of Rating of Importance by Task, Time and Teaching Assignments.

As presented in Table 39 and in Figure 12, while LD participants reported in the pre-test Instruction as the most important task ($M=4.39$), they considered assessment of student performance as most important ($M=4.50$) in the post-test, still rating instruction as very important in the post-test (4.46). LD participants rated assessment of student performance ($M=4.11$), classroom management (4.08) and collaboration activities (4.09) as less important in the pre-test; but in the post-test, they reported assessment of student performance as the most important task (4.50). ED participants reported in the pre-test classroom management as the most important task ($M=4.50$); they considered preparation and planning ($M=4.65$) and classroom management ($M=4.63$) as most important in the post-test. LD participants rated teaching specific content as less important in the pre-test ($M=4.07$) and in the post-test ($M=4.41$). MR participants in the pre-test reported instruction ($M=4.36$) and preparation and planning ($M=4.38$) as the most important tasks ($M=4.39$); in the posttest, they considered instruction as most important ($M=4.53$). LD participants rated teaching specific content

($M=3.95$), collaboration activities (4.00) and assessment of student performance (4.05) as less important in both the pre-test and the post-test.

Evaluation Question Number 5

Evaluation question 5 sought to determine if there is a significant difference in how participants from different teaching assignments rate the level of training in each task, before and after the program. In reference to evaluation question 5, a three-way ANOVA with repeated measures for rating of level of training (6 tasks), time (pre-post), and teaching assignment (LD, ED, MR) was conducted. Table 41 provides a summary of the data analysis.

Table 41

Means and Standard Deviations of Level of Training by Time, Task and Teaching Assignments

Time	Before						After					
Teaching Assignments	LD (n=46)		ED (n=19)		MR (n=16)		LD (n=46)		ED (n=19)		MR (n=16)	
Task	Mean	Sd	Mean	Sd	Mean	Sd	Mean	Sd	Mean	Sd	Mean	Sd
Assessment of student performance	2.91	0.82	3.38	0.72	3.14	0.71	3.93	0.83	4.18	0.48	3.84	0.83
Preparation and planning	3.43	0.73	3.86	0.81	3.42	0.66	3.90	0.87	4.07	0.90	3.83	1.03
Instruction	3.40	0.70	3.63	0.69	3.45	0.74	3.97	0.83	4.24	0.65	3.98	1.03
Teaching specific content	2.96	0.87	3.09	0.50	3.00	0.87	3.29	0.81	3.53	0.84	3.61	1.10
Classroom Management	3.10	0.79	3.49	0.83	3.30	0.83	3.96	0.76	4.38	0.60	4.11	0.78
Collaboration Activities	3.10	0.83	3.46	0.76	3.58	0.81	3.93	0.75	4.19	0.60	4.29	0.62

Table 42 reveals that there are significant differences in the level of training according to time ($F(1,78)=54.78, p \leq .01$) between the pre-test and the post-test. It was found that in the post-test, participants' level of training in the different tasks is rated higher ($M=3.96$) than in the pre-test ($M=3.32$). Significant differences were found according to type of task ($F(5,390)=15.92, p \leq .01$). The level of training in teaching specific content was the lowest ($M=3.25$), followed by assessment of student performance ($M=3.56$), as compared to the level of training in instruction, classroom management, collaboration activities, and preparation and planning, in which the level of training was reported as being higher. Table 42 presents results of three-way ANOVA analysis rating level of training by Task, Time, and Teaching Assignments.

Table 42

Analysis of Variance of Level of Training by Time, Task, and Teaching Assignments

Source of Variance	SS	df	MS	F
Between Subjects Effects				
Assignment	15.20	2	7.60	2.50
Within Cells	236.97	78	3.04	
Within Subjects Effects				
Time	80.91	1	80.91	54.78**
Time X assignment	0.22	2	0.11	0.08
Within Cells	115.20	78	1.48	
Task	28.13	5	5.63	15.92**
Task X assignment	4.21	10	0.42	1.19
Within Cells	137.82	390	0.35	
Time X Task	7.05	5	1.41	5.92**
Time X Task X assignment	1.65	10	0.17	0.69
Within Cells	92.93	390	0.24	

** $p \leq .01$

As shown in Figure 13 a three-way interaction was found between task, time and teaching assignments regarding the level of training in the different tasks ($F(5,390)=5.92$, $p \leq .01$).

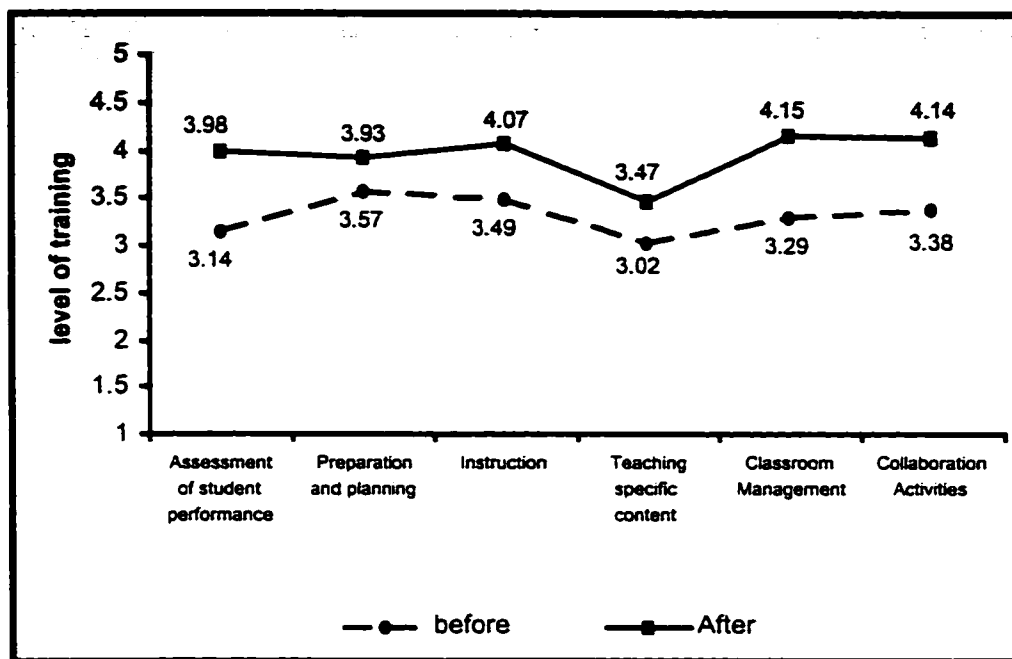


Figure 13. Interaction of Level of Training by Task, Time and Teaching Assignments.

As presented in Figure 13, there is a greater difference in the level of training in assessment of Student Performance, Classroom Management, and Collaboration Activities between the pre-test and the post-test. There is a smaller difference in preparation and planning, instruction, and teaching specific content between the pre-test and the post-test.

Evaluation Question Number 6

Evaluation question 6 sought to determine if there is a significant difference in how mentors rate the participants over the 3 trials for each task. A two-way ANOVA analysis with repeated measures for participants' evaluations according to type of task (6 tasks) and time (3 times) was carried out in this case. Table 43 provides a summary of means and standard deviations of participants' evaluation according to type of task and time.

Table 43

Means and Standard Deviations of Mentors Rates by Task and Time (N=59)

	Observation 1		Observation 2		Observation 3		Total	
Task	Means	Sd	Means	Sd	Means	Sd	Means	Sd
Assessment of student performance	3.40	0.62	3.51	0.63	3.60	0.60	3.50	0.52
Preparation and planning	3.51	0.50	3.67	0.92	3.67	0.53	3.62	0.47
Instruction	3.36	0.58	3.47	0.63	3.64	0.55	3.52	0.56
Teaching specific content	3.48	0.61	3.55	0.66	3.69	0.53	3.58	0.49
Classroom Management	3.33	0.63	3.41	0.71	3.61	0.47	3.44	0.50
Collaboration Activities	3.42	0.54	3.49	0.61	3.65	0.45	3.51	0.45
Total	3.45	0.49	3.52	0.54	3.63	0.41	3.53	0.42

Table 44 presents results of two-way ANOVA analysis rating by task and time.

Table 44

Analysis of Variance of Mentors Rates by Task and Time

Source of Variance	SS	df	MS	F
Time	9.28	2	4.64	8.52**
Within Cells	63.18	116	0.55	
Task	3.20	5	0.64	2.74*
Within Cells	67.77	290	0.23	
Time X Task	0.85	10	0.08	0.91
Within Cells	54.23	580	0.09	

* p ≤ .05 ** p ≤ .01

Table 44 reveals significant differences in participants evaluation according to time of evaluation ($F(2,116)=8.52, p \leq .01$). Figure 14 clarifies this finding.

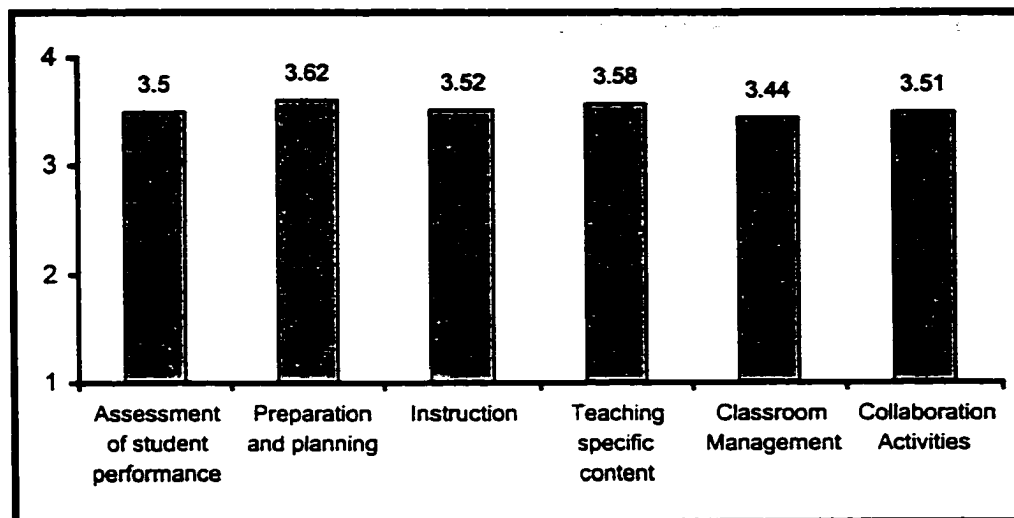


Figure 14. Means of Mentor Rates by Task.

Figure 14 reveals that the mentors rated the preparation and planning task ($M=3.62$) as the one which participants were more aware of and better implemented into the special education classroom. Mentors rated the classroom management task as the one, participants were less aware of ($M=3.44$). As presented in Table 44, no interaction was found between participants' evaluation according to time of evaluation and type of task (F is not significant ($10,580=0.91$), meaning that there are no differences between the different tasks in the different evaluations over time.

Summary

This chapter contained findings from the study, a description of the procedures used in analyzing the data, and a detailed account of the results emerging from all statistical analyses conducted in the evaluation. Chapter V will present a discussion of the implications

of the research findings, a description of possible contributions the evaluation may provide for the program's continuation, and recommendations for future research.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

The Commonwealth Special Education Endorsement Program (CSEEP) at Old Dominion University was designed to address economic and geographic barriers that hinder many special education teachers from seeking full endorsement. It is an ongoing distance-learning program that provides access to quality courses in order to provide a path to licensure and to minimize teachers' attrition from the special education field. In addition, the program was designed to support beginning special education teachers through a strong mentoring program.

The present study was undertaken to develop and implement an evaluation model, to assess program results to examine the effectiveness of the program and the program's impact on both the participants and the schools, and to identify ways to improve the program. The level of participant satisfaction with the program also was measured.

Chapter I provided an overview of the current state of special education, both nationally and in the Commonwealth of Virginia, where the need for special education teachers is rising at the same time that too few teachers are entering the field. The shortage of licensed special education teachers, major reasons for the shortage, and the importance of retention in the field were addressed. Chapter I also provided an overview of mentoring and its possible contribution toward reducing the shortage of special education teachers by encouraging students and providing guidance in implementing best practices in the special education field. Distance education in general—and the Commonwealth Special Education Endorsement Program (CSEEP) in particular—was

discussed as an innovative solution to the barriers that prevent a significant number of special education teachers from obtaining full endorsement.

Chapter II provided background information on the research topics through a review of relevant literature. The current state of special education, including the teacher shortage; the issue of licensure in special education; the importance of encouraging retention; and the value of mentoring were among the topics discussed. Included was information on distance education in general and the Commonwealth Special Education Endorsement Program (CSEEP) through TELETECHNET as one way of addressing the problem of the special education shortage.

Chapter III presented the design of the proposed study and the method in which it was conducted. This chapter described the research purpose, which was to evaluate the efficacy of the CSEEP program. The research questions guiding the study examined the effectiveness of the program, and the program's impact on the participants. The research questions also identified ways to improve the program. Information regarding the research design, sample, instrumentation, and the statistical analysis used in the evaluation model was included. The research questions were tested using questionnaires, surveys and interviews. Participation in the CSEEP program helped teachers consider the importance of assessment of student performance, preparation and planning, instruction, teaching specific content, classroom management, and collaboration. The program also helped the teachers become more experienced and better-trained in these practices.

Chapter IV presented the analysis of data collected, the procedures used in the analysis, and a detailed description of the results emerging from all statistical analyses conducted in the evaluation. It was anticipated that the results of the program evaluation

might provide information on whether the program was achieving its goals and whether any refinements in the program were necessary.

In Chapter V, a discussion of the implications of the research findings, a description of possible contributions the evaluation may provide for the program's continuation, limitations of the research, and recommendations for future research are presented. Each of these topics will be discussed in turn.

Implications of the Research Findings

Impact of the Program on the Participants

Age and experience. The findings suggest that the intended group of teachers is being reached. Ninety-one percent of the program participants were students who did not hold an undergraduate degree in special education, even though most had been assigned to teach students with disabilities. It is apparent that the program is effectively attracting participants who recognize a need for special education training. Designing the program to provide adequate teacher preparation specifically for such participants may revitalize the special education teaching population and help to alleviate some of the difficulties school divisions are experiencing in finding and retaining qualified personnel.

The average age of the participants was 37, with a standard deviation (SD) of 8.4 (the minimum age being 26 and the maximum 58). The mean years of teaching experience was 10.6 with a range of 1 to 20 years (SD=10.6). While older teachers may be more experienced and confident in working in special education, younger and less experienced teachers may have a need for intensive support. These less experienced teachers may find that the CSEEP program not only contributes to the quality of their

practice, but also plays a part in their decisions about remaining in the field of special education.

The role of mentoring. Eighty percent of the participants interviewed by phone indicated that the mentoring provided appropriate support. Ninety nine percent of the participants who completed CSEEP program reported that the program increased the likelihood that they would remain in the field of special education. Among the participants interviewed by phone, 93 percent reported they were teaching in their specialty area, and 92 percent indicated CSEEP helped them obtain licensure. Based on these findings and on the related literature (Huling-Austin, 1988), it can be assumed that the support provided by their mentors increased program participants' retention in the special education field. The mentors' average years of teaching were 14.2, ranking between 2 and 31 with a standard deviation of 8.3. Thus, some mentors were very experienced, while other mentors were less experienced. Everston and Smithy (2000) found that novice teachers working with trained mentors possessed a higher level of teaching skills than new teachers whose mentors were not trained. However, more research on the mentors and on the mentoring process in CSEEP needs to be conducted.

It is important to verify the level of training of the mentors who will be working with program participants and provision must be made for mentors to receive specific training on mentoring. Various authorities assert that mentoring programs must be designed carefully and monitored to assure benefits such as increasing teachers' confidence and competence (Elliot, Dworet, & Harris, 1999), reducing attrition rates among new teachers, and helping teachers improve teaching capabilities (Fidler & Haselkorn, 1999; Weis & Weis, 1999).

Participants' evaluation of the program. In order to stay in the program, the CSEEP participants were required to complete all course requirements with a grade of no less than B- (Tonelson, Hager, Gabel, & Baker, 2000). Their overall level of academic achievement exceeded those requirements, however, with the participants attaining a mean grade point average (M) of 3.8 (SD=0.3). Although the academic achievement level was high, as the grade point average indicates, such a measurement provides only limited information about program results. Thus, participants' responses to various questions were analyzed in order to evaluate the impact the CSEEP program had on specific aspects of their teaching assignments and the degree of satisfaction the participants felt. As stated previously, the evaluation questions that guided this research were as follows:

1. Is there a correlation between participants' satisfactions with level of preparation in each task and between participants' additional level of training needed in each task in the different teaching assignments (in ED, LD, and MR)?
2. Is there a correlation between how participants rate their level of training in each task and between how mentors rate participants level of training in each task?
3. Is there significant difference in the amount of time participants spent on each task, over time?
4. Is there a significant difference in how participants from different teaching assignments rate the importance of each task, before and after the program?
5. Is there a significant difference in how participants from different teaching assignments rate the level of training in each task, before and after the program?
6. Is there a significant difference in how mentors rate the participants over the 3 trials for each task?

Evaluation question 1 sought to determine if there was a correlation between participants' satisfaction with level of preparation in assessment of student performance, preparation and planning, instruction, teaching specific content, classroom management, and collaboration and between participants' additional level of training needed in each

task in emotional disturbance (ED), learning disabilities (LD), and mental retardation (MR). Results for this question reveal a high negative correlation between participants' satisfaction with level of preparation and between participant's additional level of training needed in each task for all participants. It can be inferred from the results to question 1 that the more participants feel well trained, the more satisfied they are. The more participants are satisfied with level of preparation, the less additional training they need in each task. Participants' satisfaction is directly related to their level of preparation. Teachers who are satisfied with their level of preparation may be expected to implement within the classroom the skills and practices they have developed through their training.

The purpose of evaluation question 2 was to determine if there was a correlation between how participants rate their level of training in each task and how mentors rate participants' level of training in each task. Findings for this question revealed no correlation between participants' and mentors' ratings of the level of participants' training in five of the six clusters of tasks examined: assessment of student performance, preparation and planning, teaching specific content, classroom management, and collaboration activities. Only in the item on *instruction* was there a correlation between how participants rated their level of training and between how mentors rated it.

The finding that the participants perceived their level of training to be at a higher level than the mentors perceived it to be in all the practices *except instruction* could be due to differences in both experience and expectations. The mentors, who may have had more classroom experience and were more aware of the challenges that the participants would confront, may have had higher expectations about the level of training necessary to carry out the various tasks effectively. At the same time, participants, lacking the

experience of the mentors, may have been more easily satisfied with the levels of training they had received, having neither expected nor perceived the need for more training.

With regard to the instruction task, findings of this research suggest that participants rated the instruction task as the most important and reported spending the most time on instruction as well. It is possible that during the program, both participants and mentors put more emphasis on instruction and less emphasis on the other tasks. It could be, therefore, that when mentors rated teachers' level of training they were stricter in their expectation than program participants. On the other hand, participants may have perceived their level of training in instruction to be high because of the high importance both they and the mentors had attached to instruction and because they spent such a large amount of time on instruction.

Evaluation question 3 was designed to determine if there was a significant difference over time in the amount of time participants spent on assessment of student performance, preparation and planning, instruction, teaching specific content, classroom management, and collaboration. Results for this question revealed significant differences over time in the amount of time participants spent on the different tasks. This finding is important since, as reported in the literature, special education teachers are particularly overloaded with different tasks to complete (Ganser, 1999; Shaughnessy & Siegel, 1997; Weiskopf, 1980) and are provided with insufficient time to meet, plan, and collaborate with teachers specialists (Cambone et al., 1996). When the workload begins to feel unmanageable and the stress too great, the chances are that teachers would consider leaving the field of special education (Brownell, 1997).

Teachers spent the most time in the different tasks in the first time measured ($M=97.2$) and the least time in the fifth time measured ($M=85.6$). There was a gradual and consistent reduction in the time participants spent on the different tasks over time. Teachers spent the most time in teaching specific content ($M=182.0$) and on instruction ($M=139.6$); they spent the least time on collaboration activities ($M=52.4$) and on classroom management ($M=52.6$). No interaction was found between kind of task and between evaluation time. Thus, differences between time allotted to different tasks are similar over time.

Evaluation question 4 sought to determine if there was a significant difference in how participants from different teaching assignments rated the importance of assessment of student performance, preparation and planning, instruction, teaching specific content, classroom management, and collaboration, *before* and *after* participating in the program. Findings to this question revealed significant differences between the pre-test and the post-test ratings of the importance of those tasks. All of the participants rated instruction as the most important task in the post-test; whereas, teaching specific content (e.g., Mathematics, Science, Language Arts) was rated as the least important task in the post-test.

When examining how participants *from the different concentration areas* rated the importance of the different tasks, it is important to note some dissimilarities. Although only learning disabilities and emotional disturbance participants considered instruction as a very important task in the pre-test, all emotional disturbance, learning disabilities and mental retardation participants rated the instruction task as one of the *most* important tasks in the post-test. Learning disabilities participants rated assessment of students

performance as the most important task and emotional disturbance participants rated preparation and planning as the most important task in the post-test. Although emotional disturbance participants considered all the tasks as very important in their post-test, the least important task reported in the post-test by all participants was the teaching of specific content.

Thus, participating in the CSEEP program may have helped participants to better consider the importance of many of the tasks they were not aware of prior to participation in the program, thereby aiding them in reflecting on their classroom practices and setting priorities. For example, students who at the beginning did not realize the importance of instruction and of preparation and planning, at the end realized that these activities were crucial to effective classroom teaching. Looking at the results of questions 2 and 3, one can see that although participants reported spending the most time in teaching specific content and in instruction practices, they rate teaching specific content as the least important practice as opposed to instruction, which they rate as the most important practice.

These findings can be explained by the fact that although specific content and instruction activities seem to be very related the emphasis in each is different. One is about *what* and the other is about *how*. The items of *teaching specific content* deal with particular subject area such as Math, Science, Language arts, Social Studies and Reading, while *instruction* deals with the process of teaching and includes items such as “present pre-instruction activities,” “implement instruction,” “monitor instruction,” and “evaluate instruction.” The importance of the instructional process is supported by Huling-Austin (1992). Huling-Austin considers it very important for mentors to have the needed skills to

help novice teachers move beyond the first-year survival solving instructional process and deal more in depth with subject matter. While it could be that participants considered the process of instruction of more importance than dealing with content, it is also possible that the distinction between those two tasks was unclear to the participants and thus the questions may not have been interpreted correctly by most of the participants.

The goal of evaluation question 5 was to determine if there was a significant difference in how participants from different teaching assignments rated the level of training in assessment of student performance, preparation and planning, instruction, teaching specific content, classroom management, and collaboration, before and after the program. Findings for this question revealed significant differences in the level of training between the pre-test and the post-test. It was found that in the post-test, participants' level of training in the different tasks was rated higher ($M=3.96$) than in the pre-test ($M=3.32$). It was interesting to note that emotional disturbance, learning disabilities and mental retardation participants all rated the level of training in teaching specific content as the lowest, as compared to the level of training in the other tasks in which the level of training was reported as being higher.

Findings for questions 3, 4, and 5 suggest that participating in the CSEEP program helps teachers consider the importance of assessment of student performance, preparation and planning, instruction, teaching specific content, classroom management, and collaboration. In addition, the findings suggest that the program helps teachers to also become more experienced and well trained in these same practices.

It is important to note that even though participants reported they spent the most time in teaching specific content, they rated the teaching of specific content as *least*

important. They also considered their training in teaching specific content to be at the lowest levels. Participants also rated instruction (i.e., the process of teaching) as the *most important* task and reported their level of training on instruction to be the highest. In other words, there was a positive correlation between perceived importance and perceived level of training, regardless of whether importance and level of training were rated high or low.

These results support the findings to previous questions. Again, it needs to be pointed out that there might have been some confusion in the part of the participants with regard to the exact meaning of these two tasks. These findings may relate to the difficulties special education teachers face in their profession. While their job requires teaching specific content, and they spend most of their time teaching specific content, when working with students with disabilities, teaching specific content is less important and less emphasized than is the way the teaching and learning process takes place. Instruction skills, which deal with the process of learning and teaching and which include such tasks as presenting pre-instruction activities, implementing instruction, and monitoring and evaluating instruction, are crucial to the participants' training.

The findings in question 4 and 5 point to a possible relationship that exists between students' level of training in the different tasks and between their rating of those tasks' importance. It might be that obtaining a higher level of training results in the ability to better perceive the importance of the different tasks. It is important to put more emphasis in training participants in those tasks in which they consider themselves to be less prepared. It would be interesting to learn whether after being well trained with regard to teaching specific content, participants would perceive this task as more important or

would still rate the task as less important. It could be that assessment of student performance, preparation and planning, instruction, classroom management, and collaboration are more related to the process of teaching and are considered more important than the specific content instruction when teaching students with special needs.

Evaluation question 6, like question 2 reviewed earlier, was designed to discern how mentors rated participants. Question 6 was designed to determine if there was a significant difference in how mentors rated the participants *over the three trials* for assessment of student performance, preparation and planning, instruction, teaching specific content, classroom management, and collaboration. Findings for this question revealed significant differences in participants' evaluation along the program. Mentors evaluated the program participants as being more competent in the third evaluation as compared to the first evaluation, pointing out that respondents were improving over time. These results reinforce the results revealed in questions 3, 4, and 5.

Impact of the Program on the Schools

The growth in enrollment in Virginia's schools has contributed to a continuing scarcity of special education teachers. However, the number of certified teachers obtained through the CSEEP program helps to increase the number of special education certified teachers and improves the service that students with special needs receive. Participants who completed the program were asked whether the completion of the program through CSEEP increased the likelihood that they would remain in the field of education. About 99% of the participants who completed the program thought that the program increased the likelihood that they would remain in the field of education. Retention of those trained teachers in the field of special education is important since those who leave the

profession often take with them a wealth of knowledge and experience (Coppenhaver & Schaper, 1999). This program is still in process, as mentioned earlier, for at least two more years, and in the last two years since data collection has produced additional certified teachers. During the years 1997-2000, 87 participants in addition to the 153 participants included in this research have finished the program and thus have obtained licensure, thereby increasing the number of certified teachers in Virginia. It is hoped that those participants who completed the program will be able to demonstrate that, as a result of the program, they are better trained in the different practices, can better manage their students, can better reflect on their teaching, and be better prepared to face the complex demands of their work.

Contributions of the Research

Schreir (1994) has written that what may be termed “process evaluation” in monitoring ongoing programs is both *summative* (summing up how the program has been operating and what it has accomplished or not accomplished), on the one hand, and *formative* (helping guide the program’s future development), on the other. The summative evaluation, which took place three years after the program was implemented, can serve stakeholders through its assessment of program achievements and the quality of those achievements. The summative evaluation can help provide a sense of what among the stated goals has being achieved through the program, how well the preparation of program participants was carried out, how well they did at the end of the program as compared to the beginning, and what help may be necessary with regard to the implementation of the program in the future.

A formative evaluation of the program was conducted to examine its strengths and weaknesses, identify program components that have contributed to outcomes achieved, and enable program managers to design the program more effectively in the future (Schreir, 1994). Using formative evaluation is important since the CSEEP program had multiple outcomes occurring at the same time. Both formative and summative evaluations are important for improving and reshaping the program to better serve students in special education. The formative evaluation is important in pointing out the high rate of dropouts, the need to find out reasons for the dropouts that occurred in certain semesters, and reasons why a few participants were not satisfied with the program and felt the need for additional preparation. Formative and summative evaluations are of great value in improving the program implementation and in helping program managers make adoption decisions about the program (Gall, Borg, & Gall, 1996).

The application of this study up to the present has shown the program to be successful in producing teachers who are certified to teach in the special education area. The fact that most of the participants in this study were not originally from the special education field may indicate that the program is a means of bringing experienced teachers from different fields into areas of special education specialization, thus enriching the special education teaching population. It may, therefore, play an important role in helping to alleviate the shortage that exists in the field of special education. It could be that because the CSEEP program covers most of the students' tuition and is conducted at different sites throughout Virginia, it becomes more feasible for participants to get the training necessary to obtain licensure in special education. This assumption is supported by Claycomb and Hawley (2000), who believe that reducing the tuition cost and creating

a link between community colleges and teacher preparation institutions may attract many students who may not otherwise consider a career in teaching.

The Commonwealth Special Education Endorsement Program (CSEEP) is an important and valuable program in attempting to increase the number of certified special education teachers in Virginia. Much effort was made and is still being made in order to implement the program. Along with a summative evaluation, a yearly formative evaluation could be carried out through conducting direct observations and interviews with participants and mentors. A triangulated approach using multiple data collection methods and data analysis as evidence for the validity of qualitative research findings – could be utilized. Such triangulation would provide a way of assuring the accuracy of the information obtained, thus contributing to ongoing program improvement during its implementation.

Recommendations for Further Research

The distance education program was viewed as beneficial to program participants. The program evaluation questionnaires indicated that, at the end of the program, most of the participants better perceived the different tasks or practices and felt more confident and likely to implement the different tasks in their teaching than at the beginning of the program. However, the evaluation called attention to several issues that need to be addressed in future research and in the program implementation.

Attrition and Retention

Forty percent of the registered participants did not complete the program for a variety of reasons, including expired licenses, leaving the field of special education, and loss of interest, among other reasons. One of the most important goals of the CSEEP

program would be to recruit participants who are likely to be motivated to finish the program successfully and to obtain special education licensure. Addressing the issue of motivation or commitment to the program in the beginning might decrease the number of participants accepted to the program, but increase the number of participants who remain throughout the program. When students drop out the program it is not cost effective. As this is a grant-supported program, a return on the money invested in the participants is expected. When participants drop out of the program, the investment is not returned in terms of increasing the supply of well-prepared and licensed special education teachers. Research is needed to find ways to predict those most likely to dropout of the program. Policy changes could include improvements in the registration process, making sure program eligibility requirements are met, and raising standards of acceptance to ensure greater commitment on the part of students. The many variables that influence participants' decisions to drop out of the program need to be explored more fully. Similarly, the fact that some students may have been accepted but yet never took a class also needs to be examined to find out why they might have changed their minds. It is also important to check if there was more attrition at a specific area. Thirty-five percent of the program participants who dropped out stated, "no longer interested" as their reason for dropping out. Since such a large number of dropouts stated the same reason, it is important to learn why they were no longer interested in the program. For example, was there something about the program that participants felt did not meet their needs? Was there something about the field of special education as presented in the program that caused them to conclude that this was not the field they wished to specialize in after all? Did issues include not wanting to teach anymore, or dislike for teaching assignment, or

were there other factors that caused them to lose interest? Asking open-ended questions might yield responses that could help program planners address the concerns of such students in the future.

Mentors

Based on the literature review, the role of the mentors can serve as a force for promoting an efficient kind of teaching and encouraging professional norms. To be effective, mentoring programs need to be focused and structured. To obtain the focus and structure, Kyle, Moore, and Sanders (1999) suggest that prospective mentors should participate in professional development training to learn about the mentoring process, what the expectations from their mentoring will be, and what their specific duties will be. Professional development may help mentors gain support and discuss ideas and problems that may be common for other mentors too.

Wilder (1992) considers it important for the mentors and mentees to teach the same subject and/or grade level and even teach at the same location. According to Wilder, this may help the mentees obtain more immediate, relevant and specific help. Therefore, training for mentors needs to take into account the type of relationship and the optimal ways to get the maximum benefit from the mentoring, depending on the relationship, distance, subject area, and other related considerations.

Prior to implementing a mentoring program, it is crucial to define broad parameters of the mentoring relationship and the time commitment. It is also important to research the qualifications of the mentors, including such factors as their experience, how frequently they plan to meet with grant participants, and what they do when they meet with them. Since mentors are to provide guidance and serve as role models to the

participants, it is important that they understand fully what is expected of them.

Participation in seminars and obtaining other special training may shape mentors' expectations about their role and help them convey a high level of teaching skills to their mentees (Feiman-Nemser & Parker, 1992), while at the same time reflecting on their own teaching, beliefs, and practices. In so doing, they will also be broadening their own professional knowledge and skills (Carter & Francis, 2000).

Research is needed to learn what, if any further guidance the mentors need if they are to be adequately prepared to help participants. Research would also be important to learn from participants who completed the program whether the mentoring influenced in any way their decision to remain in the field of special education. Since the primary goal of mentoring is to help teachers better serve the students, in this case, students with disabilities, research needs to focus on all phases of the mentoring process—from mentor training, through working with teachers in their difficulties and needs, to the effect mentoring has in schools as well as schoolwide and administrative factors that influence mentor outcomes. Further research should also employ a combination of direct observation, interviews, and case studies in order to obtain qualitative data on the various aspects of mentoring.

School Administrators

The primary recommendation is that participants be evaluated not only by mentors, but also by administrators of the schools where they are assigned to teach, both, prior and during the program. Input from school administrators may help participants learn about the special needs at their schools and, if needed, make suggestions for additions to the curriculum or areas of the program needing improvement. It should be

noted that the evaluation of the mentees by both mentors and school administrators should be integrated into the program in a way that will not be threatening to the mentees and that will not strain the relationship between and among the mentees, mentors and administrators (Neal, 1992).

Collecting Data

With regard to data collection, it is recommended that there would be a general database including all data that has been collected since program commencement. There should be access to participant files, questionnaires, and surveys. Data being collected should be encoded systematically. When phone interviews are conducted, data reports need to be encoded and kept carefully. Research assistants involved should work cooperatively and systematically and hold a record of what was done including the exact date and relevant comments. This database would be a valuable resource, since there are new questions that may be of interest at different points of time along the program.

Supportive Induction for Participants and Mentors

An ongoing induction program over several years in which teachers are being placed in the classroom and given on-site support is important to implement (Tonelson & Gable, in press). Such a program can aid teachers in becoming effective teachers; and, along with bi-monthly professional seminars as proposed by Tonelson and Gable (in press), would seem to be a very good solution to the training needs of special education teachers. It could give teachers a sense of on-site support, a sense of belonging. It helps many teachers feel that they are not alone, that someone cares about them and the problems they face, and that other teachers have faced similar situations. Mentoring also may help to provide beginning teachers additional training in practices in which

participants reported having a need for additional training. The additional training must provide skills that assist teachers in engaging in the issues of urban schools. Talking about these specific practices may clarify issues needing to be addressed and help teachers work toward solutions. Use of communication technology can be a great help in enriching the training program, creating interactive discussion groups among both participants and mentors in which they can post topics for discussions, ask questions, request advice and get answers from people who share the same interests regardless geographical location. Communication technology also can be a means for providing an online newsletter in which participants can interact and publish some of their experiences and establishing relationships between teachers, mentors, experts, and researchers.

It is recommended that future research consists of a more specific survey in which program participants evaluate the mentoring that was provided to them. Qualitative research could supplement a questionnaire, with in-depth case studies providing a broader view of how the participants perceived the mentoring provided through the program.

An ongoing plan of action for the mentors might also be included in the program. Mentors may benefit from context-specific training, and it could help them emphasize and be aware of the difficulties that teachers might encounter in different settings and circumstances. Carefully and gradually implemented, such a training program is likely to be rewarding for both mentors and the teachers they are mentoring.

Urban settings

Urban schools enroll only 28 percent of all American students but have a higher percentage of students with disabilities as compared with other settings (Claycomb & Hawley, 2000). Many of the urban schools lose half of all beginning teachers in the first

five years and therefore face a chronic shortage of teachers in special education, In many instances this results in lowering teachers' standards to fill positions. Therefore, often students with the greatest needs are not provided with the quality education that they deserve.

Among the 153 CSEEP participants, 40% were employed in urban schools. As discussed in Chapter II, Kozleski et al. (1993) pointed out the seriousness of inadequate supplies of special education teachers in urban areas, which, as Darling-Hammond (1988) has shown, often results in special education positions remaining vacant or being filled by those who hold emergency licensure. Darling-Hammond has reported a higher incidence of such situations in urban areas than in suburban or rural districts. As Guyton (1994) states, urban teachers need more education, specifically about the special needs of children in urban settings. Thus, in addition to providing participants with traditional special education competencies, program leaders may want to consider a mentoring program specifically designed for teachers who are assigned to teach in urban settings. Training for those teachers will need to equip them with skills that will assist them in gaining competencies in dealing with issues specific to urban population (Guyton, 1994). According to Howey (2000), preparing competent and caring teachers for urban schools is only part of the challenge. There is also a need in extending urban teachers' preparation into the first years of teaching, supporting and retaining them while teaching. Thus, it is important to face the challenges of urban settings by redoubling the efforts in the preparation stage, in order to strengthen the quality of teachers in urban settings and help prevent the high attrition.

A Follow-up Study

This study did not investigate any differences among program participants in relation to the settings of their teaching assignments. It is suggested, therefore, that a longitudinal study be conducted, controlling for the school setting, whether urban, rural or suburban. Participants in the CSEEP program could then be followed to ascertain whether their remaining in or leaving the field of special education was associated with the setting where they were assigned to teach. Such a study can provide information on attrition rates among participants who completed the program as compared with attrition rates reported in the literature.

A survey could be conducted to research the different locations to discover any problems relating to the ease or difficulty of traveling to (or parking at) the various facilities, the degree of comfort and convenience of the facilities, any recurrent problems with equipment, and other issues that might emerge in surveying participants and facilitators. The present study did not control for the 33 sites in the Commonwealth of Virginia that participants attended. Learning more about the different locations may help to identify locations in which participants face difficulties.

A follow-up study could also present a comparison between the different years in which the program has been implemented in order to learn about variables that may have had effects at certain times during the program's existence. Such a study can also help in determining whether the best teachers are being retained and whether the program participants who remain in teaching are implementing teaching practices satisfactorily.

Limitations

This study had several limitations. Those that stand out particularly are the following:

Method of sample selection. The sample for this study was obtained through self-selection. Participants were not selected randomly but chose to participate in the program as well as in the program evaluation. There was no comparison control group of other students preparing for special education endorsement through other programs.

Instrumentation. Most of the data in this study depended upon participants' self-reports. Data were obtained through correspondence. As in all studies of this nature, there could be a discrepancy between the participants' self-reported data and more objective evaluations.

Missing data and sample mortality. In a study of this nature, it is inevitable to encounter missing data and some sample mortality. Sometimes test scores, grades, or other information were missing because some participants had not filled in all the required data. Where possible, students with complete data sets were included. The specific number of students used in each comparison was reported with that specific comparison. Overall, a concerted effort was made to ensure as complete and accurate a collection of data as possible.

Generalization

The CSEEP program as reported in this study was being implemented for nine semesters in different sites in the Commonwealth of Virginia. Due to the nature of this study, it was difficult to control for changes that occurred in different semesters, years, sites, or with different mentors over the course of the program. Thus, variables such as site, semester, years, different mentors, and courses remained uncontrolled. Although those uncontrolled variables may limit the generalizability of the study, it is important to note that the formative evaluation adds valuable input to the findings.

Summary

This chapter presented a discussion of the implications of the research findings, a description of possible contributions the evaluation may provide for the program's continuation, and recommendations for program improvement and future research. This chapter reviewed the research questions, discussed their implications, and offered recommendations based on the findings.

It is hoped that this comprehensive program evaluation data will guide program leaders in assessing the overall effectiveness of the program and designing future programs as well. Results of the study may serve as an incentive to introduce similar programs in other states and colleges as well, with adjustments made for the particularities of other situations. A similar program could be implemented in other universities that serve other states where special education teachers are in short supply. Findings also may show the possibilities that such a program might provide for areas where a shortage of *endorsed* special education teachers exists due to economic, geographic, and personal factors that may have prevented teachers from taking further steps toward special education licensure.

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APPENDICES

APPENDIX A
Teacher Application Form

APPENDIX A:

TEACHER APPLICATION FORM THE COMMONWEALTH SPECIAL EDUCATION ENDORSEMENT PROGRAM: A DISTANCE LEARNING APPROACH

Name _____ Date of Birth _____ Gender: F _____ M _____
 Ethnicity: American Indian or Alaskan Native _____ Black (non-Hispanic) _____ Other _____
 (Please check one) Asian or Pacific Islander _____ Hispanic _____ White _____

Home Address _____ Home Telephone # (____) _____

_____ Social Security # _____

School Division _____ School Name _____

School Address _____ School Telephone # (____) _____

_____ School FAX # (____) _____

School Principal's Name _____ Participant E-mail address _____

Current Teaching Assignment: LD__ ED__ MR__ Other (please specify) _____
 (Applicant must teach Learning Disabilities, Mental Retardation, and/or Emotional Disturbance to qualify for the Commonwealth Special Education Endorsement Program) Years of Teaching Experience _____

State any and all Virginia teaching licenses you currently hold: _____

Name of College/University Awarding B.A./B.S. degree : _____

Undergraduate Major (ex. English) _____ Undergraduate GPA: _____

Are you currently enrolled in a Master's program? __YES__ __NO__ College or University: _____

I have read and agree to comply with the guidelines set forth in the 1999-2000 Administrative Manual for the Commonwealth Special Education Endorsement Program. I certify that I meet the eligibility requirements and look forward to fulfilling the student responsibilities in the Commonwealth Special Education Endorsement Program.

Signature of Teacher _____ Date _____

TELETECHNET Site you plan to attend: _____

Mentor assigned to this teacher is _____ Mentor's phone # (____) _____

As a representative of _____ education agency, I recommend this teacher to participate in the Commonwealth Special Education Endorsement Program. We agree to fulfill our responsibilities as outlined in the 1999-2000 Administrative Manual.

Signature of Superintendent or Designee _____ Date _____

Old Dominion University is an equal opportunity, affirmative action institution.

Please send applications to: CSEEP Grant Office Child Study Center Rm. 104 Old Dominion University Norfolk, VA 23529

APPENDIX B**Mentor Application Form**

APPENDIX B:

MENTOR APPLICATION FORM THE COMMONWEALTH SPECIAL EDUCATION ENDORSEMENT PROGRAM: A DISTANCE LEARNING APPROACH

Name _____ Date of Birth _____

Ethnicity: American Indian or Alaskan Native _____ Black (non-Hispanic) _____ White _____
(Please check one) Asian or Pacific Islander _____ Hispanic _____ Other _____

Home Address _____ Home Telephone # (____) _____

_____ Social Security # _____

School Division _____ School/Office # (____) _____

School/Office Name _____ School/Office FAX # (____) _____

School /Office Address _____ Mentor E-mail address _____

Teaching Assignment/Administrative Position _____
(Mentor must have at least three years of successful teaching experience in Learning Disabilities, Emotional Disturbance, and Mental Retardation to qualify as a mentor for the Commonwealth Special Education Endorsement Program)

Virginia Teaching License you currently hold: _____

Expiration Date _____ Endorsements _____

Years of Teaching Experience _____

Highest College Degree Earned _____ Major _____

Name of Teacher Mentee _____

TELETECHNET Site participant plans to attend _____

I have read the 1999-2000 Administrative Manual for the Commonwealth Special Education Endorsement Program. I agree to fulfill the responsibilities of the Commonwealth Special Education Endorsement Program Mentor.

Signature of Mentor Applicant _____ Date _____

As a representative of _____
educational agency, I recommend this applicant as a mentor in the Commonwealth Special Education Endorsement Program. We agree to fulfill our responsibilities as outlined in the 1999-2000 Administrative Manual.

Signature of Superintendent or Designee _____ Date _____

Old Dominion University is an equal opportunity, affirmative action institution.

Please send applications to: CSEEP Grant Office Child Study Center Old Dominion University, Child Study Center Norfolk, VA 23529

APPENDIX C

A Map depicting the Virginia Teletechnet Locations

APPENDIX D**A Pre/Post Task-Rating Form to be Completed by Participants**

Commonwealth Special Education Endorsement Program Task Rating Form

Name: _____

PRE / POST

Educational Setting: Public Private Other _____

(circle one)

Classroom Setting: (circle all that apply) Self-Contained Resource Inclusion

Collaboration Itinerant/Homebound

Teaching Level: (circle all that apply) Pre-K Primary Elementary Middle School High School

Number of Students in Classroom: _____ Type/ Number of Disabilities: LD _____ ED _____ MR _____

Day/Date: _____

Importance Scale

- 1 - Not Important
- 2 - Minimal Importance
- 3 - Average Importance
- 4 - Very Important
- 5 - Critically Important

Training Scale

- 1 - Little or no Training
- 2 - Underprepared
- 3 - Adequately Prepared
- 4 - Well Prepared
- 5 - Extremely Well Prepared

TASK	RATING OF IMPORTANCE (1-low 5-high)	LEVEL OF TRAINING (1-low 5-high)
A. ASSESSMENT OF STUDENT PERFORMANCE		
1. Administer Standardized/Norm Referenced Measures	1 2 3 4 5	1 2 3 4 5
2. Administer Informal Measures/Alternative Assessments	1 2 3 4 5	1 2 3 4 5
3. Analyze Test Results	1 2 3 4 5	1 2 3 4 5
4. Develop and Write IEP	1 2 3 4 5	1 2 3 4 5
5. Monitor Student Progress	1 2 3 4 5	1 2 3 4 5
6. Other (please explain)	1 2 3 4 5	1 2 3 4 5
B. PREPARATION AND PLANNING		
1. Select Goals and Objectives	1 2 3 4 5	1 2 3 4 5
2. Prepare Lesson Plan	1 2 3 4 5	1 2 3 4 5
3. Prepare Materials/Equipment	1 2 3 4 5	1 2 3 4 5
4. Arrange Physical Space	1 2 3 4 5	1 2 3 4 5
5. Prepare Instruction Environment	1 2 3 4 5	1 2 3 4 5
6. Other (please explain)	1 2 3 4 5	1 2 3 4 5
C. INSTRUCTION		
1. Present Pre-Instruction Activities	1 2 3 4 5	1 2 3 4 5
2. Implement Instruction	1 2 3 4 5	1 2 3 4 5
3. Monitor Instruction	1 2 3 4 5	1 2 3 4 5
4. Evaluate Instruction	1 2 3 4 5	1 2 3 4 5
5. Other (please explain)	1 2 3 4 5	1 2 3 4 5

Revised 3/20/98

TASK	RATING OF IMPORTANCE	LEVEL OF TRAINING
D. TEACHING SPECIFIC CONTENT		
1. Mathematics	1 2 3 4 5	1 2 3 4 5
2. Science	1 2 3 4 5	1 2 3 4 5
3. Language Arts	1 2 3 4 5	1 2 3 4 5
4. Social Studies	1 2 3 4 5	1 2 3 4 5
5. Reading	1 2 3 4 5	1 2 3 4 5
6. Health	1 2 3 4 5	1 2 3 4 5
7. Technology	1 2 3 4 5	1 2 3 4 5
8. Integrated Instruction	1 2 3 4 5	1 2 3 4 5
9. Other (please explain)	1 2 3 4 5	1 2 3 4 5
E. CLASSROOM MANAGEMENT		
1. Observe/Record Behavior	1 2 3 4 5	1 2 3 4 5
2. Develop and Implement Intervention	1 2 3 4 5	1 2 3 4 5
3. Implement Affective/Social Skills Instruction	1 2 3 4 5	1 2 3 4 5
4. Supervise Transitions	1 2 3 4 5	1 2 3 4 5
5. Other (please explain)	1 2 3 4 5	1 2 3 4 5
F. COLLABORATION ACTIVITIES		
1. Confer and Consult With School Personnel Regarding:	1 2 3 4 5	1 2 3 4 5
a. Assessment	1 2 3 4 5	1 2 3 4 5
b. Goals/Objectives	1 2 3 4 5	1 2 3 4 5
c. Instructional Activities	1 2 3 4 5	1 2 3 4 5
d. Behavior	1 2 3 4 5	1 2 3 4 5
e. Eligibility/Placement Services	1 2 3 4 5	1 2 3 4 5
f. Administrative Requests	1 2 3 4 5	1 2 3 4 5
2. Confer and Consult With Students	1 2 3 4 5	1 2 3 4 5
3. Confer and Consult With Parents	1 2 3 4 5	1 2 3 4 5
4. Interagency Collaboration	1 2 3 4 5	1 2 3 4 5
5. Other (please explain)	1 2 3 4 5	1 2 3 4 5
Notes/Comments:		

APPENDIX E**A Task-Rating Form to be Completed by Mentors**

Commonwealth Special Education Endorsement Program
Teacher Observation Form
(To be completed by mentor)

Observation # 1 2 3

Mentor Name: _____ Date: _____

Name of Grant Participant you are observing: _____

School District: _____ Starting Time _____ Ending Time _____

Scale for each area listed:

- 1: Teacher has not yet developed or used this skill.
- 2: Teacher is beginning to incorporate this skill in his/her instructional repertoire.
- 3: Teacher uses this skill appropriately and competently.
- 4: Teacher uses this skill consistently and with a high degree of competence and confidence.
- n/o: Teacher is not observed exhibiting this behavior.

TASK	RATING
A. ASSESSMENT OF STUDENT PERFORMANCE	
1. Administer Standardized/Norm Referenced Measures	1 2 3 4 n/o
2. Administer Informal Measures/Alternative Assessments	1 2 3 4 n/o
3. Analyze Test Results	1 2 3 4 n/o
4. Develop and Write IEP	1 2 3 4 n/o
5. Monitor Student Progress	1 2 3 4 n/o
6. Other (please explain)	1 2 3 4 n/o
B. PREPARATION AND PLANNING	
1. Select Goals and Objectives	1 2 3 4 n/o
2. Prepare Lesson Plan	1 2 3 4 n/o
3. Prepare Materials/Equipment	1 2 3 4 n/o
4. Arrange Physical Space	1 2 3 4 n/o
5. Prepare Instructional Environment	1 2 3 4 n/o
6. Other (please explain)	1 2 3 4 n/o
C. INSTRUCTION	
1. Present Pre-Instruction Activities	1 2 3 4 n/o
2. Implement Instruction	1 2 3 4 n/o
3. Monitor Instruction	1 2 3 4 n/o
4. Evaluate Instruction	1 2 3 4 n/o
5. Other (please explain)	

APPENDIX F
A Commonwealth Special Education Endorsement Program
Daily Teacher Time Log

Commonwealth Special Education Endorsement Program

Daily Teacher Time Log

Name: _____

Evaluation # 1 2 3 4 5 6

Educational Setting: Public Private Other _____

(circle one)

Classroom Setting: (circle all that apply) Self-Contained Resource Inclusion

Collaboration Itinerant/Homebound

Teaching Level: (please circle) Pre-K-3 4-6 7-9 10-12

Number of Children in Classroom: _____ Type/Number of Disabilities: LD _____ ED _____ MR _____

Day/Date: _____ Starting Time: _____ Ending Time: _____

TASK	TIME Demands (In minutes)
A. ASSESSMENT OF STUDENT PERFORMANCE	
1. Administer Standardized/Norm Referenced Measures	
2. Administer Informal Measures/Alternative Assessments	
3. Analyze Test Results	
4. Develop and Write IEP	
5. Monitor Student Progress	
6. Other (please explain)	
B. PREPARATION AND PLANNING	
1. Select Goals and Objectives	
2. Prepare Lesson Plan	
3. Prepare Materials/Equipment	
4. Arrange Physical Space	
5. Prepare Instructional Environment	
6. Other (please explain)	
C. INSTRUCTION	
1. Present Pre-Instruction Activities	
2. Implement Instruction	
3. Monitor Instruction	
4. Evaluate Instruction	
5. Other (please explain)	
D. TEACHING SPECIFIC CONTENT	
1. Mathematics	
2. Science	
3. Language Arts	
4. Social Studies	
5. Reading	
6. Health	
7. Technology	
8. Integrated Instruction	
9. Other (please explain)	

APPENDIX G

A Special Education Teacher Survey

A follow up survey for students who completed the program
determine the level of preparedness as a professional educator

SPECIAL EDUCATION TEACHER SURVEY

This study is a follow-up of graduates from Old Dominion University's Special Education program to determine the level of preparedness as a professional educator. The information collected through this survey will be used for program assessment and improvement to better serve future students. Accordingly, there are no right or wrong answers and we welcome your input based upon personal opinions and experiences. The results of this survey will be reported only in the aggregate (i.e., summary of all responses) so that individual responses will remain confidential.

DEMOGRAPHICS

Circle Teaching Area:	Urban	Suburban	Rural	Other _____		
Circle Years Teaching:	0-2	3-5	6-9	More than 9		
Circle Present Teaching Level(s):	0-2	3-5	K-3	4-6	7-9	10-12
Circle Area(s) of Endorsement (circle all that apply)	ED	LD	MR	SPD	ECSE	Other _____
Circle Disabilities Served (circle all that apply)	ED	LD	MR	SPD	ECSE	Other _____
Circle Service Delivery:	Day Treatment	Self-Contained	Resource	Inclusion	Itinerant	Other _____
My course work was completed (circle all that apply)	On-Campus	Graduate Center	Teletechnet Sites			

QUESTIONNAIRE

Please read the following questions, circle the appropriate response and provide your opinion regarding the need for additional training.

Rate your current knowledge/skills using this scale: 5-extremely well prepared; 4-well prepared; 3-adequately prepared; 2-under prepared; 1-little or no preparation.

Please indicate your need for additional training using this scale: 4-greatly needed; 3-moderately needed; 2-little needed; 1-none needed.

	Preparation					Additional Training Needed			
1. I feel prepared to conduct effective academic/functional/developmental assessments and instruction.	5	4	3	2	1	4	3	2	1
2. I feel prepared to conduct effective assessments of student conduct/behavior.	5	4	3	2	1	4	3	2	1
3. I feel prepared to conduct effective academic/developmental/social skills assessments.	5	4	3	2	1	4	3	2	1
4. I feel prepared to use effective academic/functional/developmental strategies.	5	4	3	2	1	4	3	2	1
5. I feel prepared to use effective behavioral management strategies to increase desired student behaviors and decrease undesirable student behaviors.	5	4	3	2	1	4	3	2	1
6. I feel prepared to teach effective social skill strategies.	5	4	3	2	1	4	3	2	1
7. I feel prepared to develop and implement basic academic programs and to utilize appropriate learning strategies and compensatory techniques for content area subjects.	5	4	3	2	1	4	3	2	1
8. I feel prepared to use data-based methods to increase desired student behaviors and decrease undesirable student behaviors (i.e., data collection, graphing, analysis).	5	4	3	2	1	4	3	2	1
9. I feel prepared to use data-based methods to increase academic/functional/developmental performance (i.e., data collection, graphing, analysis).	5	4	3	2	1	4	3	2	1
10. I feel prepared to apply individualized instructional techniques to specific classroom problems.	5	4	3	2	1	4	3	2	1

	Preparation					Additional Training Needed			
11. I feel prepared to organize the physical environment of the classroom to facilitate effective instruction.	5	4	3	2	1	4	3	2	1
12. I feel prepared to make curricular adaptations to enhance/remediate learning/development.	5	4	3	2	1	4	3	2	1
13. I feel prepared to use methods that promote maintenance/generalization of learning.	5	4	3	2	1	4	3	2	1
14. I feel prepared to work collaboratively with colleagues & families to facilitate transition and the appropriate placement of my students.	5	4	3	2	1	4	3	2	1
15. I feel prepared to communicate effectively with others (e.g., families, specialists, general education teachers).	5	4	3	2	1	4	3	2	1
16. I feel prepared to collaborate with general education teachers and other allied professionals to facilitate the successful inclusion of students with diverse learning needs.	5	4	3	2	1	4	3	2	1

17. Please indicate areas of strength you perceive in the teacher preparation program. _____

18. Please indicate areas you see that need improvement in the teacher preparation program. _____

19. Additional comments _____

APPENDIX H**A CSEEP Service Evaluation**

A follow up survey for students who completed the program

The Commonwealth Special Education Endorsement Program

CSEEP EVALUATION

Please use this survey to rate the service that has been provided to you by the Commonwealth Special Education Endorsement Program (CSEEP) grant staff. Please rate your perceived level of importance and our performance for each subject listed. We ask that you use the *Comments* section to expand on any thoughts, ideas, or suggestions you would like to share with us. Your opinions are highly valued by our team. Thank you in advance for your time and attention to this survey.

Importance Scale

- 1 – Not Important
- 2 – Minimal Importance
- 3 – Average Importance
- 4 – Very Important
- 5 – Critically Important

Rating of Performance

- 1 – Poor
- 2 – Needs Improvement
- 3 – Satisfactory
- 4 – Good
- 5 – Excellent

TASK	RATING OF IMPORTANCE (1-LOW 5-HIGH)					RATING OF PERFORMANCE (1-LOW 5-HIGH)				
1. Timely Responses to Requests	1	2	3	4	5	1	2	3	4	5
2. Responsiveness to Identified Needs	1	2	3	4	5	1	2	3	4	5
3. CSEEP Staff Performance	1	2	3	4	5	1	2	3	4	5
4. CSSEP Staff Professionalism	1	2	3	4	5	1	2	3	4	5
5. CSEEP Staff Accessibility	1	2	3	4	5	1	2	3	4	5
6. CSEEP Staff Resourcefulness	1	2	3	4	5	1	2	3	4	5
7. Newsletter Quality	1	2	3	4	5	1	2	3	4	5
8. Transcript/Record Review	1	2	3	4	5	1	2	3	4	5
9. E-mail Communication	1	2	3	4	5	1	2	3	4	5
10. Overall Satisfaction with Grant Experience	1	2	3	4	5	1	2	3	4	5

Comments: _____



VITA

Tami Seifert resides in Tel-Aviv, Israel with her husband Avi and her five children: Meirav, Adi, Eyal, Yoni and Amir. She spent most of her school years in Tel-Aviv. She attended Tel-Aviv University, and earned her B.A. in 1984 with a double major in Theoretical Linguistics and in Evaluation Methods and Instruction. She received her Masters with honors in Curriculum Development at Tel-Aviv University, specializing in Communication and Computers in Education.

During her eighteen-year career in Education, Mrs. Seifert has worked as an instructional designer at the Science and Technology Education Center at Tel-Aviv University and is presently employed as a lecturer on the implementation of computer technology in education at the undergraduate level, at Hakibutzim College in Tel-Aviv. In 1998, she was awarded the Peggy Woofert Hull Scholarship at Old Dominion University and in 2000 she was awarded the Honor Society of the Phi Kappa Phi at Old Dominion University. Her major research interests are distance education, web-based instruction, application of multimedia in education, and online experiments.