The status of distance education in personnel preparation programs in visual impairment

Visual impairments, orientation and mobility specialists, and rehabilitation teachers include a distance education component and used a wide variety of technology and instructional methods. Most programs also had a field experience component and relied on external funding for support.

The education of children with visual impairments (that is, those who are blind or have low vision) and deaf-blindness is at a crisis, and many of these students never acquire the knowledge and skills that are essential for a productive life (Head, 1989, Kirchner and Daiment, 1999). One cause of this crisis is the severe shortage of direct service personnel to teach these children. According to the National Plan for Training Personnel to Serve Children with Blindness and Low Vision (NPTP), funded by the Office of Special Education Programs (OSEP) of the U.S. Department of Education in 1997, there are currently (as of 1998) 6,900 full-time teachers in this specialty area, with an average caseload of 14 students (Mason and Davidson, 2000). The number of funded vacancies reported in 1998 for the NPTP project was 290 teachers and 90 orientation and mobility (O and M) instructors. However, on the basis of the recommended caseload of 8 students to 1 teacher, a total of 11,700 full-time teachers are needed, including teachers of deaf-blind students and O and M instructors, which requires the hiring of an additional 5,000 teachers and 10,000 O and M instructors (Mason and Davidson, 2000). A similar shortage exists in the area of rehabilitation teachers for adults with visual impairments. Even with the typically large caseloads that exist, the shortage of teachers is critical.

A related factor is that university training programs are not producing enough direct service personnel. In an effort to improve services for students with visual impairments, including those with multiple disabilities, a collaborative national project, called the National Agenda, was created in 1995. As part of the National Agenda, eight goals were developed and are being implemented. Goal 3, relating to personnel preparation, states: “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” (Corn and Huebner, 1998, p. 1).

According to the data provided to the National Agenda in 1999, 33 universities in the country have personnel preparation programs in the area of visual impairments and deaf-blindness, but they graduated only 215 teachers of visually impaired students, 78 O and M instructors, 38 teachers who were dually trained in both areas, and 21 teachers of students who are deaf-blind in 1999. For adults, only 22 rehabilitation teachers and 11 teachers with a combination of either O and M or education graduated in that year (Corn and Ferrell, 2000).

According to Head (1989), a 1985 American Foundation for the Blind (AFB) Recruitment Task Force identified university training programs as a partial cause of the shortage of personnel in the field. At that time, personnel preparation programs were geared to full-time students who received training on campus. Head called on university training programs to develop a national network to share resources and expand the breadth of training programs by offering courses outside the universities and through summer institutes. Silverman, Corn, and Sowell (1996) suggested that distance education courses, interactive video systems, mentor teachers, and other curricular models should be developed to address the shortage of personnel.

In response to the critical shortage of personnel in the field, many university programs have developed alternative methods of providing instruction. Weiner and Joffee (1993) noted that many university O and M programs had begun to offer alternative options, such as part-time programs, summers-only programs, distance education, and cooperative ventures among agencies, schools, and universities. According to the U.S. Department of Education (1999), between 1995 and 1999, OSEP invested over $5 million in grants to fund 12 projects related to distance education programs for training personnel to provide services to children with visual impairments.

The OSEP report suggested that there are advantages to implementing distance education programs, including that the programs (1) allow teachers in other areas to obtain certification in the field of visual impairment without traveling great distances; (2) permit teachers to retain their current teaching positions while studying; and (3) provide training to teachers in locations, particularly rural areas, that lack certified teachers. Because of the rapid growth in distance education, the study reported here was conducted to determine the status of distance education in the field and to identify the methods that are used to deliver these programs.

**Method**

**Procedure**

In spring 2000, a questionnaire was distributed to 37 universities with programs in the education of children with visual impairments, O and M, and rehabilitation teaching, either at the Josephine Taylor Institute or by mail, based on the list of university programs in the AFB Directory of Services for Blind and Visually Impaired Persons in the United States and Canada (American Foundation for the Blind, 1997). Programs that were not listed in the directory but were listed as accredited university programs on the web site for the Association for the Education and Rehabilitation of the Blind and Visually Impaired (AER) were contacted by e-mail. Follow-ups to the surveys were made by e-mail, telephone, and personal contact at conferences. The surveys were returned by one individual from each university that responded. Of the 37 universities that received surveys, 31 returned the completed surveys, completed the survey via telephone conferences, or responded by e-mail that they did not have a distance program. Distance education was defined as any courses offered outside the regularly scheduled on-campus courses and did not include programs offered on campus during the summer only.

**Instrument**

The survey questionnaire consisted of five sections: program information, instructional delivery and technical support, instructional techniques and field experiences, financial support, and comprehensive delivery plan. Program information asked questions about the specific program area, field experiences, and characteristics of students. Instructional delivery was related to the technological and nontechnological methods used to deliver instruction and technical support.
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telephone was used the least. Five programs used electronic grade books, and others used chat rooms, bulletin boards, and
written feedback—all the programs used e-mail, written feedback, and telephone, but several respondents indicated that the
incompatibility of teleconferencing connections; students’ lack of access to technology; graduate students’ lack of technical
competence; and the absence of support staff. Some students, especially those in remote rural areas, had access to
computers only at school, had only e-mail, or had no access to computers. Some students did not have the technical
expertise at the beginning of the program but became more sophisticated as they progressed, and some students had
difficulty gaining access to the library and web sites; audio problems on videos; the
delay arrival of mailings; the small number of students in remote sites, which made it difficult to conduct discussion groups; the
difficulty gaining access to the web sites using passwords. Nontechnical problems included copyright issues; lost mailings or
mislabeled e-mail, etc. The most frequent problems related to technical delivery were the server going down and the lack of up-to-date equipment.
Other problems included the incompatibility of attachments and software, with the instructor using a newer version than the
students; students’ inadequate technical skills for gaining access to the library and web sites; audio problems on videos; the
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mailing arriving late; the small number of students in remote sites, which made it difficult to conduct discussion groups; the
lack of time to prepare courses; the amount of time spent e-mailing and telephoning students, especially if the students were
novices; students falling behind; and students failing to keep up to date on what was going on in the courses if they were
required to use the programs’ web sites.

Instructional techniques

With regard to the instructional techniques used in distance education, the respondents indicated that the students met in
groups, either on campus or at remote sites, but the number of times varied from weekly meetings through interactive video
for several weeks in the summer to once or twice a semester. Two educational programs did not require face-to-face
meetings for their students. In another program, the students met in groups in their local areas, but not necessarily as an
entire class. All O and M and rehabilitation programs met face to face to develop skills under the blindfold, generally in the
summer or on weekends. Two respondents highlighted the need for face-to-face meetings, indicating that otherwise their
programs would not be effective; they also stressed that the students wanted face-to-face meetings.

In relation to the methods for communication and instructional feedback—e-mail, telephone, electronic grade books, and
written feedback—all the programs used e-mail, written feedback, and telephone, but several respondents indicated that the
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Results

Program information

Of the 31 universities, 16 provided distance education and 15 did not. At the 16 universities with distance education
programs, there were 15 programs in education, 7 programs in O and M, and 3 programs in rehabilitation teaching, and 14
universities offered a degree or certification through distance education. The average number of courses offered was 6–8,
although the range of courses varied widely, from 2 to 13 courses in O and M. Of the 14 universities that offered certification
or degree programs through distance education, 13 indicated that a field experience component was required; the remaining
university was in a state that did not require field experiences if a student was already certified in one area. The number of
credits and hours of required field experiences varied, depending on the type of program. Generally, rehabilitation teaching
and O and M had the largest number of required credits for field experiences, ranging from 350 to 600 clock hours and up to
15 credit hours.

Although not all the respondents completed the section on students’ characteristics, some generalizations can be made. All
the students in the programs were graduate students, although two programs allowed undergraduate students to take some
courses via distance education. Generally, students in the educational certification programs were teachers who were
certified in other areas, most often special education. One program required students to receive master’s degrees, and three
programs indicated that students had no previous teaching experience. The latter programs also offered O and M and/or
rehabilitation teaching and made no distinction between the programs.

Delivery of instruction

In this section, on how the programs delivered instruction, the respondents were asked to check all of the 12 items related to
technology that applied to their distance education programs. The choices included “smart classroom,” e-mail,
teleconferencing, one-way audio, chat rooms, electronic grade books, asynchronous distance learning tools (WebCT,
Mallard, Blackboard), listers, synchronous communication, asynchronous communication, Codec closed-circuit video,
web broadcast, and web-based assessment. All the items were used as part of distance education by at least one program,
and e-mail was used by all the programs. About half the programs used teleconferencing, “smart classroom” and interactive
video, and a fourth used online chat rooms, bulletin boards, and synchronous communication. Two programs did not use
distance learning technology, but set up programs at distance sites to which instructors traveled or used local instructors.

With regard to nontechnological instructional delivery methods, the choices included collaborative work groups, written
materials, journal articles and other readings, written assignments mailed or e-mailed to the instructor, video- or audiotapes,
teaching at another site, written research projects, and open-ended options. Again, all the methods were used by at least one program; all methods used some form of written materials, journal articles, and readings, although some of these materials
were presented online; and 7 programs used video- or audiotapes and written assignments mailed or e-mailed to the
instructor.

The technical support provided to faculty and students varied widely. For faculty, it included minicourses; reduced course
loads; equipment; graduate assistants (especially those who were knowledgeable in computer technology); webmasters or
producers; assistance from other departments, such as Continuing Education, to develop brochures (graphic arts); and
scheduling. Technical support to students included free e-mail, purchase of computers and other equipment; web training,
either online or during the summer; online access to the library; and on-campus technical support persons whom they could
call.

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Financial support identified funding sources and the impact of the lack of funding on programs. The comprehensive delivery plan asked respondents’
opinions regarding a national plan for distance education. With the exception of program information and instructional delivery
and a few miscellaneous questions, the survey required written responses and comments.
All the programs provided access to the universities' libraries, if necessary, but several respondents indicated that students had access to local college libraries. Several respondents also wrote that even though students had access to the libraries online, they did not necessarily know how to use the databases. The students had much less access to assistive technology and computer labs, many of which were only on campus. Three respondents indicated that they used such facilities at their states' residential schools for students with visual impairments.

With regard to assessment techniques used in course work, all the programs had students submit written assignments to the instructors by mail or e-mail, and two used web-based assessments. In three programs, projects that were assigned were videotaped, including functional vision assessments, O and M skills, resource files, and skills like the slate and stylus and verbal descriptive techniques.

The programs were evaluated in various ways. The most frequent response was the use of standard university course evaluations. Other responses included surveys, special or unique course evaluations developed by the instructors, state program evaluations, state certification tests, and staff problem-solving meetings.

At the 13 universities that had certification programs and required field experiences, the field experiences were evaluated most frequently by university supervisors, followed closely by teachers, school administrators, and agencies, and 7 programs used videos. For students who were employed by local school districts or agencies, supervision was increased at these sites. The respondents indicated that a major problem with field experiences was locating AER-approved sites and supervisors for rehabilitation and O and M and the need for students and faculty to travel to the sites. Local placements were sought, but if they could not be found and students needed to live away from home, residential schools were used.

There was no agreement among the respondents on which content courses or areas were most effectively taught in distance education courses. The respondents generally agreed that methods courses, such as braille reading techniques, and techniques that require the use of the blindfold, specifically in rehabilitation teaching and O and M, require face-to-face instruction with an instructor. Some respondents thought that didactic-type content, such as braille and the abacus, along with content related to foundations (such as history, legal aspects, and development) and eye pathology, are better suited for distance education techniques. The respondents were divided on content related to low vision (especially functional vision evaluations and the use of low vision aids) and other methods courses.

Financial support and a comprehensive delivery plan

Three programs were totally funded either by their universities or by state legislatures. All the other programs were supported by federal grants, state grants, or both. Four programs received support from other states they were serving in the distance education components, and three programs also received small amounts of private funds. All the respondents whose programs received federal or state grants indicated that the programs would be negatively affected if this support were discontinued. Seven respondents stated that without financial support, the students would no longer receive financial assistance, which would have a severe impact on enrollments in their programs, and two respondents stated their programs would not exist. The respondents also indicated that without financial support, the programs would lose additional support staff or instructional personnel.

With regard to financial support for students, all the programs that received outside funding provided full or partial payment of tuition or stipends, and one program paid for computers when necessary. Textbooks, conferences, lodging, mileage, and online costs were also listed. Three respondents noted that some students expected too much financial support and “wanted the world handed to them” or wanted a “free ride.”

With regard to a comprehensive national plan for delivering distance education programs, no respondent wanted a national plan that would restrict where programs were offered. However, many respondents indicated the need for a national plan to share ideas and resources, collaborate on materials to prevent redundancy, provide standards or guidelines for quality, and research best practices.

Discussion

Over half the universities that responded to the survey have a distance education component to their programs. Most of the certification programs are in education, nearly double the number of O and M programs, and the least are in rehabilitation. There are a few especially unique programs that should be mentioned. The University of Northern Colorado has a totally online program and no longer has an on-campus program; it has students from 14 states and provides in-state tuition for students residing outside of Colorado. Michigan State University has an entire online master's degree program in education, offering courses in the area of visual impairment and other courses required for a master's degree; it also has an on-campus program. Texas Tech University and Stephen F. Austin University offer a joint collaborative distance education program in education and O and M in Texas. Pennsylvania College of Optometry has a large distance education program with agreements from state departments of education. It also has an agreement with the Maryland School for the Blind, whose distance education program is more traditional in that students receive instruction at specific sites at which the instructors are present.

The programs use diverse instructional delivery methods, communication and feedback techniques, and assessment techniques, with few similarities among them. Each program has unique characteristics. There are a few areas, however, in which the programs are similar. First, all certification programs, except one educational program, require field experiences. Among the different programs, however, requirements vary greatly, depending on the type of program and required state and professional standards.

Second, with the exception of three programs, personnel preparation programs are dependent on state and federal grants, without which the programs' ability to provide distance education would be severely limited. The heavy reliance on outside funding was also noted by Corn and Ferrell (2000) and Corn and Silberman (1999), who cautioned that it may result in negative competition for students and funding.

Third, most respondents agreed that there is a need for collaboration and planning to reduce redundancy among materials
Personnel preparation programs in visual impairment have faced common challenges across the country including struggles to meet teacher shortages, particularly in rural areas. The vitality of personnel preparation programs depends on faculty-renewal and innovative distance education programs. The U.S. Department of Education currently funds programs that include distance education, and it is assumed that distance education is an effective and efficient means for preparing teachers. However, several serious questions still remain to be addressed, since data from current practice and research in distance education are still being gathered and analyzed (Spooner, Spooner, Algozzine, and Jordan, 1998). The advantages of distance education over traditional modes of instruction with respect to the quality of training and student outcomes, the number of personnel trained, and students’ preferences must be carefully investigated. The recent implementation of distance education by many programs and the range and variety of approaches being used limits the availability of some of this information at this time. However, it is essential for the field of visual impairment to assess the efficacy of its programs and develop a plan that leads to more qualified personnel to serve the needs of children, youths, and adults with visual impairments.

References


Norma C. DeMario, Ed.D., associate professor, Department of Special Education, Illinois State University, Campus Box 5910, Normal, IL 61790–5910; e-mail: ncdemar@ilstu.edu. Toni Heinze, Ph.D., professor, Department of Teacher Education, Northern Illinois University, Graham Hall 147, DeKalb, IL 60115; e-mail: theinze@niu.edu.

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stakeholders, including personnel preparation programs and corresponding universities, regional agencies, school districts, and
departments of education. Recent discussions by personnel preparation programs Abstract: This survey of university personnel
preparation programs in visual impairment in the United States and Canada investigated the demographic characteristics of faculty
members and programs, instructional models, and funding formulas in 2007-08. It found that many programs used some form of distance
education and that there was a correlation between tenure status and the age of the program. Trends for this and the previous four
surveys are examined.