Free and Appropriate Public Education and the Personnel Crisis for Students with Visual Impairments and Blindness

Prepared for the Center on Personnel Studies in Special Education

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COPSSE research is focused on the preparation of special education professionals and its impact on beginning teacher quality and student outcomes. Our research is intended to inform scholars and policymakers about advantages and disadvantages of preparation alternatives and the effective use of public funds in addressing personnel shortages.

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CONTENTS

INTRODUCTION

The Individuals with Disabilities Education Act (IDEA) guarantees a free and appropriate public education (FAPE) to all students with disabilities (U.S. Department of Education [USDOE], 1997). However, the 21st century began with an unprecedented shortage of certified special education teachers for all areas of exceptionality.

In data collected for the *Twenty-Third Annual Report to Congress* (USDOE, 2001), 39,140 individuals filling special education positions (approximately 10% of all teachers) during the 1998-1999 school year lacked appropriate special education certification. Projections for the future show the situation worsening. The Council for Exceptional Children (CEC) predicted that the U.S. will need more than 200,000 new special educators between the years 2000 and 2005 (Kozleski, Mainzer, Deshler, Coleman, & Rodriguez-Walling, 2000); and the Bureau of Labor Statistics (1999) projected that between 1998 and 2008 there will be a need for more than 135,000 new special education teachers. Although these projections differ significantly, there are no indications that the shortage will abate.

Like special education in general, the personnel needs for children who are visually impaired are great. The fact that there are relatively few children to be served over large geographical areas the compounds the problems. Too many students receive either limited or no service from an individual properly trained to address their unique learning needs; others rarely see a specialist who can teach braille or other disability-specific skills.

This paper defines the personnel issues specifically related to children who are visually impaired. It focuses on teachers of students with visual impairments (TVI), teachers of students who are deafblind (TDB), and those who teach orientation and mobility (O&M) skills. After establishing definitions and providing an overview of personnel preparation programs, the paper addresses the following issues: (1) national efforts impacting the number of personnel prepared; (2) supply and demand of professionals; and (3) certification. Given available data, information pertaining to leadership personnel is analyzed; the critical shortage of leadership personnel profoundly impacts the nation's ability to supply a sufficient number of direct service personnel. Strategies for addressing this shortage are then presented. Although there are also substantial shortages of braille transcribers (Corn & Wall, 2002), clinical low vision specialists, and assistive technology specialists with knowledge of technologies for students who are visually impaired or blind, the impact of these service providers on the education of students with visual impairments is not discussed here.

The U.S. would need a well-organized, well-monitored federal or other national data collection system to make well-informed assessments about: (1) the number of children requiring services; (2) the standard of service quality desired; (3) the need for additional direct service personnel; and (4) the ability of personnel preparation programs to prepare an adequate number of direct service personnel. Unfortunately, there is no such national center.

PROBLEMS WITH ESTIMATES OF NUMBER OF CHILDREN TO BE SERVED

For decades, estimates of the number of students requiring specialized vision-related education have been questioned. Available estimates came mainly from two independent annual special education administrative data sets with vastly different criteria and conditions for preparing reports: the Office of Special Educational Programs (OSEP) child count (OSEP, 2000) and the American Printing House for the Blind (APH) register. The criteria for inclusion in these data sets only loosely resemble the eligibility procedures for qualifying for specialized education. Given the different methods, it is not surprising that the resulting estimates vary enormously.

However, the disparity between the two special education administrative data sets is especially problematic because of the contradictions that surface when comparing their respective definitions and the data sets. Specifically, APH's register refers only to students who are legally blind (which is a narrow definition of severe visual impairment), and in the year 2000, its count of such children was 54,556 (APH, 2000). That number is more than twice the OSEP child count for that period (USDOE, 2001), yet the OSEP count is defined by the broader IDEA definition.

VISUAL IMPAIRMENT: DEFINITIONS

The IDEA defines visual impairment and deafblindness more broadly than legal blindness, referring to educationally significant functional vision and hearing problems. The latest available national report estimates that 26,950 visually impaired and 1,845 deafblind children are served by local and state education department estimates (USDOE, 2001). OSEP, which has long recognized that this state-reported deafblind count is too low, has sponsored an alternative count through the Deafblind Census, which lists the count at 10,800 (Baldwin & Hembree, 1998).

Legal Blindness

It is especially critical to understand the definition of *legal blindness*, because it is the most restrictive in identifying children with visual impairments. The Social Security Act (P.L. 74-271), passed in 1935, included a definition of blindness that the American Medical Association adopted in 1934. This became the definition of *legal blindness*, or *economic blindness*, because it was the criterion for eligibility for many government-financed benefits and services:

> Central visual acuity of 20/200 or less in the better eye with corrective glasses or central visual acuity of more than 20/200 if there is a visual field defect in which the peripheral field is contracted to such an extent that the widest diameter of the visual field subtends an angular distance no greater than 20 degrees in the better eye. (Koestler, 1976, p. 45)

APH uses this definition of legal blindness to determine the eligibility of children and adults in an educational setting up to the completion of high school. Its count as of January 2000 is 54,556 children and youths who are legally blind (APH, 2000). Analysts have offered several explanations for the logical inconsistency between the APH and OSEP data sources. Most important is that OSEP's count is unduplicated; that is, children with multiple impairments are counted only once, often under another impairment category. APH, however, counts children who are legally blind regardless of whether they have other impairments (see **Table 1**).

Child count estimates have been reviewed most recently in the *Journal of Visual Impairment & Blindness* (Kirchner & Diament, 1999). That source explains the methodology and presents the primary results of the *National Plan for Training Personnel to Serve Children with Blindness and Low Vision* (NPTP) research, which estimated that 93,600 students with educationally significant visual impairment were in special education programs. That figure includes 32,700 children with visual impairments; 10,800 students with deafblindness; and 50,100 with at least one other disability not deafblindness in addition to visual impairment (based on the *Deafblind Census*, Baldwin & Hembree, 1998).

Table 1. Number of Children with Visual Impairments Aged 6-21 Served by IDEA, Part B and Registered by the APH: 1990-1999

Year	IDEA	APH
1990-1991	26,570	50,080
1991-1991	25,093	51,813
1992-1993	23,691	52,791
1993-1994	24,826	53,576
1994-1995	25,104	54,763
1995-1996	25,443	56,275
1996-1997	25,739	56,690
1997-1998	26,070	57,425
1999-2000	26,590	54,556

Sources: USDOE, 1999, p. A-159; APH, 1995-2000.

Deafblindness

The definition of *deafblindness* in IDEA is:

> The term 'deaf-blind,' with respect to children and youth, means having auditory and visual impairments, the combination of which creates such severe communication and other development and learning needs that they cannot be appropriately educated in special education programs solely for children and youth with hearing impairment, visual impairment, or severe disabilities, without assistance to address the educational needs due to these dual, concurrent disabilities. (Holbrook & Koenig, 2000, p.186)

Children who are deafblind may have low vision or be functionally or totally blind and deaf or hard-of-hearing. This paper uses the NPTP's estimate of 93,600 students, which includes both legally blind and deafblind children. The term *visually impaired* will include children who are visually impaired, legally blind, and totally blind.

PERSONNEL PREPARATION

Educational Models

During the first 85 years that residential schools for children with visual impairments existed, teachers acquired their specialized skills through apprenticeship. Most had no previous teaching experience. Many had only high school degrees, and many were graduates of the schools in which they were employed (Koestler, 1976).

Although the first program for students with visual impairments in regular schools started in 1900, it was not until the 1920s that day school classes for the "partially sighted" were more fully developed. As the idea of bringing students with visual impairments into public day schools began to spread, the need for teacher preparation became readily apparent. Unlike teachers in residential programs, day school teachers could not apprentice under experienced teachers because there were none.

By the 1940s, public schools in Chicago, Cincinnati, and San Francisco had established the first resource programs for children with visual impairments. During the 1950s and 1960s, the itinerant program model (teachers traveling from school to school) grew in popularity, although special schools were still the predominant education placement. In those days, an itinerant teacher's case load was approximately 15 students, and the geographic area served was smaller than is typical today (Holbrook & Koenig, 2000).

The new model of public school education that included students with visual impairments in their local neighborhood schools was already in place in 1975 when the Education for All Handicapped Children Act was passed and the era of mainstreaming began in earnest. Today, the itinerant service delivery model is used for approximately 90% of the population of students with visual impairments who receive special education services. Too often, however, teachers carry very large case loads and cover far more territory (Mason, Davidson, & McNerney, 2000) than in the past. Although students with visual impairments have been included in general education classes and schools for many years, there continue to be insufficient numbers of teachers and other personnel.

Visually impaired students, who represent no more than 0.1%- 0.2% of the entire school-age population, have always been a proportionally small population among children with disabilities (C. Kirchner, personal communication, 2000). Because they are no longer primarily served in geographically concentrated locations, such as residential schools, a few children are scattered throughout local education agencies, especially in rural and sparsely populated areas. According to the Alliance Project (2000), "the impact appears to be the greatest in rural areas where the nearest teacher trained in visual impairments may be in a remote location or hundreds of miles away" (p. 1). Therefore, providing educational services for the unique learning needs of visually impaired children presents great challenges for universities charged with preparing a sufficient number of teachers (Holbrook & Koenig, 2000). Today, even many large-city programs and special schools have critical shortages of certified personnel.

A Brief History

In 1918, the University of California offered the first teacher preparation program, followed by a program at the Perkins Institution for the Blind. In 1921, Teachers College at Columbia University started summer programs for teachers of the "partially sighted," and in 1921 the first summer preparation course was offered at the George Peabody College for Teachers (Scholl, 1986). By the late 1940s, special education was considered so important that several universities established teacher preparation programs in various areas of exceptionality (Holbrook & Koenig, 2000).

During the next two decades, university-based programs for TVIs were influenced by these factors:

- rapid expansion of day and special school programs to provide placements for a growing number of children with retrolental fibroplasia, a condition that resulted from prematurity and excessive oxygen that caused thousands of children to lose vision
- philosophical change toward educating children in their home communities
- shift from the idea of conserving sight to using functional vision, which required new teaching skills
- the belief that techniques for teaching daily living skills and independent mobility, which were systematized and demonstrated by the Veterans Administration program for blinded veterans of World War II, were adaptable for use with children (Roberts, 1973).

In 1957, with help from the American Foundation for the Blind (AFB), four universities were identified to develop year-round programs to prepare TVIs. These programs were designed to be similar to preparation programs for special educators of children with other disabilities.

Personnel preparation programs for students who are deafblind began in 1955 (Koestler, 1976). After the rubella epidemic of 1964-1965, new programs were put in place to meet the critical need for teachers of children with deafblindness caused by this virus.

Although these children have "aged out" of the school systems, new populations of students with dual-sensory impairments continue to be identified. Too often, children with deafblindness are served by teachers trained to work with children with multiple impairments; these teachers do not have the necessary background to deal with sensory impairments or deafblindness.

In 1960, Boston College offered the first personnel preparation in O&M. Originally, these graduate-level programs concentrated on training O&M specialists who would work with adults who are blind in rehabilitation programs. However, it soon became obvious that O&M skills could and should also be taught to school-age students. Today, this type of instruction is considered essential for persons with visual impairments of all ages, regardless of additional disabilities. Since 1997, O&M has been designated as a related service under IDEA. In the 1960s, an infusion of federal funds helped to spur growth in the number of programs where

educators could receive training. The funding provided tuition and stipends for students as well as support for faculty salaries and related program costs.

In the early 1970s, there was widespread development of competence-based education for all teacher preparation programs in the U.S. Personnel preparation programs for children with visual impairments were encouraged to identify the unique teacher competencies necessary to teach children with visual impairments. Between 1973 and 1975, AFB coordinated six meetings of 22 college and university personnel preparation programs training TVIs to identify these competencies, compiled as *Competency-Based Curriculum for Teachers of the Visually Handicapped: A National Study* (Spungin, 1977) was compiled. These meetings provided an opportunity for universities to look at the multiple roles and functions TVIs were required to perform, given the changing delivery system toward mainstreaming and the change in the population served (i.e., increased numbers of students with visual and multiple disabilities were now included in education programs). Over the next two decades, the CEC's Division on Visual Impairments adopted positions on the role and functions of TVIs (Spungin & Ferrell, 1999). These meetings and documents brought home to university faculty that in the future even more TVIs, TDBs, and O&M instructors would be needed to provide an appropriate education to the nation's children with visual impairments. As efforts were underway to define teacher competencies and to develop educational standards, there was growing concern about the number of university programs that would be needed to ensure a sufficient work force.

During the 1980s, two changes placed the established university programs at risk. First, federal funds became scarce, largely because the total funds available remained constant while more universities applied for these funds—not only for visual impairments but also for other disabilities. This heightened competition resulted in significantly fewer and smaller grant awards; some universities with a history of many years of support from federal funds were suddenly without grants. The second change was a dramatic reduction of applicants for teacher preparation programs in special education—especially in the area of visual impairments.

Although federal funds facilitated the establishment of many programs that would not have existed otherwise, the university programs that were substantially or totally dependent on federal funds were now severely threatened. The decline in applicants for teacher preparation programs may have been related to the reduction in federal funds for tuition and stipends, but there was a concurrent trend of college students veering away from teaching toward more lucrative professions.

During this time, a federal mandate to limit money previously available for faculty positions placed entire programs in jeopardy. Less federal financial support for faculty meant that university administrators were asked to financially commit to the programs and support faculty salaries. University administrators questioned the viability of programs in visual impairments, especially as the numbers of incoming university students decreased. A teacher preparation program in 1967 with 30 students and 3 full-time faculty, 2 of whom were supported by federal funds, might in 1992 have only 8 students and 1 university-paid faculty member with little to no support from federal funds. This was not an unusual scenario, and a number of highly respected university teacher preparation and leadership programs began to close, because university budgets could not absorb the costs.

As a result of these cuts, the U.S. now has a chronic and growing shortage of qualified TVIs and O&M specialists.

Current Status

Teachers of Students with Visual Impairments (TVI). Although personnel preparation programs for TVIs were found in 26 states in 1999 (Corn & Silberman, 1999), the authors estimate that in 2002 only 22 states had 1 or more such programs. Some states offer 2 programs (e.g., Texas, New York, California); other states (e.g., Georgia, Washington, Maryland) had none. In 2001, for example, Maine, New Hampshire, Vermont, Massachusetts, and Connecticut did not have a single program preparing TVIs.

During the past two decades, many personnel preparation programs for TVIs, TDBs, and O&M specialists have had faculties reduced; some have had their programs closed. In 1987, 42 programs prepared TVIs (Knowlton, 1987). By 1999, only 36 programs existed. When Corn and Silberman (1999) added together the percentages of faculty commitment for preparing the nation's TVIs, the 57 full-time faculty members' assignments were equivalent to 31.8 full-time-equivalent employees (FTEs).

Highly-ranked departments of special education have, over the years, severely cut back and/or eliminated programs at such places as the University of Minnesota, the University of Virginia, and the University of Texas at Austin. Among the top-ten ranked departments of special education, only Vanderbilt University has a tenure line in visual impairments (*U.S. News & World Report*, 2002), but even the program at Vanderbilt University reduced its faculty from 3 full-time members in 1994 to 1 FTE in 2002.

In addition, some of the 36 programs preparing TVIs do not have a single FTE. Some do not have a faculty member with expertise in visual impairments and blindness; instead, a faculty member coordinates the program, and teachers with master's degrees develop the content and provide the course work. Since the 1999 Corn and Silberman study, 5 programs have stopped accepting new students, and another program is expected to close in 2002. Even though there were two new start-up programs in 1999, the losses have far outweighed the gains. In one program, for example, 8 of 10 students are teachers at a special school who had not received certification to teach students with visual impairments before their employment.

In 1997, Division 17 on Personnel Preparation of The Association for Education and Rehabilitation of the Blind and Visually Impaired (AER) instituted standards for programs preparing TVIs. In October 2001, only 6 programs submitted documents and were found to meet all of AER's standards (A. Koenig, personal communication, October 31, 2001).

Orientation and Mobility Instructors (O&M). Seventeen university programs are currently approved by AER to prepare O&M specialists. Thirty-one respondents to the Corn and Silberman (1999) study indicated full- or part-time assignment preparing O&M instructors. At the time of their survey, the nation had 23.5 FTE preparing O&M instructors.

Teachers of Students with Deafblindness (TDB). In 1994, 10 university programs were preparing teachers of deafblind students (McLetchie & MacFarland, 1995). Corn and Silberman (1999) found that there were only 6 programs with 10 faculty members by 1999. By adding the percentages of their allocated time to preparing TDBs, 4 FTE were working toward this effort.

INSTITUTIONS OF HIGHER EDUCATION

Current Capacity

The total number of new professionals entering the field of teacher training for students with visual impairments has fluctuated: 365 in 1995-1996, 416 in 1996-1997, 383 in 1997-1998, and 375 in 1998-1999 (Ferrell, 1999). According to Ferrell's most recent data, 33 programs each graduated an average of 11.24 students in 1998-1999. (Note that only a subgroup of those programs had 1 vision FTE.) Consistent with data from the previous two years, in 1998-1999, 50 vision-related bachelors degrees were awarded: 36 for TVIs, 9 for O&M specialists, and 5 dual TVI/O&M degrees. In 1998-1999, 175 master's degrees were awarded: 106 for TVIs, 35 for O&M specialists, and 3.5 for dual TVI/O&M degrees. In 1998-1999, an average of 4.9 teachers, 1.6 O&M specialists, and 0.9 dually certified personnel were prepared for each state (Ferrell, 1999).

Recruitment

Even if a full complement of university-based training programs were in place, the challenge of recruiting students to university programs would remain. Typical traditional recruitment efforts by universities do not seem to work for programs preparing personnel for students with visual impairments. Hong, Rosenblum, Petrovay, and Erin (2000) surveyed TVIs, O&M specialists, and other personnel to learn how they became aware of and why they entered the field. The authors found that awareness came through contact with a professional, friend, family member, or acquaintance who is visually impaired; reading books (about Helen Keller, for example) or journals; and volunteering with persons who are visually impaired. They also found that people were motivated to enter the field largely because of a desire to help others; a desire to establish contact with professionals in the field; and interest in the methods used by people who have visual impairments.

Alonso (1986) suggested several reasons for the recruitment problems faced by the field of visual impairment and blindness: marketing toward shortages in general education; the added expense for training when general educators receive the same salaries; the itinerant nature of most TVI and O&M jobs; and the need to find work where there are enough students with visual impairments.

The Alliance Project (2001) indicates that the "relative lack" of available training programs contributes to the shortage of teachers for students with visual impairments. Given the distribution of training programs, it may be a financial and family hardship for a prospective student to leave a community to enroll in a program, even when a portion of training may be online. Therefore, the personal cost of training to become a TVI, TDB, or O&M specialist may be more than the cost of training to teach students with higher-incidence disabilities. Alonso (1986) also suggested that, although there are few undergraduate programs, recruitment efforts and programs should be further developed at the undergraduate rather than graduate level.

In the study by Corn and Silberman (1999), faculty expressed concerns over the minimum enrollments required by universities in order for a course to be held. A federal grant may keep a small class from being canceled, but a program that is not offered on a consistent yearly basis will not be able to recruit students.

Another issue in creating a supply of personnel is the need for consistent and continual funding of personnel preparation programs. Corn and Silberman (1999) found 28 programs (including TVI, O&M specialists, and TDB) receiving partial or full external funding from federal, state, and/or private sources.

Unlike other programs where a faculty member may enjoy "buyout" time by securing a research grant, external funding is a necessity for programs preparing personnel in visual impairments. As Jane Erin, a professor who coordinates a program with 3 full-time grant-funded adjunct faculty, stated:

> The need to depend on external funding has significant disadvantages in preparing personnel for services to visually impaired individuals. Programs must address priorities set by agencies funding, which may not exactly match local needs. Faculty spend extensive time writing grants and maintaining accountability records, while student numbers vacillate depending on grant availability. Faculty appointed on grant funds may remain only until they can locate permanent positions, and they may not be able to develop long-term goals for their programs and themselves due to the uncertainty of funding. Permanent faculty members have limited time to spend on research, service, or professional development because funding their programs to support students must take priority. As a whole, temporary and external funding is highly unsatisfactory, but we continue to seek it because there is no alternative. (Personal communication, November 1, 2001)

In Texas and North Carolina, professionals and concerned citizens have petitioned state legislatures to ensure that personnel preparation programs continue to supply an adequate number of TVIs and O&M specialists. In Texas, state funding is provided for personnel preparation through a line item in the budget of the Texas School for the Blind and Visually Impaired. Through their collaborative efforts with two personnel preparation programs in their state, Texas teachers are receiving pre-service programs in visual impairments and O&M as well as a mentoring program when they enter the teaching field. In North Carolina, funds were obtained to provide a personnel preparation program that is being offered by North Carolina Central University, a historically black college. Although continuous funding is not assured through these efforts, the available funds help to establish and maintain programs. For some programs, states have provided student tuition assistance (e.g., Arizona, Alabama). While these recent approaches are innovative, many states cannot expect a political or economic climate that will allow these programs to be fruitful over time.

Certification

The field has several avenues for certification of personnel serving students with visual impairments.

Professional Certification. The authors strongly believe that to receive FAPE, children with visual impairments, those with visual and additional disabilities, and those who are deafblind should be assessed by professionals knowledgeable about visual disabilities to determine whether certified TVIs, TDBs, and/or O&M instructors are needed in direct and/or consultative services.

National Certification. The Academy for Certification of Vision Rehabilitation and Educational Professionals (ACVREP) offers national certification to O&Ms who have taken courses at approved university preparation programs and submitted their transcripts. AER approves programs in orientation and mobility as well as programs in TVI. This program assists O&Ms in a vast majority of states without O&M certification. This certification from ACVREP allows O&Ms to work with individuals who are visually impaired of all ages, as well as those with single or multiple disabilities. The National Blindness Professional Certification Board (NBPCB) now offers a new certification for all professionals in the blindness field, with the exception of TVIs. In the future, NBPCB may offer certification to TVIs as well. TVI certification has not fully been accepted by the field and does not go through the process described above.

State Certification. In 1987 certifications were available for TVIs in 45 states (Huebner & Strumwasser, 1987); the remaining states did not require special course work to serve students with visual disabilities. Certification requirements also differ from state to state. In 1996, Kansas did not require that TVIs know the braille code, and Georgia did not require an introduction to orientation and mobility (Lewis, 1996), although consideration of both these areas in Individualized Education Programs (IEPs) are specified in the IDEA 1997 regulations.

Teachers of Students with Visual Impairments. Data on state certifications are not current. In 1987, a survey asked for national standards and information regarding reciprocity of certifications across states (Huebner & Strumwasser, 1987). These are not easily fulfilled requests. For example, Arkansas was working to accept Alabama's certification, but Alabama would not accept certification from Arkansas (Lewis, 1996). In a field in which few professionals are available for hire, the lack of reciprocity has adverse effects. For instance, a TVI who is a new resident of a state potentially may not be hired, or a TVI may not find a place to work within commuting distance of a school for further training.

Since 1975, students with visual impairments who have additional disabilities have been counted as "multiply handicapped" by IDEA's child count. Despite needs for TVIs and O&M specialists, Local Education Agencies (LEAs) have been able to provide services with teachers holding other certifications (e.g., severe disabilities) exclusively. Some states have sought to increase the number of TVIs by offering alternative certification programs through schools for the blind, regional education service centers, and other administrative entities. While this may be an approach that is designed for a problem in a local area, it is unknown what impact these programs may have over time. There are two potential difficulties with this type of program: (1) certifications acquired through a non-university program may not be accepted in a state that would otherwise have a reciprocal relationship with the certifying state; and (2) this system may lack quality control. Texas is a state that has had an alternative certification program (ACP) since 1992. Through its regional education service centers (ESCs), alternative TVI programs are available. In 10 years, 85 TVIs have been prepared (K. C. Dignan, personal communication, November 7, 2001).

Teachers of Students with Deafblindness. Most states do not have a TDB certification; these teachers generally receive a TVI certification and are then recognized as TVIs.

Orientation and Mobility Instructors. In 1996, DuPass and Fazzi found that only 17 states had any official qualifications for O&M specialists practicing in those states.

SUPPLY AND DEMAND OF PERSONNEL

In recent years, the profession has attempted to address the following questions:

- What are the best methods of educating students who are visually impaired?
- What part should special school and general education programs play?
- What skills and supports do teachers need if they are to provide FAPE for students with visual impairments?
- What options and resources are available to overcome the severe shortages of trained personnel who can teach specific skills to these students?

Although three of these questions relate to services for children, their answers will have profound impact on the number of personnel needed to deliver services in the future.

For example, since 1996, the field of visual impairments has come to an informal consensus that each child should be assessed in each area of the Expanded Core Curriculum for Students with Visual Impairments (see Goal 8, *National Agenda*, Hatlen, 1996). As shown in **Table 2**, this curriculum includes the unique learning needs of students who have visual impairments. The TVI, TDB, and O&M specialists are expected to provide instruction in each of the listed areas.

Table 2. The Expanded Core Curriculum for Students with Visual Impairments

Compensatory skills
Independent living skills
Technology skills
Social skills
Recreation/leisure skills
Visual efficiency skills
Career education
Orientation and mobility skills

Source: Hatlen, 1996

Because there are no good estimates of the number of children who need a trained TVI, major assumptions are required to estimate the number of TVIs, TDBs and O&M specialists needed. Nonetheless, anecdotal reports from LEAs, states, and university faculty receiving job announcements indicated over a period of time that there was a great shortage of personnel.

In a one study (Corn, Bina, & DePriest, 1995), 985 parents of students attending special schools for children and youths, who are blind were asked whether their LEAs had a TVI and a certified O&M specialist. At that time, 69.7% of the parents reported their LEAs either did not have a TVI or did not know if one was available, and 76.6% reported their LEAs either did not have an O&M specialist available or did not know if one was available. Although the number of these students who would receive FAPE by being enrolled in special schools is unknown, it is clear that if many of these students returned to their local schools, there would not be sufficient personnel to meet their needs.

In a recent study of the perceptions of 36 high school students who attended one special school for the blind, Phillips and Corn (2002) found that 86% believed they were placed at the special school because their LEAs could not provide trained teachers, O&M specialists, books in braille,

and other instructional supports. The remaining 14% only reported that the placement was their parents' decision.

In states where monitoring of special education services is rigorous (e.g., Texas), reports of shortages warrant bold actions. In states where such monitoring seems lax, the numbers of funded vacancies reported to state departments of special education often seemed low. For example, a state that reports two vacancies for TVIs may actually have many LEAs that—to avoid being considered out of compliance—enroll children with visual impairments and provide generic special education support. Local education agencies may wait for a teacher with a certification in visual disabilities to "show up" before considering whether a position should be funded. Local education agencies often rely on outreach services of a special school even when these services are not adequate to provide FAPE to their own children who are visually impaired. These agencies have also been known to allow very large case loads rather than fund an additional TVI position.

Anecdotal reports suggest there are also LEAs that view O&M services as either nonessential or that claim an O&M specialist cannot be found for employment or contract work. In LEAs that predominantly serve children with visual impairment who have some functional vision, there may also be a misconception that O&M services are not needed or required.

Direct Service Personnel

A reciprocal relationship exists between the expressed needs of LEAs for personnel and the ability of universities to sustain programs to supply personnel. When LEAs are complacent about serving students with visual impairments or choose not to reduce case loads to appropriate sizes, new positions are not funded. In other words, they do not create a demand for TVIs, TDBs, or O&M specialists. Many states avoid IDEA's Part B requirements (that each child's placement be based on the IEP and that public agencies make available a continuum of placement options) by claiming no one with a specific certification (e.g., TVI) is available.

There have been several efforts to obtain estimates of the number of personnel being prepared each year and the supply that is available to join the work force. Bartley made a distinction between those prepared and those entering the work force (as cited in Head, 1989). Bartley indicated that approximately 35% of those receiving new certifications were already employed as TVIs before taking their course work.

The National Plan for Training Personnel to Serve Children with Blindness and Low Vision (Mason et al., 2000) found 6,700 FTE teachers of the visually impaired and deafblind and 1,200 FTE O&M specialists in 2000. Given the estimate of 93,600 children requiring specialized services due to visual disabilities and 6,700 FTE specialized teachers, the resulting estimate for the current average case load is 14 children per teacher. The same mathematical calculation applied to O&M specialists suggests an average case load of 72 children per FTE specialist. While many specialists have case loads much higher, the most obvious conclusion to be drawn from that ratio is that most children are receiving no O&M services.

The difficulty in estimating current case loads and an agreed-on student-teacher ratio relates to the case load component, which involves a question of consensus on the standard of adequacy, a judgment that goes beyond questions of fact.

During meetings of NPTP, two subgroups were formed with primary expertise in teaching and O&M services, respectively. With regard to teacher recommendations, the NPTP stakeholders concurred that an 8-to-1 ratio of students-to-teacher is a reasonable (although not necessarily ideal) average recommendation. The participants indicated that at this individual teacher case-load level, the ratio must vary with the students' needs and settings (e.g., itinerant services, inclusive setting, specialized school).

However, because of the need for research on benefits of varying intensity, frequency, and duration of TVI and O&M services, they agree that recommendations for the national average service provider-to-student ratios are highly speculative and provide little guidance for specific case-load criteria. The paucity of research of this type is particularly significant with respect to O&M services.

Clearly, the need for additional direct service personnel grows considerably when taking into account the need to reduce case loads for both TVIs and O&M specialists, the anticipated near-term spike in the number of direct service personnel who will be retiring, and the estimated impact of vacancies. Based on the recommended ratio of 8 students to 1 educator, a total of 11,700 FTE teachers (both TVIs and TDBs) and as many O&M specialists are recommended. This will require hiring an additional 5,000 FTE teachers of the visually impaired and more than 10,000 O&M specialists. Bartley found that approximately 35% of those taking course work are already employed as TVIs (Head, 1989) and that the number of students with visual impairments is expected to rise to 145,300 by 2005 (Diament, personal communication, 2001). With these results in mind, it seems likely that universities will need significant support to supply enough TVIs to serve students who are visually impaired or deafblind now or in the future.

Teachers of Children Who Are Deafblind. In a 1992 study, McLetchie found that only 6% of children with deafblindness had a teacher trained in teaching students who are deafblind. This study was replicated in 1994; again, only 6% of the students had an appropriately trained teacher. In 1992, McLetchie concluded that the country would need 960 new teachers over the next decade. Since 1996, however, only 15.4 new teachers of students who are deafblind have completed programs each year (Ferrell, 2001). Therefore, the number of TDBs prepared during this time has fallen far short of meeting the anticipated need. In 1993, OSEP funded a project, *Hand in Hand: Essentials of Communication and Orientation and Mobility for Your Students Who Are Deaf-blind*, which consisted of text and multimedia materials to be used in teacher workshops to increase teachers' knowledge about and skills related to deafblindness. Although this effort has led to more than 50 workshops, this project alone could not be expected to meet the need for qualified personnel.

Orientation and Mobility Specialists. As mentioned earlier (Mason et al., 2000), only 1,300 O&M specialists are practicing in the U.S., and university programs have produced on average 93 newly certified O&M specialists annually. This average includes 45 individuals who earned dual certification as TVI/O&M but may have been counted only once (Ferrell, 2001).

There also appear to be fewer students pursuing O&M programs. In 1993, Wiener and Joffee reported that 186 students sought certification in 1990. Because O&M specialists are certified to work with persons of all ages who are visually impaired, it is difficult to identify practicing instructors who are working only with school-age students.

Leadership Personnel

Corn and Silberman (1999) found an increase in the number of faculty who were anticipating retirement or leaving the field from 7.2 percent in 1996 to 16 percent in 1999. Anecdotal reports from the field reveal that often universities wait several years before being able to fill vacancies (e.g., California State University at Los Angeles, University of Arkansas at Little Rock). Other programs are known to have closed because of a lack of candidates for faculty positions. In the spring of 2002, there were openings for several faculty members (e.g., University of Northern Colorado, Hunter College of the City of New York, University of Alabama, and University of Northern Iowa). During the 2002-2003 academic year, vacancies were announced in 7 universities and another is expected to announce a position later in the year.

Corn and Silberman (1999) reported that during the 1997-1998 academic year, 18 doctoral programs with an emphasis on visual impairments were available. In 2000, there were 15 programs that offered doctorates in special education with an emphasis on visual impairments (Corn & Sapp, 2000). In 2002, Corn and Spungin found 9 active leadership programs with one or more students.

Of the 20 U.S. residents who received doctorates between 1996 and 2001, only 2 FTEs were generated for preparing TVIs; 3 FTEs were generated in O&M; and 1 FTE in TDB. Of these, only 4 remain in university positions (2 TVI and 2 O&M). Although 8 doctorates were to be awarded in 2002, only 1 student expressed interest in a faculty position preparing TVIs, and none were seeking faculty positions in O&M or deafblindness (Corn & Spungin, 2002).

Recruiting leadership students in visual impairment is obviously difficult. The number of vacancies and available tenure lines are few; salaries are not competitive; and some universities may not demonstrate a serious long-term commitment to new faculty. A sufficient number of faculty members and a number of university programs must be retained or be developed to meet the needs of students with visual impairments. Whether each university should prepare more teachers, or more universities should have programs in visual impairments, there is a dire need for faculty prepared to assume university positions. Further, the number and ranks of available university positions must be attractive to potential faculty.

The authors recommend that a comprehensive study of leadership programs be undertaken. The purpose would be to explore whether active (and available though inactive) leadership programs have the resources and the capacity to prepare the next generation of faculty. With faculty retiring and financial, sociological, and other factors threatening leadership programs within universities, it is important to learn how leadership programs may be strengthened. This study should, therefore, explore the reasons why former leadership programs, especially within top-ranked universities, have been closed.

NATIONAL EFFORTS

Over the past decade, several grassroots and organizational efforts have been initiated to increase the number of personnel available to provide education services to students with visual impairments.

The National Agenda

The objectives of President George H. W. Bush's administration's Goals 2000 program to reform general education, combined with OSEP's effort in 1992 to incorporate special education with that movement, presented the field of education for students who are visually impaired with a clear challenge. Professionals and parents understood that the unique needs of students with visual impairments would be minimally addressed by the efforts for general and special education. For example, the general education and generic special education goals did not specifically articulate that children who are blind would receive their braille texts at the same time as their sighted peers receive print texts, or that O&M services would be available. In addition, the need for reading teachers with knowledge of braille or optical devices and the need for educators who could teach mobility using a white cane was not a part of any of these initiatives. A community of parents, professionals, and persons with visual impairments determined that a set of priorities that specifically addressed the needs of children with visual impairments should be created to work in concert with other efforts.

The National Agenda for the Education of Children and Youths with Visual Impairments, Including Those with Multiple Disabilities (Corn, Hatlen, Huebner, Ryan, & Siller, 1995) included 10 general goals that, if achieved, would ensure appropriate access to education. These goals all apply to infants, toddlers, children, and youths who are visually impaired, including those with multiple disabilities:

1. Students and their families will be referred to an appropriate education program within 30 days of identification of a suspected visual impairment. Appropriate quality services will be provided by teachers of the visually impaired.
2. Policies and procedures will be implemented to ensure the right of all parents to full participation and equal partnership in the education process.
3. Universities, with a minimum of one full-time faculty member in the area of visual impairment, will prepare a sufficient number of educators of students with visual impairments to meet personnel needs throughout the country.
4. Case loads will be determined based on the assessed needs of students.
5. Local education programs will ensure that all students have access to a full array of service delivery options.
6. Assessment of students will be conducted, in collaboration with parents, by personnel with expertise in the education of students with visual impairments.
7. Access to developmental and educational services will include an assurance that instructional materials will be available to students in the appropriate media, and at the same time as their sighted peers' materials.
8. All educational goals and instruction will address the academic and expanded core curricula based on the assessed needs of each student with visual impairments.
9. Transition services will address developmental and educational needs (birth through high school) to assist students and their families, in setting goals and implementing strategies through the life continuum commensurate with the student's aptitudes,

interests, and abilities.

10. To improve student learning, service providers will engage in ongoing local, state, and national professional development.

This agenda was developed with contributions from more than 400 parents, professionals, and adults with visual impairments. Goal 3 specifically speaks to the need for training a sufficient number of personnel to educate children with visual impairments, while Goal 4 deals with case loads. In the *Report to the Nation* (Corn & Huebner, 1998), national goal leader organizations in the field of visual impairments and blindness gathered data regarding the status of the goal areas in educational practice. The data provided a snapshot of the nation's provision for each of the goals in the delivery of services. Today, national goal leaders and organizations are working toward the achievement of individual goals, while state coordinators and committees are working to achieve goals within LEAs and states. Virtually all of the national, state, and local educational activities for students who are visually impaired are directly related to the 10 goals of the National Agenda and all in varying stages of development. Goal 3 is primarily addressed in this paper.

U.S. Department of Education: Notice of Policy Guidance

Because of the continuing shortage of personnel serving children with visual impairments and blindness and the lack of knowledge and misinterpretation of IDEA by administrators, the Office of Special Education and Rehabilitative Programs (OSERS) of the U.S. Department of Education concluded that the reauthorization of the IDEA amendments of 1997 needed to be clarified for public agencies responsible for the education of students who are blind or visually impaired. The OSERS issued and later strengthened a policy guidance document, *Educating Blind and Visually Impaired Students: Policy Guidance* (OSEP, 1999, 2000). In essence, this policy guidance was meant to provide administrators overseeing programs for students who are visually impaired with a definition of which specific services are required to implement an FAPE in the least restricted environment (LRE). This document also pointed to the need for more personnel.

The National Association of State Directors of Special Education

In another effort to reach administrators responsible for educating students with visual impairments, the National Association of State Directors of Special Education (NASDSE), with support from the Hilton/Perkins Program, invited 12 major national organizations to develop a book, entitled *Blind and Visually Impaired Students: Educational Service Guidelines* that would describe the best and most promising practices. The purpose of the book was to provide assistance to state and local education agencies, service providers, and parents by underscoring the personnel and direct service needs of students with visual impairments.

Using federal and state funds, NASDSE has brought workshops to states (10 to date) for the purpose of putting these guidelines into practice. The target audience is directors of special education at local education agencies. Unfortunately, there are no plans to conduct follow-up studies or to provide technical assistance to determine the effectiveness of the workshops or of change within the states (G. Pugh, personal communication, August 9, 2002).

National Plan for Training Personnel to Serve Children with Blindness and Low Vision

To overcome past and current deficiencies in providing quality services to students and to maintain an adequate supply of qualified personnel to provide those services (Mason et al., 2000), OSEP funded a collaborative planning process. In conjunction with 57 national stakeholders, the CEC's Division on Visual Impairments, of Division 17 on Personnel Preparation of AER, and AFB undertook two years of intensive study and planning. The result was the *National Plan for Training Personnel to Serve Children with Blindness and Low Vision* (Mason et al., 2000). This document included estimates of the numbers of direct service personnel needed to serve the nation's children who are visually impaired or deafblind as mentioned above.

Implementation strategies in the *National Plan* encouraged collaboration, stabilization, and diversification of funding; coordination of research; development of leadership capacity; an information and referral service; and a national recruitment campaign.

The *National Plan* indicated that the number of TVIs as direct service professionals was increasing at a slower pace than was predicted in earlier studies (e.g., because of attrition). In fact, despite efforts to develop dually certified personnel, the data indicated that the number of TVI and O&M instructors was actually decreasing each year. The *National Plan* also offered recommendations on how to attract professionals from culturally diverse backgrounds and spoke of the critical need to increase the numbers of students entering doctoral programs so that they would be available to replace retiring faculty.

University Efforts

Two meetings of university faculty have been held (Atlanta, 2001; Louisville, 2001). In 2002, another meeting was held with representatives of university personnel, parents, state vision consultants, and the Council of Schools for the Blind (Philadelphia). These meetings established task forces to deal with four critical personnel preparation issues: curriculum, recruitment, research and public relations, and fund-raising. Future meetings are planned to continue to work toward these four personnel issues.

Distance Education

Many efforts have been made in recent years to find innovative ways to solve the personnel shortage, including various forms of distance education as well as summer-only programs. Such programs attempt to accommodate experienced classroom teachers and others who are exploring midlife career changes to new and different professional challenges. Several distance education models of personnel preparation have become available to prospective students.

In 1999, Corn and Silberman identified 7 TVI programs offering on-campus and extension courses, and 4 offering on-campus and distance courses. Another 9 TVI programs indicated that they offer all three models.

Two O&M specialist programs offered on-campus and extension courses, 1 offered on-campus and off-campus models and 4 programs offered all three models. Distance education includes,

but is not limited, to the use of online courses, videotapes, chat rooms on computers, and video conferencing. Some programs also include on-campus summer courses as a component.

Two programs no longer offer courses on campus, providing only extension courses and online coursework. There are interstate programs with many extension courses using traveling faculty; for example, the University of Alabama, with 1 FTE, prepares TVIs in Iowa, and the Pennsylvania College of Optometry prepares O&M specialists in several other states.

In the early 1990s, a combined on-campus and "reversed" distance model was funded at the University of Texas at Austin and Vanderbilt University. In this model, which ended in 1995, geographical areas in need of 1 or 2 TVIs—and that were not convenient to a personnel preparation program—had experienced general education special education teachers come to campus two days per week and work as TVIs on a waiver three days per week. Practicum and extended supervision (i.e., full days with a supervisor) helped TVIs start programs in their LEAs. Despite the high cost of travel, one advantage of this model was that TVIs remained in the field at a higher rate than those certified through a traditional on-campus program (Corn & Erin, 1996).

Distance education delivery systems hold great hope for future training needs, but the systems must be based on knowledge and improvements in technology, growth in faculty expertise, and student participation (Ferrell, Persichitte, Lowell, & Roberts, 2001). To date, however, there have been no studies on the quality of teachers of visually impaired students prepared under the various models of personnel preparation mentioned. In addition, there have been no studies on the impact of various models on the stability of university programs or the rate at which they are improving the education of students with visual disabilities.

DISCUSSION

Clearly, many challenges face the field of education for students who are visually impaired or deafblind. From the disparities of child count statistics that make it difficult to determine the demand for TVIs, TDBs, and O&M specialists to the instability of university-based personnel preparation programs and their inability to meet current needs, the nation is at risk.

While the field is small in scope, professionals have attempted to think and act broadly in working with the disability group with the lowest incidence within the general school-age population. By developing the *National Agenda for the Education of Children and Youths with Visual Impairments, Including Those with Multiple Disabilities, the National Plan for Training Personnel to Serve Children with Blindness and Low Vision*, and the NASDSE Guidelines, and by working with OSEP to bring about the policy guidance documents, faculty members and other stakeholders have put forth great efforts. They have also sought new ways to deliver personnel preparation programs, sought meetings beyond those that were organized through grants or organizations, and gathered data to support their mission to prepare a sufficient number of personnel.

The authors of this paper have been integrally involved in many, if not all, of these efforts. We have seen faculty frustrated with news of another personnel preparation program about to close, and we have cheered when a new program is started or an existing program is strengthened. The faculty at universities and key individuals within other stakeholder organizations (including the American Foundation for the Blind, the Council of Schools for the Blind, the American Printing House for the Blind, the Association of State Vision Consultants, the National Association of Parents of Children with Visual Impairment, and others) have come together in ways that would not have seemed possible from the 1960s through the mid-1990s.

At this point, two questions emerge:

- Is there a critical mass of individuals who can take what exists and develop and implement a plan to meet Goal 3 of the *National Agenda*, that is, prepare a sufficient number of personnel to provide an education to our nation's children with visual impairments and deafblindness?

- Are supports, financial and otherwise, going to be found within and without the profession to help carry out its efforts?

QUESTIONS TO BE ADDRESSED

Throughout the years, professionals who work in the field have been frustrated by the lack of research regarding the education of students with visual impairments and the preparation of teachers. Funding for research, a dearth of skilled researchers, and difficulties inherent in studying a low-incidence population have always been deterrents to devoting resources to research, especially when researchers' attention has been refocused on the need to prepare teachers to meet the needs of today's children.

Critical information is needed regarding the definition of the population, correct child count figures, promising service delivery options, appropriate case loads, and recruitment to determine present and future needs for TVIs, TDBs, and O&M specialists. While this paper reported on studies that have been completed to date, a national systematic method for data acquisition is imperative if there is to be valid planning for personnel preparation programs. The authors offer the following research questions that would enable public policy makers and researchers to plan for the educational needs of children who are visually impaired or deafblind and for the needs of professionals who ensure they receive FAPE:

1. What economic conditions facilitate or hinder universities' maintenance of personnel preparation programs (supply) and LEAs hiring qualified personnel in the education of students with visual impairments (demand)?

2. To what extent does the current definition of low-incidence disabilities enhance or detract from successful funding opportunities for personnel preparation programs working with teachers of students with visual impairments?

3. What is the long-term economic impact of not providing a sufficient number of personnel to students with visual impairments (e.g., with regard to employability and need for public assistance)?

4. Are dual certification programs cost-effective and do they have a positive impact on the delivery of services?

5. How might accurate child counts at local, state, and national levels be improved for better estimates of the need for personnel serving students with visual impairments?

6. Are there optimum case loads that will reduce the number of unserved or under-served students with visual impairments while providing for a full continuum of placement options?

7. What administrative factors result in case loads so large that students with visual impairments are not receiving sufficient time with qualified professionals to meet IEP goals and objectives?

8. What factors emerge as reasons why LEAs and states do not ensure FAPE for students with visual impairments in providing appropriate personnel; what are state and LEA responsibilities for addressing personnel shortages so that a continuum of placement options will be available based on a student's IEP?

9. What are effective relationships among special schools, universities, and LEAs for the preparation of personnel and supply of qualified personnel for LEAs and special schools?

10. Which methods work most efficiently and what national supports are needed for recruitment of direct service and leadership personnel in the education of students with visual impairments?

11. What is the optimum number of preparation programs (including different models of preparation) needed to provide a sufficient supply of TVIs, O&Ms, and TDBs, and what resources are needed to ensure their viability?

12. Does a relationship exist between the availability of personnel preparation programs in states and the extent to which students are offered a continuum of placement options? Does this relationship impact the economics of service delivery?

13. What models for personnel preparation (e.g., on-campus, extension, distance education) result in sufficient numbers of personnel who meet national standards for knowledge and skills in working with students with visual impairments?

14. What national supports are required to ensure a sufficient number of universities in needed geographical areas and to maintain or establish personnel preparation programs with positions that are attractive to potential faculty?

15. What national supports are needed to provide a sufficient number of related service personnel (e.g., braille transcribers, clinical low vision specialists, paraprofessionals)?

16. Should personnel preparation refocus a portion of its efforts on undergraduate- rather than graduate-level preparation of personnel?

17. Are there differences in the quality of TVIs and O&M specialists that receive certification from different models of personnel preparation programs?

18. How might a national certification or increased reciprocity of certifications across states impact the number of available personnel for students with visual impairments?

The authors further recommend that a study should be commissioned with the work of a labor economist, a special educator, and a school district administrator to look at the current economic viability of preparing and employing teachers of students with visual impairments. Questions that may be posed include but are not limited to:

- What are the costs to a certified general or special education teacher to receive training in visual impairments (e.g., if a full-time student, would there be a loss of one year's salary, one step on pay scale, incurred expenses)?

- What are the costs to universities to prepare quality teachers, and how do these costs compare with costs in other areas of special education?

- What are the economic costs to LEAs that do or do not choose to employ a teacher of students with visual impairments when children are eligible for such services

(e.g., cost of employing a teacher, “growing” a teacher, sending students to special schools)?

- What is the economic impact on a teacher of students with visual impairments who obtains leadership training and is employed in a university position (e.g., what is the beginning faculty salary vs. teacher or administrator salary)?

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