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April 2004

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The Editorial Mission
The primary goal of the Journal of Special Education Leadership is to provide both practicing administrators and researchers of special education administration and policy with relevant tools and sources of information based on recent advances in administrative theory, research, and practice. The Journal of Special Education Leadership is a journal dedicated to issues in special education administration, leadership, and policy. It is a refereed journal that directly supports CASE’s main objectives, which are to foster research, learning, teaching, and practice in the field of special education administration and to encourage the extension of special education administration knowledge to other fields. Articles for the Journal of Special Education Leadership should enhance knowledge about the process of managing special education service delivery systems, as well as reflect on significant techniques, trends, and issues growing out of research on special education. Preference will be given to articles that have a broad appeal, wide applicability, and immediate usefulness to administrators, other practitioners, and researchers.
A Letter from the Editor

There has been much publicity about teacher shortages in special education but little about the shortages of qualified special-education related services personnel. To begin to better understand the shortage issues, the Center on Personnel Studies in Special Education (COPSSE) was created by the U.S. Department of Education, Office of Special Education Programs, under grant number H325Q000002, awarded to Dr. Paul Sindelar, Center Director, at the University of Florida, Gainesville (see www.copsse.org). One of the projects supported by COPSSE has been the study of personnel shortages in the much overlooked field of related services personnel. Not only were the policies affecting shortages considered as part of this project, so were policies influencing paths to training, licensure, recruitment, and retention of these personnel. In an era that touts the need for highly qualified teachers, it would only seem prudent to have highly qualified related services personnel.

Dr. Mary Jane Rapport, guest editor of this issue of the *Journal of Special Education Leadership*, offers an integrated continuum of thematic papers, commissioned through COPSSE, that focus on related services supply-and-demand issues and the effect of the shortages in five service areas. Rapport and Pamela Williamson introduce the articles in this special issue with a challenge to change our thinking about the different facets of the administration of related services. Rapport and Susan Effgen report on the personnel concerns of physical therapists. Yvonne Swinth, Barbara Chandler, Barbara Hanft, Leslie Jackson, and Jayne Shepherd consider the personnel needs of occupational therapists. Kathleen Whitmire and Diane Eger discuss the effects speech and language therapy personnel issues have on the provision of services. Susan Brannen, Nancy Huffman, Joan Marttila, and Evelyn Williams address the personnel challenges facing audiologists as schools increase solicitation of these services. Teri Wallace looks at paraprofessional services, which are often thought of as “instructional” rather than “related.” Bill East stresses the importance of each of these areas but expresses concern that, as credentialing requirements increase, shortages may be exacerbated. CASE appreciates the time, effort, and excellent contribution made to this issue of *JSEL* by Dr. Rapport and the cadre of authors. The collection of articles in this issue of *JSEL* provides insight into the enormous amount of attention and work that is needed in this area of special education by administrators so that students with disabilities and their teachers receive the support they need to produce improved educational outcomes. On behalf of the CASE Executive Committee, I hope you enjoy this issue of *JSEL*.

Mary Lynn Boscardin, Ph.D., Editor
mlbosco@educ.umass.edu
District and building-level administrators are often responsible for the hiring and supervising of related services personnel. Thus, a deeper understanding of the personnel issues that exist in the related services disciplines becomes important. What we know about the supply and demand, professional preparation, and certification and licensure of school-based related services personnel:

• School-based employment of personnel in audiology, occupational therapy, physical therapy, and speech-language pathology is an outgrowth of public school attendance of students with disabilities as mandated in the Individuals with Disabilities in Education Act (IDEA) and other federal, state, and local mandates.

• There is a shortage of related service providers and paraprofessionals employed to work in schools.

• Shortages vary by location and are more severe in some areas, and in some disciplines, than others.

• Related service providers and paraprofessionals generally begin working in school-based settings lacking the necessary skills related to their school-based role.

• Multiple factors contribute to attrition.

• There is a greater need for collaboration across related services disciplines and paraprofessionals.

• There are multiple avenues to obtain the qualifications necessary for employment in schools.

• There are differences in certification and licensure requirements across the states.

• Changes in service delivery models have not been adequately addressed by changes in personnel preparation.

Personnel issues can be challenging for district and building-level administrators alike. Thus, it is important for administrators to fully understand how the research community is responding to an increase in the knowledge base of what is known about special education personnel issues. The Center on Personnel Studies in Special Education (COPSSE) is one organization that is working to add to this knowledge base. The Center is currently supported by a cooperative agreement between the U.S. Department of Education, Office of Special Education Programs (OSEP), and the University of Florida. The mission of the Center is to develop and initiate a research agenda regarding the initial preparation of special education personnel. Current initiatives include (a) a cost effectiveness study examining the relative costs of preparing special educators through various routes, (b) a beginning teacher quality study that seeks to establish criteria for evaluating the impact of initial preparation, (c) an indexing of alternative route certification programs in special education across the United States, and (d) an analysis of the School and Staffing Survey data to determine whether or not alternative route certification programs have reduced shortages and diversified the workforce by recruiting more minorities and more males to the teaching profession.

In addition to these initiatives, the Center commissioned six issue briefs in the related services disciplines including paraprofessionals, physical therapy, occupational therapy, speech-language pathology, audiology, and school psychology. Each author, or group of authors, was charged with examining extant literature in each discipline, reporting what is known about supply and demand, profes-
ional preparation, and certification and licensure. Five of the six papers are presented in this issue in an abbreviated form. In contrast to these discipline specific papers, this brief overview attempts to summarize what we know across multiple related services disciplines.

Each of the professional organizations supporting a particular discipline has addressed the issues as they relate to the particular discipline of the group. Key references are available within each of the discipline specific papers and are not repeated for the reader here in the summary.

TASH, an international advocacy association of people with disabilities, their family members, other advocates, and people who work with people with disabilities, recently passed and published a resolution addressing many of the very same issues in personnel preparation as the various COPSSE issue briefs and summary papers. We would be remiss if we did not mention this document here. The TASH Resolution on Preparation of Related Services Personnel for Work in Educational Settings can be found on the TASH website at www.tash.org and should be consulted as further evidence of the need to address these issues across disciplines.

Although there are a number of variables that are consistent across disciplines, there are also essential differences. Thus, while one can make a case supporting a unified approach to address issues of supply and demand, personnel preparation, and certification and licensure of all related services, the issues facing each discipline are not always identical.

**What We Know About Personnel Issues in the Related Services Disciplines**

Ten key points emerged across all papers. As mentioned earlier, this is intended to be a brief overview. Readers are encouraged to read the papers in this issue for more discipline-specific information.

**First, school-based employment of personnel in audiology, occupational therapy, physical therapy, and speech-language pathology is an outgrowth of public school attendance of students with disabilities as mandated in the Individuals with Disabilities in Education Act (IDEA) and other federal, state, and local mandates.** These mandates generated expanded roles for related service personnel. In addition, as populations of students with disabilities in our schools increased, the demand for related services increased.

**There is a shortage of related service providers and paraprofessionals employed to work in schools.** Vacancy rates are reported in all disciplines, and several of these reports make it clear that even when full employment is reached, quality and expertise cannot be inferred. Caseloads can be very high; thus, it may not be accurate to assume that a school district is “fully staffed” even when all available positions are filled.

**Shortages vary by location and are more severe in some areas, and in some disciplines, than others.** To some extent, shortages are influenced by proximity to universities that offer preparation programs for a specific group, or discipline, of related services personnel. Since most universities are located in more urban settings, it is not surprising that shortages may be felt more keenly in rural areas.

**Related service providers and paraprofessionals generally begin working in school-based settings lacking the necessary skills related to their school-based role.** Because professional preparation programs offer content aimed at preparing individuals to work in the most common practice settings, these programs are often focused upon working with adults in settings other than schools. This is especially true for all of the related disciplines in health, where clinical settings are more common and adults are often the population of focus.

**Related service personnel preparation programs do not necessarily provide skills for employment in schools.** Other than school psychology, most other preservice programs tend to focus on preparing generalists who may work in any number of other settings. Early professionals exit programs with little or no knowledge of curriculum and instruction, collaboration and consultation with other team members, modifications for academic assessment, and development of individual education plans. In addition, because students are prepared to work with all age ranges, knowledge of pediatric concerns may be limited.

**Multiple factors contribute to attrition.** One consistent contributing factor to attrition across the disciplines is salary. Salaries offered in school-based
settings tend to be lower than those offered in alternative clinical settings. Additional factors that contribute to attrition include excessive paperwork, limited clerical assistance, limited access to technology, and lack of administrative support. Since consultation has replaced direct services in many locations, providers are challenged by extensive travel to various sites, limited interaction with team members on a regular basis, little planning time, and extremely large caseloads. There are also few advancement opportunities for related services personnel in schools.

Salaries offered in school-based settings tend to be lower than those offered in alternative clinical settings.

There is a greater need for collaboration across related services disciplines and paraprofessionals. Due to changing delivery models, collaboration among other related service providers, teachers, and paraprofessionals has become more important. Collaboration and consultation components are often missing in preservice preparation programs.

There are multiple avenues to obtain the qualifications necessary for employment in schools. Each of the related service disciplines has its own criteria, or level of academic achievement, required for employment in a school-based setting. These requirements vary from one discipline to another, and there are also some variations from state to state. In addition, each of the disciplines is currently experiencing a transition period as the requirements are shifting to higher education and degree levels.

There are differences in certification and licensure requirements across the states. Each discipline or profession has its own guidelines and requirements for certification and licensure. In addition, there are some differences that exist across the states regarding licensure requirements and the type of credential required to work in schools in the state.

Changes in service delivery models have not been adequately addressed by changes in personnel preparation. Although there have been significant changes in service delivery models over the past several decades, personnel preparation does not appear to have adequately addressed these changes in preservice curriculum through adequate continuing education. There is generally a greater emphasis on interdisciplinary service delivery. In addition, at times, student teams may not be in agreement about how services should be delivered. Although professional opinions and differences will always exist to some extent, they might be lessened with adequate preparation that includes an understanding of the requirements of IDEA and educationally related services.

Thus, with a clearer understanding of what is already known regarding the supply and demand, professional preparation, and certification and licensure of school-based related services personnel, the Center was interested in developing a research agenda that might illuminate the unknown. Following a process first initiated by the Center to develop a research agenda for the Beginning Teacher Quality Study, the Center pulled together experts from across the nation to begin the process.

Developing a Research Agenda

In order to develop a meaningful research agenda in the area of related services, COPSSE convened, in February 2003, a Research Design Panel (RDP) composed of 30 interested parties, including researchers, related services personnel educators, and practitioners. The purposes of the panel were to (a) identify critical unanswered research questions related to supply and demand, professional preparation, and certification and licensure, (b) identify potential funding sources for such research, (c) develop a plan for initiating and sustaining a strategic effort to obtain funding for such research, and (d) discuss how COPSSE might support this plan. Unable to complete all of the tasks assigned, the panel was reconvened in May 2003 to finish what it had started. This meeting resulted in the formulation of many research questions.

These questions were then presented in survey format at a Policy Makers’ Summit in August 2003 that was cohosted by the Center and the Policy Makers Partnership at the National Association of State Directors of Special Education. The related services panel consisted of interested parties, including state department officials, professional organization representatives, and practitioners. Summit partici-
pants ranked the importance of the research questions to be more reflective of their constituencies’ concerns, edited questions for clarity, and developed additional questions they deemed important and that were missing from the research agenda as formulated by RDP participants. Participants then ranked the importance of these newly created questions. These data are being analyzed to determine the most pertinent, pressing questions as defined by policy makers and the report will soon be available on the COPSSE website (www.copsse.org).

**Going Forward**

The Center has posted issue briefs to its website (www.copsse.org) and has developed policy briefs on several key topics and personnel issues. The research agenda will be used to help the Center seek answers to questions that plague the efforts of all school personnel and challenge school administrators daily.

These papers provide a foundation for the work of the Center and should enhance the understanding of related services personnel by school administrators.

**About the Authors**

Mary Jane K. Rapport, PT, Ph.D., is an associate professor in the Department of Pediatrics at the University of Colorado Health Sciences Center, UCHSC – JFK Partners, 4200 E. Ninth Avenue, C221, Denver, CO 80262. E-mail: Rapport.maryjane@tchden.org.

Pam Williamson, M.A., is a doctoral student in the Department of Special Education, University of Florida, P.O. Box 117050, Gainesville, FL 32611. E-mail: Pam.Williamson@ttlvdo.com
The role of physical therapists in schools is defined, to a large extent, by the Individuals with Disabilities Education Act (IDEA, 1997) and the need to provide children with disabilities some educational benefit in the least restrictive environment (McEwen, 2000). There is no requirement for all children to “receive the best education or one designed to help them reach maximum potential” (Hanft & Place, 1996); therefore, physical therapy is provided only for children with disabilities who need therapy to benefit from special education.

Although IDEA federal regulations do not provide much detail, physical therapy services are intended to address a child’s posture, muscle strength, mobility, and organization of movement in the educational environment. As a related service, physical therapy may be provided to prevent the onset or progression of impairment, functional limitation, disability, or changes in physical function or health (NICHCY, 2001). Federal regulations help us to differentiate between those services that are necessary for a child to achieve some educational benefit and those services that are not a fundamental part of the child’s specially designed instructional program (Rapport, 1995). Physical therapy in school settings focuses on outcomes and is based on meeting the educational needs of the child or student (Effgen, 2000a). The school-based pediatric physical therapist “must be knowledgeable about the civil and educational laws as well as services and resources available for children from birth through 21 years and their families. They must not only be advocates for these children/youth and families, but also teachers to children/youth, families, educational staff, and citizens in the community” (Fischer, 1994, p. 146).

Although IDEA federal regulations do not provide much detail, physical therapy services are intended to address a child’s posture, muscle strength, mobility, and organization of movement in the educational environment.

There are a number of therapy models that can be used to deliver physical therapy in schools. Generally, these service delivery models fall into two broad categories: direct services and indirect services (Effgen, 2000a; NICHCY, 2001). Direct services usually involve face-to-face interactions between the therapist and the child/student. Indirect services involve the therapist interacting with other adults (professionals, paraprofessionals, teachers, parents) so that they can appropriately carry out the interventions during naturally occurring opportunities during daily routines even when the therapist is not present. This is referred to as consultation or moni-
toring. The art of consultation continues to be a challenge for most physical therapists despite the many benefits that can be achieved through collaboration with educational staff. Professional preparation of physical therapists does not generally include training on consultation, and the focus on working in schools is limited (Hanft & Place, 1996). Both direct and indirect services should include collaboration with all team members (Effgen, 2000a; Rainforth & York-Barr, 1997).

In addition to IDEA, the provision of physical therapy in school may also be the responsibility of the school district under Section 504 of the Rehabilitation Act of 1973. Children who qualify as individuals with disabilities under this federal law may not necessarily have a disability that adversely affects educational performance, as required for IDEA eligibility, but may benefit from some accommodations as a protection of their civil rights (Rapport, 1995). An example of a reasonable accommodation under Section 504 can be found in the provision of physical therapy through consultative services to a student, and to the middle school faculty and staff, regarding mobility needs as the student prepares for the transition from elementary to middle school. The physical therapist may provide some instruction on negotiating stairs and other obstacles in school for a child with the deficits associated with hemiplegia (paralysis on one side of the body) or juvenile rheumatoid arthritis. A child with either of these conditions might not require special education, but they may require some accommodations in the educational setting. Another example of an accommodation is consulting with school administrators and teachers regarding appropriate emergency evacuation plans for a child with an impairment in mobility who is educated in a regular classroom.

Despite the expansion in delivery models beyond direct one-to-one intervention, and the use of multiple team members, to achieve outcomes for students in educational environments (McEwen & Sheldon, 1995), there continue to be shortages of physical therapists in many school districts. Thus, while the consultative, collaborative, and monitoring models may be helpful in spreading the expertise of a limited number of physical therapists, these models of service delivery have the potential to compromise the level of service delivery required to achieve some educational benefit. The development of alternative models of service delivery has been helpful but has not been the solution to the problem of too few therapists for the number of children who need physical therapy as a related service in schools.

Supply and Demand

The economic principle of supply and demand can be applied when analyzing the growth of the physical therapy profession. Generally, in a healthy economy, supply increases proportionally to demand thereby creating a balance to meet the needs of the population without either excess or waste. For most of its relatively young life, the physical therapy profession has seen great demand, and the supply of physical therapists remained relatively low, compared with the ever-increasing demand, through the 20th century. The number of physical therapists grew exponentially during the last quarter of the century, and the American Physical Therapy Association (APTA) estimates that there are currently 120,000 physical therapists, 90,000 of whom are either employed, or are seeking employment, as physical therapists. In 1997, the APTA commissioned a study of the supply and demand of physical therapists for three different years—1995, 2000, and 2005. Although the report indicates that there has been, and continues to be a shortage of qualified physical therapists, that shortage is diminishing. The study predicted a 20–30% surplus of physical therapists by 2005–2007 (Vector Research, 1997).

The economic principle of supply and demand can be applied when analyzing the growth of the physical therapy profession.

This workforce study by APTA preceded the Balanced Budget Act (BBA) of 1997 (Balanced Budget Act of 1997). This federal legislation had a significant impact on the health care system, particularly for those persons dependent on receiving services under the Medicare and Medicaid programs, and the health care providers upon whom they relied for their care. The legislation led to
changes in the level, systems, and provisions of health care under these federal health care programs.

Rates of unemployment for physical therapists peaked at 3.2% in the later months of 1999, and, since then, the rate has subsided to around 1.1%

Among physical therapists, those who were employed in skilled nursing facilities or private outpatient offices were, perhaps, the most affected by these legislated cut backs in health care. Many lost their jobs or saw their incomes drop substantially as a result of these changes from the BBA. For the first time in the history of the profession, unemployment grew during the period following the BBA. Rates of unemployment for physical therapists peaked at 3.2% in the later months of 1999, and, since then, the rate has subsided to around 1.1% (American Physical Therapy Association [APTA], 2001). There were significant differences across geographic regions in unemployment rates (Goldstein, 1999), but several years later, these differences had become less pronounced (Goldstein, 2001).

In addition, there have been other changes impacting the overall demand for physical therapists. These include (a) the increase in physical therapy preparation programs during the 1980s and early 1990s, (b) the introduction and increased preparation of physical therapist assistants during the 1970s and 1980s, and (c) the desire of employers to seek out physical therapists who were qualified and possessed special skills or interests when filling job vacancies. During the later part of the 1990s, increasing numbers of physical therapists were finding themselves unemployed and considering positions in second-choice settings, including long-term care settings and in jobs in rural areas and inner cities (APTA, 2001). The resultant job market changes could result in physical therapists working in the schools despite not having the specific knowledge required of a successful provider of related services in the educational setting.

Among physical therapists who identify themselves with the specialty area of pediatrics, working in schools appears to be the prominent employment setting (Sweeney, Heriza, & Markowitz, 1994). A survey of APTA members and nonmembers (n = 36,498) conducted in spring 2001 (APTA, 2001) revealed that approximately 5.5%, or about 2,000, of the therapists surveyed, were practicing in schools. Data gathered for the 1998-99 school year, reported in the 23rd Annual Report to Congress (U.S. Department of Education, 2002), revealed that there were 5,457 fully certified physical therapists, and 53 physical therapists who were licensed to practice but were not certified within the educational system of their state. Even so, these uncertified therapists were employed to provide related services for children and youth with disabilities, ages 3–21. During the same period, there were 3,836 physical therapists employed to provide early intervention services to infants and toddlers with disabilities and their families under Part C of IDEA. The most recent Annual Report to Congress did not include vacancy rates for physical therapy positions. However, the report from the previous year (1997–98) (U.S. Department of Education, 2001) identified a vacancy rate for unfilled physical therapy positions to be somewhere around 7% for children 6–21 compared with a vacancy rate for teachers of 1%. Similarly, the vacancy rate for preschool teachers of children ages 3–5 years was 2%. This data from the Annual Report to Congress represents a collection of information reported by the Comprehensive System of Personnel Development (CSPD) in each of the states.

In an effort to address the vacancy rate and shortage of personnel that exists in some areas of the country, particularly the more rural areas, the hiring of physical therapist assistants has gained momentum. IDEA requires related services to be provided by qualified personnel, and it is up to each state to determine qualifications for personnel providing special education and related services in that state (see 34 CFR 300.136(a)(1)(ii)). State law also dictates whether paraprofessionals and assistants can be used to assist in the provision of special education and related services (NICHCY, 2001).

Paraprofessionals are limited in the scope of their services, but they are able to carry out interventions designed and implemented by the physical therapist when they have been appropriately trained, monitored, and supervised by licensed physical therapists. Thus, the effectiveness of services provided by a paraprofessional will be determined in large part by the skill of the physical therapist.
responsible for delegating these tasks (Rainforth & Roberts, 1996). Even though paraprofessionals may be working with children to accomplish goals related to physical therapy, paraprofessionals may not hold themselves out to be a physical therapist. Physical therapy practice acts—state laws regarding the delivery of physical therapy—protect against the delivery and billing of services that are made out to be physical therapy but are not provided by a licensed physical therapist with specialized training (Rainforth, 1997).

Physical therapists are not flocking to seek employment in schools in great numbers. The number of physical therapists with an interest in pediatrics is relatively small (see figures discussed earlier). This makes the pool of potential applicants for schools rather limited. Even the lure of a 9 to 10 month employment year no longer exists in many locations, where year-round schools, extended school year programs, and the delivery of services to infants and toddlers have become part of the job of the school-based physical therapist.

Schools tend to offer physical therapists lower salaries than they might receive in hospitals, clinics, and other medical, clinical, or health-care settings. In addition to salary, several other factors have been linked to job dissatisfaction among related service professionals in school settings. These factors include inadequate work and/or office space, inadequate equipment or materials, excessive caseloads, limited staff development, and isolation from colleagues (Gonzalez, 1995). An overabundance of paperwork has been an ongoing complaint in special education, and physical therapists are challenged by this demand also. There is paperwork associated with Individualized Education Plans, documenting therapy services, and billing Medicaid or other third-party insurance. The absence of a career ladder creates another frustration for many physical therapists working in schools by limiting their ability to move to higher employment levels at school building or district levels.

An overabundance of paperwork has been an ongoing complaint in special education, and physical therapists are challenged by this demand also.

**Professional Preparation**

Professional, entry-level preparation programs for physical therapists and physical therapist assistants are accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE). Since 1989, CAPTE has been responsible for the formulation, adoption, and timely revision of the evaluative criteria for accreditation of all professional physical therapist and physical therapist assistant programs. In the United States, graduation from an accredited program is required as a part of physical therapy licensure.

There are several educational pathways through which one can enter the profession. Over the years, physical therapy education programs have offered entry-level degrees at various levels, ranging from a bachelor’s to a doctorate. As of 2002, all entry-level physical therapist programs are at the master’s or doctorate levels while the profession continues to move toward acknowledging the DPT, or doctor of physical therapy, as the entry-level degree. The DPT will eventually replace all other entry-level degrees and will recognize the clinical skills of the physical therapy professional just as podiatry, optometry, and audiology have done in their respective professions. Programs offering a DPT will not necessarily include any more pediatric content in their academic program than existed prior to making the transition to this higher degree. As of October 2002, there were a total 146 master’s degree programs (Master of Science (MS) or Master of Physical Therapy (MPT)) and 67 doctoral programs (Doctor of Physical Therapy, or DPT) accredited (APTA, 2002). Additional programs are in the process of seeking accreditation. All entry-level baccalaureate programs had been phased out.

CAPTE has been responsible for insuring that there is a foundation of knowledge required by any physical therapy program regardless of the degree that is offered. Physical therapy students are prepared for any number of job settings, population ranges, and skills to provide intervention in several body systems. Therefore, it is no surprise that pediatric physical therapy is a relatively small component of the curriculum, and practice in educational settings is even more specialized and less likely to be addressed with any major focus during physical therapy preparation (Rainforth & Roberts,
This diverse preparation affords little opportunity for the entry-level physical therapist to learn about the practice of physical therapy in educational settings (Effgen, 2000a; McEwen, 2003).

As of 2002, all entry-level physical therapist programs are at the master’s or doctorate levels while the profession continues to move toward acknowledging the DPT, or doctor of physical therapy, as the entry-level degree.

Despite recognizing the very limited exposure to pediatrics physical therapists received in their educational preparation programs, a 1993 study (Cherry & Knutson) reported that 93% of the entry-level programs required some coursework in pediatrics. The amount of time devoted to pediatrics and the content focus varied, and most programs had only 2 to 4 hours of laboratory experience in pediatrics. Only 8% of the programs required pediatric clinical affiliations or field experiences for all students (Cherry & Knutson, 1993). In addition, there are limited pediatric affiliations available for clinical internships, and many of these are in settings where children with disabilities are isolated from typically developing peers or there is a strong medical approach to diagnosis and treatment (e.g., acute care pediatric hospitals) (Effgen, 1988). Although these experiences may be helpful, they are not likely to provide the type of preparation necessary for physical therapists working in schools, who must offer themselves as “clinical experts” on the educational team (Stuberg & McEwen, 1993). Faculty in postprofessional programs may have specialized skills to prepare PTs for school-based practice, but they also need to know what it is that is important to teach (McEwen, 2003).

A fact sheet compiled by the American Physical Therapy Association (2002) provides current and historical information about physical therapist education programs, students, and faculty. From this fact sheet, one can glean a picture of the average physical therapist student and graduate during the 2001–2002 academic year. There were 16,072 students enrolled in 213 accredited and developing (not yet accredited) programs. The average physical therapist program was located at a public institution (51.6%) in the Middle Atlantic region (NJ, NY, PA) (20.2%) and included a planned class size of 40 students. Over half of the physical therapist students were women (70.7%), and 15.8% of the students were considered to be an ethnic/racial minority. In 2001, 92.8% of the graduates passed their licensure examination on the first attempt.

According to the fact sheet (APTA, 2002), there were slightly more than 1985 full-time and part-time core faculty preparing these future physical therapists, and 96 vacant faculty positions needed to be filled, almost a 100% increase from 1999. The average number of full-time core faculty in each program was 8.9, with a faculty/student ratio of 1:9.4. The core faculty was predominately female (61.9%), 40–49 years of age (43.9%) and white (92.5%). There were 113 programs that did not have any minority representation among their faculty. The majority (46.6%) of all core full-time and part-time physical therapist faculty held a master’s degree, while 10.9% held a professional doctorate, and 40% a Ph.D. There has been a consistent increase in the number of doctoral prepared faculty over the last decade. Only 7.2% of the core faculty indicated pediatrics as their primary area of content expertise.

Licensure and Certification

Physical therapy licensure is granted by state boards and is mandated by state legislation. Each state has its own rules and criteria regarding physical therapy licensure and practice. These are included in the State Practice Act. Therefore, physical therapists must obtain licensure directly from each state in which they intend to practice. Licensure cannot be granted until the physical therapist has met the criteria for licensure in that state. This generally includes graduation from an accredited program, an acceptable score on the national licensure examination, and evidence of competence in making decisions. In 1986, an organization was formed to provide a structure through which state boards could work together to protect the health, welfare, and safety of the American public by helping to assure the highest quality of physical therapy health care. The Federation of State Boards of Physical Therapy (FSBPT) includes boards in all 50 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands.
Islands, and it is responsible for the administration of the National Physical Therapy Licensure Examination. Physical therapists can function relatively independently through what is called direct access in 38 states (APTA, 2003). In the remaining states, a physical therapist requires a referral from a physician to treat an individual. Many states also have licensure requirements for physical therapist assistants as well as requirements for physical therapists educated outside of the United States. Finally, a few states require an additional certification from their own state department of education for physical therapists to work in schools (e.g., Colorado, Washington, and New Jersey). The requirements for this state certification vary widely.

In 1986, an organization was formed to provide a structure through which state boards could work together to protect the health, welfare, and safety of the American public by helping to assure the highest quality of physical therapy health care.

In addition to physical therapy licensure, there are several other types of formal professional recognition. The specialist certification program was established by the APTA in 1978, and the first examination for pediatric specialists was offered in 1986 from the American Board of Physical Therapy Specialties. As of 2003, there were 4,686 certified clinical specialists, and 566 (12.1%) of those were Pediatric Clinical Specialists (PCS). For comparison purposes, it is interesting to note that 54.7% of the certified specialists are in orthopedics, reflecting the major area of physical therapy practice.

Clinical residency and fellowship credentialing oversees the requirements and application process for programs seeking a credential from the APTA. At present, there are no APTA approved residency or fellowship programs in pediatrics or school-based practice, although there is certainly a need for such programs. Continuing education is another common method of ongoing professional development required in 30 states to maintain licensure (Federation of State Boards of Physical Therapy, 2002). Continuing education does not, however, assure continuing competence.

IDEA requires that all related services, including physical therapy, be provided by qualified personnel (34 CFR 300.136(a)(1)(ii)). The specific requirements are established by each state but must include the “highest entry-level academic degree needed for any state-approved or recognized certification, licensing, registration, or other comparable requirements that apply to a profession or discipline” in which a person is providing the service (34 CFR 300.136(a)(2)). Thus, states must require at least a baccalaureate degree (and soon it will be a master’s or DPT) and state licensure for any physical therapist providing physical therapy as a related service under IDEA.

Summary, Conclusions, and Recommendations

Physical therapists receive limited preparation in their entry-level professional program for employment in a school-based setting. Physical therapist education does not include a strong focus on the area of pediatrics, and even less time in the overall professional preparation curriculum is devoted to the provision of physical therapy as a related service under IDEA. There are a few physical therapist professional preparation programs that include an elective focused on school-based intervention or additional course content or clinical experience in pediatrics. Thus, it can be assumed that most entry-level physical therapists are not well prepared to assume employment in school-based physical therapy without either additional (continuing education or graduate education) training or mentorship from an experienced colleague. However, many school districts are content with hiring a licensed physical therapist regardless of whether or not that individ-
ual has any knowledge or experience associated with pediatrics or with working in an inclusive educational or school-based setting.

Additional competencies and requirements may not be the answer. If the requirement of pediatric or school-related experience became an essential qualification for obtaining a job as a physical therapist in the schools, it is likely that this would only place additional limitations on the already small pool of qualified physical therapists available for employment. Any increase in the availability of the pool of potential job applicants for school-based pediatric physical therapists is likely to come from the larger group of physical therapists with experience in areas other than school-based pediatrics. In order to increase both the number of available pediatric physical therapists and the quality of the professional skills with which a physical therapist enters employment as a related service provider, it will be necessary to make changes in personnel preparation and on-the-job training. These changes include:

- More emphasis on pediatric content in the initial physical therapist professional preparation program.
- Increasing the number of, and access to, acceptable clinical sites for physical therapist students interested in a clinical experience in a school-based setting.
- More mentoring opportunities for those physical therapists who are considering, and those entering, employment in school-based settings.
- More appropriate continuing education and post-graduate course work in pediatrics and delivery of intervention services in educational environments.

In order to increase both the number of available pediatric physical therapists and the quality of the professional skills with which a physical therapist enters employment as a related service provider, it will be necessary to make changes in personnel preparation and on-the-job training.

The outcome of efforts to improve quality and quantity of appropriately prepared pediatric physical therapists could lead to increased numbers of qualified physical therapists working in schools, improved job satisfaction for school-based physical therapists, and, most importantly, improved services for children with disabilities.

The provision of services under IDEA can be challenging, particularly when there is lack of qualified providers. Perhaps a well-prepared physical therapist will be better able to overcome the many obstacles (e.g., large caseloads, insufficient time, amount of paperwork, etc.) that related service providers encounter in schools on a daily basis. Experienced, mature physical therapists, who are members of the APTA Section on Pediatrics, report few difficulties in discharging children from physical therapy services in schools (Effgen, 2000b), although discharge is sometimes a serious problem perhaps for those with less professional experience and involvement. Physical therapists in schools need to know how to delegate responsibilities to other team members for follow through when appropriate and to consult with the team on a regular basis. They must also tackle paperwork associated with special education and IEPs and billing for reimbursement. Many of the skills—clinical, administrative, and technical—required of school-based physical therapists are not part of an entry-level professional preparation program.

Today’s economic climate has forced some school districts to cut back on the number of therapists that they will contract or employ. In these periods when budget decisions are part of the everyday fabric of public education, research is needed to better understand the implications of using less-qualified personnel (i.e., physical therapist assistants and paraprofessionals) to fulfill the requirements of providing physical therapy as a related service according to the child’s IEP. Future research should focus on (a) the use of alternate personnel, (b) improving professional preparation programs, (c) the quantity and quality of supervised clinical experiences, and (d) the mentoring of persons interested in employment as school-based physical therapists. There are also questions to answer regarding the continuing move towards entry-level doctoral degrees and the impact on post-professional education in specialty areas such as pediatrics. It is important to the future of therapists considering a
professional career choice in school-based physical therapy that some of these questions begin to be answered.

References


**About the Authors**

Mary Jane K. Rapport, PT, Ph.D., is an associate professor in the Department of Pediatrics at the University of Colorado Health Sciences Center, UCHSC – JFK Partners, 4200 E. Ninth Avenue, C221, Denver, CO 80262.

E-mail: Rapport.maryjane@tchden.org.

Susan K. Effgen, PT, Ph.D., is the Joseph Hamburg Professor in Rehabilitation Sciences, College of Health Sciences, University of Kentucky, 900 S. Limestone, Lexington, KY 40536-0200.

E-mail: seffgen@uky.edu.
The Individuals with Disabilities Education Act (IDEA, 1997) requires schools and early intervention programs to utilize appropriately qualified personnel to provide services in schools. These services are designed to help meet the educational and developmental needs of eligible children with disabilities. IDEA, via its Comprehensive System of Personnel Development and State Improvement Grant provisions, also has required states to ensure that they have an adequate supply of qualified providers who can offer special education, related services, and early intervention services.

For the past ten years or so, concerns have been voiced about the preservice preparation of occupational therapy (OT) practitioners to work in schools and early childhood programs. States and local districts have long complained of shortages of occupational therapists (OTs) in these settings. In addition, the Twenty-Second Annual Report to Congress on the Implementation of the IDEA (U.S. Department of Education [USDOE], 2000) highlighted the need for additional full-time therapy positions.

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OTs address the occupational performance needs, or the ability to participate in life activities, of individuals of all ages. For a majority of OT practitioners, the focus of work has been on individuals with disabilities. Offering preventative services, however, and working with non-disabled individuals who are experiencing occupational performance (participation) problems are growing areas of practice. Occupations are the “ordinary and familiar things that people do every day” (American Occupational Therapy Association [AOTA], 1995, p. 1015) that bring purpose and meaning to their lives in home, school, work, community, and leisure settings. Thus, OT practitioners focus on restoring and promoting performance and participation in daily life occupations relevant to an individual’s (a) developmental and chronological age; (b) role as student, family member, and worker; and (c) social participation within the physical, social, and cultural context. The focus of OT in a particular setting is guided by the setting, reimbursement mandates, and client (student) needs.

Unique Role of OT in the Schools

OT practitioners work with children and youth who have physical, behavioral/psychosocial, and cognitive delays, or diagnosed disabilities from birth to age 21, as well as with their family members. They may also provide consultation to other professionals (e.g., medical staff, educational staff, support staff) who work with these children, families, and systems (e.g., school districts, departments of education). Therapy and consultative services are provided in a variety of settings, including schools, early intervention programs, hospitals and rehabilitation centers, private clinics, homes,
community/institutional mental health programs, and juvenile correction facilities.

The majority of OT practitioners who work with children provide these services in public school and early intervention programs under Parts B and C of the IDEA. IDEA Part B identifies OT as a related service for eligible children ages 3–21 years who require assistance to benefit from special education. Under Part C, OT is a primary service for eligible infants and toddlers from birth until age 3, and their families. In early intervention, OT services enhance young children’s development and functional performance (ability to participate) in daily settings and support family members and other key adults in their parenting and childcare responsibilities. Although this paper focuses on OT services under IDEA Part B, many of the core issues regarding preparation, supply/demand, and certification/licensure of OT practitioners are similar for Part C programs. (See Case-Smith (1998), Hanft & Anzalone (2001), Hanft, Burke, & Swenson-Miller (1996), Humphry & Link (1990), and Schultz-Krohn & Cara (2000) for discussions on the role and preparation of OTs in early intervention programs.)

Public school is identified by almost 25% of AOTA members as their primary work setting (AOTA, 2001a). This percentage underscores the need for school-based practice to be an integral part of OT professional preparation (Swinth, 2002). In an educational setting, OT practitioners focus on helping students engage in meaningful and purposeful daily school occupations—the activities that make a student successful and engaged in school life. School-related outcomes of the primary occupational areas (i.e., activities of daily living, education, work, play/leisure, and social participation) are described in Table 1.

OT practitioners assess three interrelated elements that affect participation in goal-directed activities or occupations in school: (a) individual functions, (b) performance skills/patterns, and (c) contextual/activity demands. Each student has unique physical structures (i.e., sensory, neurological, emotional, and mental functions) and challenges that affect successful school-related performance in education, self-care, play, and social participation (AOTA, 2002; Hanft, 1999a, 1999b). Both the context (Orr & Schade, 1997) and specific activity demands affect how well a student performs a given task or role. For example, a four-year-old girl with congenital deformities in her forearms, limiting motions of her hands, is taught to use adapted scissors and heavy construction paper to complete her art projects and classroom lessons. An eight-year-old boy with an attention deficit disorder, who has difficulty completing assignments and following directions

<table>
<thead>
<tr>
<th>Occupational Area</th>
<th>Educational Outcome</th>
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<tbody>
<tr>
<td>Activities of Daily Living (Basic and Instrumental)</td>
<td>Cares for basic self-needs in school (e.g., eating, toilet, managing shoes and coats); uses transportation system and communication devices to interact with others; develops health management routines and, when appropriate, home management skills for independent living (e.g., cleaning, shopping, meal preparation, budgeting, safety and emergency responses).</td>
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<tr>
<td>Education</td>
<td>Achieves in a learning environment including academic (e.g., math, reading), nonacademic (e.g., lunch, recess), prevocational and vocational activities (e.g., career and technical education).</td>
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<tr>
<td>Work</td>
<td>Develops interests, habits, and skills necessary for engaging in work or volunteer activities for transition to community life upon graduation from school.</td>
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<tr>
<td>Play/Leisure</td>
<td>Identifies and engages in age-appropriate toys, games, and leisure experiences; participates in art, music, sports, and after-school activities.</td>
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<tr>
<td>Social Participation</td>
<td>Develops appropriate social relationships (and behavioral strategies) at school with peers, teachers, and other educational personnel within classroom, extracurricular activities, and preparation for work activities.</td>
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</table>
due to perceptual and sensory motor problems, can benefit from reorganization of his work space and additional time to complete assignments. A 15-year-old adolescent with mental retardation and extreme sensitivity to sounds and touch, which limits her speech and social interactions, may benefit from slow and rhythmic exercise periods just before play and meals to learn sign language to communicate with peers and family.

Incorporating the dimensions of educational relevance into assessment and intervention is a critical yet complex aspect of school-based practice. OT practitioners analyze what a student does to participate successfully in a school setting by assessing the combined influence of individual characteristics, performance skills, performance patterns (i.e., routines, habits, and roles), the educational context, and specific activity demands. OT intervention is directed toward helping a student achieve the educational goals and objectives agreed upon by the entire team, including family members (Giangreco, 1995). Therapists must assess the student’s functions in the school environment and describe how their intervention will improve performance/participation in academic and nonacademic parts of the educational program (Hanft & Place, 1996).

OT practitioners analyze what a student does to participate successfully in a school setting by assessing the combined influence of individual characteristics, performance skills, performance patterns (i.e., routines, habits, and roles), the educational context, and specific activity demands.

Intervention by an OT may include working with children individually, coleading small groups in the classroom, consulting with a teacher about a specific student, providing inservice for groups of educational personnel and/or family members, and serving on a curriculum or other systems-level committee. Service delivery needs to be considered within the total school environment (or home and community environments for Part C and transition). Rather than choosing one model of service delivery, recommended practice emphasizes choosing from a continuum of service delivery models throughout the course of intervention, considering student performance/participation improvement (Case-Smith & Cable, 1996; Hanft & Place, 1996; AOTA, 1995).

Supply and Demand

Shortages of school OT practitioners have been reported to Congress for many decades. In the 2000-2001 accounting, 12,915 OTs were employed in public schools, with 12,727 being fully certified. An additional 6,395 OTs were employed to serve infants and toddlers with disabilities. Many contextual factors affect the supply of and demand for OTs. As in special education in general, it is difficult to predict the exact shortages and demands due to the ever-changing environment and the multiple ways data are collected on state and national surveys (Boyer, 2000; Federal Resource Center for Special Education, 1999, 2000, 2001). Three critical factors may affect future supply and demand of OTs: (a) trends in the health care environment, (b) trends in the educational environment, and (c) trends in institutions of higher education (IHE).

After the passage of the Balanced Budget Amendment of 1997, demand for OTs in medical settings dropped. This increased the pool of OTs available for schools. School OTs increased dramatically from 9,561 in 1998-1999 to 12,915 in 2000-2001 (United States Department of Education [USDOE], 2000). The percentage of fully certified OTs increased from 97% in 1998-1999 to 98.5% in 2000-2001 (USDOE, 2000). These employment trends are not likely to prove enduring, however, as changes are on the horizon. With baby boomers aging, employment opportunities for OTs in medical and nursing facilities are likely to grow. Furthermore, because OT training programs have had declining enrollments since 1997, fewer new practitioners will be entering the OT job market. In 2007, when master’s degrees will be required for entry to the profession, bachelor’s-level programs will be phased out, and the supply of new practitioners will be diminished further.

Salaries. According to the AOTA (2001a), the overall median full-time annual salary for OTs in school settings was $42,000 (a median hourly salary of $23.08). U.S. Bureau of Labor Statistics (USBLS) (2001b) estimated the median annual salary for ther-
apists in elementary and secondary schools to be $45,320. According to AOTA (2001a), occupational therapy assistants (OTAs) who work in schools make a median annual salary of $28,000 (a median hourly salary of $14.90). USBLS (2001c) estimated the median annual salary for OTAs in school-based specifically, at $34,340. Because of questions about the economy and reimbursement procedures, future salary levels are unknown (Salsberg & Martiniano, 2002).

**Recruitment and retention.** A variety of strategies have been used to recruit OT practitioners to work in the public schools and to retain them. States like Washington and Virginia have developed and implemented specific programs through their departments of education. Table 2 provides examples of educational strategies, incentives, and follow-up supports that have been mentioned in the literature. Although recruitment activities (e.g., educational stipends in return for years of service, continuing education support for school-based therapists, development of

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<tr>
<th>Educational Strategies</th>
<th>Incentives</th>
<th>Everyday Supports</th>
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<tr>
<td><strong>Educational Strategies</strong></td>
<td><strong>Incentives</strong></td>
<td><strong>Everyday Supports</strong></td>
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<tr>
<td>Partnerships with IHE and state DOE to allocate funds for educating therapists:</td>
<td>Increased starting salaries:</td>
<td>Professional mentorship, local or long distance, within and outside the OT profession:</td>
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<tr>
<td>Tuition support.</td>
<td>Sign-on bonuses.</td>
<td>Family mentorship programs.</td>
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<tr>
<td>Stipends for living.</td>
<td>Payback scholarships or loan-forgiveness programs.</td>
<td>Follow-up support (e.g., telephone calls, e-mail contacts, buddy systems, consultation, or field visits).</td>
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<tr>
<td>Textbook financial support.</td>
<td>Community-based discounts (e.g., help with banking setup, moving expenses, recreation membership, etc.).</td>
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<tr>
<td>Collaborative service learning in the community.</td>
<td>Stipends for critical needs.</td>
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<td>Mentorship prior to leaving the IHE.</td>
<td>Monies for additional training.</td>
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<tr>
<td>Distance education/online courses with flexible scheduling (e.g., a portion of a course, a course, or a sequence of specialized courses).</td>
<td>Free workshops and materials.</td>
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<td>Exposure to field through fieldwork experiences.</td>
<td>Salary incentives for additional training or coursework.</td>
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<tr>
<td>Interdisciplinary training.</td>
<td>Specialized training (e.g., assistive technology, state conference, or different treatment approaches).</td>
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<tr>
<td>Specialized training in school-based practice.</td>
<td>Coresearch or program development with IHEs.</td>
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<tr>
<td>Provide professional development that specifically links OT and educational environments.</td>
<td>Encourage personal growth.</td>
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<tr>
<td>Provide professional development with all stakeholders (e.g., educators and therapists together).</td>
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<tr>
<td>Transition to school practice training for therapists in other practice settings.</td>
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<tr>
<td>Market the profession at job fairs, career development, volunteer experiences.</td>
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recruitment materials for high school students, and support for recruitment at job fairs around the country) are mentioned in the literature, no research that evaluated the success or effectiveness of these activities could be identified.

### Preparation and Education of Occupational Therapists

For most of the 20th century, the baccalaureate degree was the entry-level degree. In the late 1960s and early 1970s, entry-level master’s degree programs were developed to offer professional preparation for individuals with bachelor’s degrees in other fields. Such programs offered either a Master of Occupational Therapy or a Master of Science degree. By the mid-1980s, professional master programs were open to students without bachelor degrees who had completed 2 to 3 years of undergraduate education. The ratio of master’s entry-level programs to bachelor’s entry-level programs equalized by the mid-1990s. By January 2007, AOTA will require the master’s degree as the entry-level degree for all OTs.

All preservice educational programs for OTs or OTAs must meet Standards for Accreditation established by the American Council on Occupational Therapy Education (ACOTE, 1999). Only graduates of programs accredited by ACOTE may take the National Board for Certification in Occupational Therapy (NBCOT) professional examination, the basis for entry into the profession in all states. The standards define what all entry-level practitioners must know to be able to work in any service setting. Rather than teach specific expertise in any given setting (e.g., schools), the purpose of OT entry-level education is to provide students with a foundation for working in any setting. It has been reported that it is not uncommon for OTs working in the schools to get an advanced degree in OT or a field related to school-based therapy to support the development of expertise, but no empirical data could be found to support this report. One standard specifically mentions the educational environment, and most OT educational programs include content related to school practice in course(s) related to pediatrics. OT programs can add additional course content not included in the standards. Some programs have received federal grants to add content related to educational practice settings. Thus, a few programs have specific courses related to school and early intervention (Amundson, 1995; Brandenburg-Shasby & Trickey, 2001; Chandler, 1994, 2002; Powell, 1994).

One study addressing preparation of OTs for school-based practice was found in the literature (Brandenburg-Shasby & Trickey, 2001). This study included therapists with 1959–1999 graduations. Less than 50% of 1990–1999 graduates had completed any fieldwork in a school setting as part of their preparation. They reported an average of 81 hours of pediatric content, and 19% reported that their curriculum had a separate school-based course. The authors concluded that their results “suggest that a large percentage of entry-level therapists are accepting positions in school-based practice with minimal to no time spent addressing this practice area in their preservice education” (p. 1).

Only graduates of programs accredited by ACOTE may take the National Board for Certification in Occupational Therapy (NBCOT) professional examination, the basis for entry into the profession in all states.

Even though the standards, which have little content specific to school-based practice, do provide a knowledge base that is a foundation for practice in educational settings. The standards require course work in anatomy, neurology, and lifespan human development with particular emphasis on occupational development at each stage of life. Content on disease, disability (including developmental disability), injury, aging, and environmental causes of dysfunction is included. The OT process, which parallels determining eligibility and identifying need for specially designed instruction in the schools, is a major component of the preservice curriculum. Course work on the major approaches to intervention, such as assistive technology, addresses all age levels and a variety of occupational dysfunctions. Systems of service provision (e.g., working as a team, transitioning between settings, community linkages, and advocacy) and funding of services are included. Finally, the standards emphasize clinical
reasoning and problem solving in most OT curricula. Based on the standards, entry-level OTs should have a strong foundational knowledge that supports practice in school-based settings. The standards also bring a needed perspective to student performance/participation in the schools.

Additional credentials for practice in education or early intervention settings. Some states have also established additional requirements for OT practitioners to work in schools or early intervention programs. These varying requirements may include education-related classes, an education credential, or early intervention certification requirements.

Individual practitioners must obtain the relevant state OT credential before they fulfill any additional requirements to provide services in schools or early intervention programs.

**Competencies.** Several states, some authors, and one research study have defined competencies for OTs working in educational settings (Brandenburg-Shasby & Trickey, 2001; Golubock & Chandler, 1998). There is little variation among these sources, indicating a common view of school-based competencies for OTs. However, no research establishes the relationship of these competencies to actual practice, or that a school-based therapist with these competen-

<table>
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<tr>
<th>Table 3: Competencies for OTs in school-based practice</th>
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<tr>
<td><strong>School-based Competencies for Occupational Therapists</strong></td>
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<tr>
<td>1. Knowledge of current laws, regulations, and procedures related to the education of children with special needs.</td>
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<tr>
<td>2. Knowledge of the educational system and its critical components (mission, organization, codes, funding, eligibility process).</td>
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<tr>
<td>3. Knowledge of disabling conditions and their effects on sensory, motor, psychosocial, and cognitive development and function.</td>
</tr>
<tr>
<td>4. Knowledge of major theories, treatment procedures, and research relevant to providing occupational therapy services for children with special needs.</td>
</tr>
<tr>
<td>5. Ability to select and administer appropriate assessment instruments and procedures taking into account age, developmental level, disabling condition, and educational placement.</td>
</tr>
<tr>
<td>6. Ability to assess functional performance of students with special needs within the school environment.</td>
</tr>
<tr>
<td>7. Ability to engage in consensual decision making as part of the IEP process.</td>
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<tr>
<td>8. Ability to interpret assessment results appropriately and use results to develop an intervention plan relevant to the educational environment.</td>
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<tr>
<td>9. Ability to plan, implement, and modify intervention strategies using a continuum of intervention approaches.</td>
</tr>
<tr>
<td>10. Ability to communicate effectively (orally and in writing) with education personnel, administrators, parents, students, and community members.</td>
</tr>
<tr>
<td>11. Ability to explain the role of occupational therapy within the school settings to education personnel, parents, students, and community members.</td>
</tr>
<tr>
<td>12. Ability to document assessment and intervention results in the proper manner for a school setting and relate this information to the educational goals of the student.</td>
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<tr>
<td>13. Ability to schedule, to implement, to evaluate, and to modify service provision to meet the therapeutic as well as educational needs of a full student load in the school environment.</td>
</tr>
<tr>
<td>14. Ability to facilitate transitions among agencies, programs, and professionals in service provision changes (early intervention to preschool, preschool to elementary, elementary to middle and high, high school to work and/or adult services or independent living.</td>
</tr>
<tr>
<td>15. Ability to supervise occupational therapy assistants and fieldwork students as appropriate.</td>
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</table>

**Note:** These are the overarching competencies; the complete document includes 128 additional competencies that further delineate the fifteen overarching competencies (Golubock & Chandler, 1998).
cies is a competent school therapist. Competencies for school-based OTs are presented in Table 3.

AOTA and NBCOT also have developed competency programs for OT practitioners, which can be used by the individual practitioner to evaluate his or her own performance. However, there has been no research to establish effectiveness of these tools for competency development and performance.

**Standards of practice.** AOTA has established standards of practice through its Representative Assembly of representatives from each state. These standards of practice delineate ethical and practical procedures and processes for responding to referrals, evaluation, and determination of need for therapy, treatment intervention, and discharge from services. Designed to be applicable for all practice settings, the practice standards provide a framework for providing OT services. In addition, the code of ethics, which must be taught in all OT educational programs, provides guidance for decision making through the commitment to core values of beneficence, veracity, and justice. The language in most state regulatory laws also provides parameters for legal and ethical practice. Most state regulatory laws vest the decision making about initiation, type, and discontinuation of OT services with the OT professional. The OT’s decision may be different from the decision of the Individualized Educational Program (IEP) team in the school setting, placing the OT in an ethical dilemma of being required to provide services to a child who in his or her judgment does not need the services. Providing unneeded services is a violation of most state regulatory laws, and this is not an infrequent occurrence for OT practitioners. It has been reported that conflicts like this cause therapists to leave the school-based setting; however, empirical data to support this could not be found in the literature.

**The code of ethics, which must be taught in all OT educational programs, provides guidance for decision making through the commitment to core values of beneficence, veracity, and justice.**

### Certification and Licensure

Graduates from an accredited OT educational program are eligible to take the NBCOT registry examination. OTs who pass this exam may use the credentials to identify themselves as registered occupational therapists. Certification by NBCOT, a private organization, and state regulation of practice, both exist to protect the consumer of OT services. Generally, state regulation requires that practitioners be initially certified by NBCOT to qualify for a license. Only state regulation of practice carries the force of law. In addition, NBCOT can impose other sanctions for unprofessional acts, which may eventually lead to the loss of a state permission to practice. OT practice is regulated in all 50 states, the District of Columbia, Guam, and Puerto Rico. Each state or jurisdiction details the specific requirements that OTs and OTAs must fulfill before they can practice OT. States vary in the type of regulation provided (e.g., licensure, mandatory state certification or registration, voluntary state certification or registration, title control or trademark) and who is covered by the regulation—OTs only; OTs and OTAs; or OTs, OTAs, and OT aides.

States’ OT practice acts are consistent with AOTA’s Standards of Practice (AOTA, 1998) and define the legal scope of practice for OT practitioners within that state. These laws set professional parameters and address topics (e.g., scope of practice, continuing competence, supervision, unprofessional conduct, and licensure requirements). States differ in scope of practice and other details; thus, OT practitioners must be familiar with their state requirements. Responsibility for oversight and enforcement of the OT practice rests with the appropriate state regulatory agency in each state. These agencies may have responsibility for other professions in addition to OT. Most states require OT practitioners to renew state credentials periodically. Each state defines the criteria an OT practitioner must meet for renewal. One common requirement is the need to document continuing education or professional development in the relevant area of practice.
Summary

OT personnel issues are complex, particularly for practitioners working in educational settings. There are data addressing the role and work force issues of OTs, OTAs, and OT in general. However, data specific to OT in the schools are limited, and there is more opinion than research in the literature. Available research pertaining to OT in schools addresses intervention strategies and issues rather than personnel issues. Several key considerations relevant to leaders within special education seem to have emerged from this review. First, national data predict a shortage of OTs within the next 5 years. Data regarding supply and demand in educational settings are confusing; some sources indicate a shortage and other sources do not. OT practitioners receive an education that prepares them to work in any practice setting, but they may not receive all the information needed to be successful in educational settings as part of their preservice education.

OT personnel issues are complex, particularly for practitioners working in educational settings.

Competencies and continuing education strategies for school-based therapists are identified in the literature, but many lack a research basis. Finally, most therapy practitioners have a certification or license to work in their state. However, these are not specific to educational settings. A few states have specialty certification to work in the schools, but we found no evidence that these certifications made any difference in job performance.

References


**About the Authors**

Yvonne Swinth, Ph.D., OTR/L, is an associate professor in the School of Occupational Therapy and Physical Therapy, University of Puget Sound, 1500 N. Warner #1070, Tacoma, WA 98416. E-mail: Yswinth@ups.edu.

Barbara Chandler, MOT, OTR, is an associate professor in the Health Science Department at James Madison University, HH3109, Harrisonburg, VA 22801. E-mail: mtntalls@visuallink.com.

Barbara Hanft, M.A., OTR, FAOTA is a developmental consultant, Hanft Consulting, P.O. Box 31220, Bethesda, MD 20824. E-mail: bhanft@comcast.net.

Leslie Jackson, M.Ed., OT, is with the American Occupational Therapy Association, Federal Affairs Department, 4720 Montgomery Lane, Bethesda, MD 20824. E-mail: Ljackson@aota.org.

Jayne Shepherd, M.S., OTR, is an associate professor in the Department of Occupational Therapy, Virginia Commonwealth University, Box 98008 MCV Station, Richmond, VA 23298-0088. E-mail: Jshepherd@hsc.vcu.edu.
Over the past several decades, speech-language services in the schools have undergone profound fundamental changes in scope and focus. Legislative/regulatory, societal, professional, medical, and demographic influences have converged to shape and define practice as we know it today (Whitmire, 2002). The challenges and demands unique to employment in school settings call for special attention to the issues surrounding the preparation, supervision, certification, recruitment, and retention of qualified personnel to meet the needs of students with communication disorders.

**Personnel Preparation**

The complexities of the caseloads as well as the roles and responsibilities of school-based speech-language pathologists (SLPs) have expanded significantly in the past decade (American Speech-Language-Hearing Association [ASHA], 1999; 2000a; 2001c; 2001e; 2002). The setting requires sound knowledge of assessment and treatment procedures for a broad range of disorders, from articulation and fluency to autism, cognitively based communication disorders, and dysphagia, as well as issues associated with cultural/linguistic diversity (ASHA, 2000a). In addition, SLPs are now involved in the prevention of literacy problems as well as the identification, assessment, and remediation of spoken and written language problems in preschool, elementary, and secondary students (ASHA, 2001c). Furthermore, they must engage in a wide range of indirect activities to support students’ educational programs and to ensure compliance with federal, state, and local mandates. Many of these expanded roles were required, or strongly encouraged, by the 1997 reauthorization of the Individuals with Disabilities Education Act, and are consistent with current policy and practice in the field of communication sciences and disorders.

Preparing SLPs to meet the demands of school settings is complicated by: (a) graduate program issues related to content and design; and (b) on-the-job training and supervision limitations. These factors, which have devastating long-term implications for quality speech-language services in the schools, are discussed below.
Graduate training. The majority of graduate programs in speech-language pathology are training SLPs who are generalists in the field of communication disorders rather than specialists who work in school settings. This approach provides a solid foundation in communication disorders that clinicians can take into any employment setting. However, it may lead to gaps in professional preparation for the unique challenges and demands particular to school settings (Eger, Moreau, & Tempalski, 2001).

The majority of graduate programs in speech-language pathology are training SLPs who are generalists in the field of communication disorders rather than specialists who work in school settings.

A specific area of concern is service delivery options, with significant discrepancies apparent among recommended practice, reported practice, and graduate training. Despite 20 years of policy and practice guidelines encouraging an integrated and comprehensive approach to service delivery that combines direct and indirect delivery models to meet the individual needs of students (Frasinelli, Superior, & Myers, 1983; Nieptupski, Scheutz, & Ockwood, 1980; Eger, 1992; ASHA, 1993; Blosser & Kratoski, 1997), data from the schools indicate a skewed use of service delivery options. Data from the 1995 ASHA Survey of Speech-Language Pathology Services in School-Based Settings (Peters-Johnson, 1998) strongly demonstrate that, with the exception of the birth-to-two-year age group, the traditional pullout model is used most frequently. In fact, in the 6–11 year age group and in the 12–17 year age group, it was used 78% and 65% of the time. This pattern was repeated five years later in the ASHA 2000 Schools Survey (ASHA, 2001a) where the traditional pullout model continued to be reported as the most commonly used model of service delivery in the school setting. Furthermore, respondents to this same survey (ASHA, 2001a) indicated that in 87% of the cases, the clinician is responsible for determining the type of service delivery model. This is significant in terms of the personnel preparation of SLPs. In a survey of school clinicians rating graduate student clinicians (Eger et al., 2001), the data suggest that graduate students are primarily trained to utilize the pullout model of service delivery. While 86% of these student clinicians were rated adequately to well prepared to apply academic information to the school setting in the area of individual or small group (pullout) therapy, only about 35% of these same student clinicians could adequately apply academic information to the school setting in the area of classroom (push-in) therapy or consultation with the education team. None was rated as well prepared in these two service delivery models.

Personnel preparation for SLPs must also include: (a) knowledge of curriculum and instruction, (b) skills in professional collaboration in planning and providing services, (c) training in strategies and techniques for working in educational settings, and (d) supervised experiences in general education settings (since traditional university-based clinics do not provide adequate experience with current service delivery models and collaboration in the development and implementation of assessment and intervention plans). Unfortunately, this is often not the case in communication sciences and disorders programs.

Supervision for on-the-job training. Although on-the-job training is not unique to school-based settings (Rosenfeld and Kocher, 1999), three factors related to the schools have long-term impacts on the quality of school speech and language services. The first issue is that most graduate education programs do not include specific content on school-related roles and tasks. This includes: (a) curriculum-based assessment, (b) development and implementation of educationally relevant intervention plans, and (c) implementation of specially designed instruction to remediate or circumvent severe language problems in the classroom. These skills must be learned on the job.

The second issue is that the difficulties associated with on-the-job training in school-specific skills are exacerbated by the fact that many school systems have professionals from other fields supervising SLPs. Only 23% of respondents to ASHA’s 2000 Schools Survey reported being supervised by a speech-language pathology supervisor; the remainder were supervised by a special education coordinator or school principal (ASHA, 2001b).
When there is no speech-language supervisor to assist with proper mentoring of a new staff member, the content information specific to the school is never learned.

The third issue that has long-term impact on the quality of school speech-language services is that many school systems, especially smaller districts, do not have a supervisor or peer with ASHA’s Certificate of Clinical Competence in Speech-Language Pathology (CCC-SLP). This means that such school systems cannot and should not hire entry-level graduates who need to complete a clinical fellowship year under the direct supervision of an ASHA-certified SLP in order to obtain ASHA certification. This limits the pool of qualified candidates.

Only 23% of respondents to ASHA’s 2000 Schools Survey reported being supervised by a speech-language pathology supervisor; the remainder were supervised by a special education coordinator or school principal.

Certification and Licensure

The credentials held by speech-language clinicians working in the schools vary according to state requirements. Possible credentials include ASHA’s Certificate of Clinical Competence, a state license, and a state teacher certificate. This variability has created concerns regarding the qualifications of school personnel.

ASHA’s Certificate of Clinical Competence. ASHA’s Certificate of Clinical Competence in Speech-Language Pathology (CCC-SLP) sets the standard for entry-level requirements for the practice of that profession. Requirements for ASHA’s CCC-SLP include the following: (a) a graduate degree; (b) 21 graduate semester hours and a total of 350 practicum hours, with at least 250 practicum hours obtained in a graduate program accredited by the ASHA Council for Academic Accreditation (CAA); (c) a passing grade on the Praxis examination in speech-language pathology; and (d) successful completion of a clinical fellowship under the supervision of an ASHA-certified SLP.

State licensure and teaching certification. Some states have what is known as universal licensure. This is a state license that is required to practice in all settings, including schools, and is typically issued and administered by the state’s department of professional regulation. In other states, school practitioners are exempt from the state licensing law but must meet a separate set of requirements established by the state’s department of education in order to obtain teacher certification. A few states require state licensure and teacher certification or state licensure plus education-specific coursework and examinations (ASHA, 2001e).

Requirements for state licenses are, for the most part, similar or equivalent to those for ASHA’s CCC-SLP. In fact, some states will automatically grant licensure if the applicant holds the CCC-SLP. Teacher certification, on the other hand, varies across states in terms of requirements for the master’s degree (i.e., may be a degree in a field related to communication disorders), clinical practicum (i.e., must include experience in a school setting), coursework (e.g., courses in pedagogy and child development), and examinations (e.g., a passing grade on a state teachers exam).

In 36 states, an individual entering the public school system must have at least a master’s degree to work as a SLP (ASHA, 2001e). Of those 36 states, seven require the practitioner to be state licensed or to meet requirements over and above a master’s degree. Even in states that require incoming personnel to have at least a master’s degree, there are still individuals who entered the school system with only a bachelor’s degree. Many states have set dates by which these personnel must receive a master’s degree. Approximately 14 states allow bachelor’s-level personnel to start work in public schools as SLPs. However, several of these states require that the individual be enrolled in a master’s degree program and complete that program within a certain time frame. A few of these states will only allow such individuals to work under emergency certification or when a qualified master’s-level individual cannot be located.

The requirements for ASHA’s CCC-SLP were determined to be those needed to establish the
minimum skills required for entry into the field of speech-language pathology. Individuals who hold state teaching certificates with requirements less rigorous than ASHA’s CCC-SLP are at risk of lacking the basic skills and knowledge needed to carry out the responsibilities of a SLP. Individuals at the bachelor’s degree level and/or with emergency certification are clearly not prepared for the demands of the broad range of job responsibilities or the diverse school speech-language caseload.

The credentials held by speech-language clinicians working in the schools vary according to state requirements. Possible credentials include ASHA’s Certificate of Clinical Competence, a state license, and a state teacher certificate.

Qualified Providers: Supply and Demand

Teacher quality and its relationship to student achievement are top priorities in our nation’s education agenda. This same goal applies to the hiring of SLPs, who play a key role in helping children succeed in school. SLPs’ knowledge of the language-learning-literacy connection equips them to analyze the linguistic demands of the school curriculum and to contribute to students’ mastery of that curriculum. However, the recruitment and retention of qualified SLPs in the schools is thwarted by rising demands, challenging workplace conditions, and competing workplace options.

Studies on availability and need. Studies conducted at both the state and national levels have documented existing difficulties in hiring qualified SLPs (American Association for Employment in Education [AAEE], 2000; ASHA, 2001b; Legislative Office of Education Oversight, 1999; U.S Bureau of Labor Statistics, 2001) with projections of increased needs. Fifty-one percent of respondents to ASHA’s 2000 Schools Survey indicated a shortage of qualified SLPs in their school district (ASHA, 2001a) with greater shortages in rural and urban areas compared to suburban settings. Reported effects of these vacancies include: (a) increased caseloads, (b) less opportunity for networking and collaborating, (c) decreased opportunities for individual services, (d) decreased quality of services, (e) increased number of staff without ASHA certification/master’s level training, (f) reduced duration or frequency of services, and (g) denial of services to children who need them (ASHA, 2001b; Legislative Office of Education Oversight, 1999).

The Study of Personnel Needs in Special Education (SPeNSE, 2002), conducted by the U.S. Department of Education’s Office of Special Education Programs, reported 11,148 job openings for SLPs in school settings for the 1999–2000 academic year. The greatest barrier to recruiting SLPs was the shortage of qualified applicants, with 59% of respondents reporting this factor as having the greatest impact on shortages.

The American Association for Employment in Education (2000) lists SLPs as ranking third in the nation in 1998 for number of vacancies compared to other areas in the teaching field. Of the 11 geographic regions surveyed, seven fell in the considerable shortage category; no region placed in the balanced or surplus areas in terms of supply of SLPs.

Teacher quality and its relationship to student achievement are top priorities in our nation’s education agenda.

According to the U.S. Bureau of Labor Statistics (BLS) (2001), the employment of SLPs is expected to grow much faster than the average for all occupations through the year 2010. In their estimates, speech-language pathology ranks 25th out of the 700 occupations and 11th out of the 68 health-related occupations in terms of growth. According to the BLS, more than 34,000 additional SLPs will be needed to fill the demand between 2000 and 2011—a 39% increase in job openings. A total of 57,000 job openings for SLPs are projected between 2000 and 2010 due to growth and net replacements.

Although the U.S. is the most demographically diverse nation in the world (Deal-Williams, 2002), that diversity is not reflected among practitioners, graduate student populations, or program faculty. According to the 2000 US Census, 77.5% of the U.S. population is white; in contrast, membership counts
indicate that 95% of ASHA members are white. Data from the Council of Academic Programs in Communication Sciences and Disorders shows that 93% of faculty in communication sciences and disorders are white, while 89% of master’s-level students are white. Furthermore, anecdotal reports suggest that many minority students do not remain in those programs through graduation (Deal-Williams, 2002). These data suggest a continuation of the current critical shortage for bilingual SLPs. Ninety-eight percent of ASHA members report that they are monolingual English speakers. Although 10.5% of the U.S. population speaks Spanish in the home, only .6% of ASHA members report that they speak Spanish (Deal-Williams, 2002). The lack of diversity in our graduate programs’ students and faculty also raises questions regarding the preparation of all students to work with diverse populations. Such a disparity suggests weaknesses in (a) exposure to diverse populations, (b) curricula and clinical training regarding diversity, and (c) research on culturally and linguistically diverse populations.

According to the U.S. Bureau of Labor Statistics, the employment of SLPs is expected to grow much faster than the average for all occupations through the year 2010.

Challenges to working in school settings. Workforce studies documenting vacancies have included information on reported challenges facing school-based speech-language pathologists as a possible explanation for the difficulty in recruiting and retaining qualified applicants (ASHA, 2000b; ASHA, 2001b; Legislative Office of Education Oversight, 1999). These challenges include the following: (a) excessive paperwork, (b) lack of time for planning, collaboration, and meeting with teachers and parents, (c) high caseloads, (d) extensive traveling between buildings or sites, (e) little or no clerical assistance, (f) lack of parent involvement and support, (g) low salaries, (h) inadequate work space and facilities, (i) limited access to technology, (j) lack of training for special populations, and (k) lack of administrative support.

One of the greatest barriers to maintaining qualified and experienced clinicians in the schools is the lack of portability across school systems and work settings. Schools seldom give new employees credit for their experience. In contrast, SLPs in medical settings or private practice are typically paid for previous experience. In addition to salary portability issues, pension portability issues for school-based SLPs are similar to the ones noted by Sindelar et al. (2003) for teachers. When frustrated by these barriers to providing quality services to children, SLPs have the option to seek employment in other settings, such as hospitals, long-term health care, private practice, and higher education.

Recruitment and retention of qualified personnel. Recent studies have focused on a variety of strategies that school districts have implemented to recruit and retain qualified personnel (e.g., Bergeson, Douglas, & Griffin, 2000; Darling-Hammond, 2001; Urban Teacher Collaborative Report, 2000). In addition to strategies that attract classroom teachers, there are specific strategies that school districts can use to recruit and retain qualified SLPs. These include: (a) salaries commensurate with the level of training required for the profession, (b) higher salary schedules, (c) salary supplements similar to those for National Board Certification, (d) clerical assistance and computers, (e) reasonable and manageable caseloads to allow services to be delivered based on the individual needs of the child and to allow time for the full range of responsibilities required of the SLP, (f) better facilities for intervention and office work, (g) streamlined paperwork, particularly for documenting therapy treatment for Medicaid reimbursements, (h) travel time between assigned schools, (i) time to meet with teachers to consult and plan collaborative services, (j) recruitment at colleges and universities with communication disorders departments, (k) recruitment through national ads (e.g., ASHA’s online career web site), (l) reimbursement for professional dues, and (m) release time and funding for profession-specific staff development.

Summary
The demands placed upon SLPs working in today’s schools are affected by a number of legislative, societal, professional, medical, and demographic
influences. Preparing, recruiting, supporting, and retaining personnel qualified to meet these demands requires consideration of such diverse factors as professional preparation program focus, supervision, certification and licensure, and working conditions. Assuring that children with communication disorders receive the highest quality services from adequately prepared personnel can be fostered by partnerships among university programs, public schools, and funding agencies, and commitments of time and effort, as well as financial resources and support. Only then will training programs produce school-based SLPs who are equipped to respond to the needs of diverse caseloads and who choose to seek and maintain employment in the school setting.

References


**About the Authors**

Kathleen A. Whitmire, Ph.D., CCC-SLP, Director of School Services, and Diane L. Eger, Ph.D., CCC-SLP/A, represent the American Speech-Language-Hearing Association, 10801 Rockville Pike, Rockville, MD 20852.

E-mails: kwhitmire@asha.org and diacomm@access995.com.
The American Speech-Language-Hearing Association (ASHA) is the professional, scientific, and credentialing association for more than 109,000 audiologists, speech-language pathologists, and speech, language, and hearing scientists. ASHA’s mission is to ensure that all people with speech, language, and hearing disorders have access to quality services to help them communicate more effectively.

ASHA is a professional association that advocates for and serves the needs of the approximately 28 million Americans who have some degree of hearing loss. Many are children who receive audiology services in the schools. Audiologists providing services in and for schools, often termed “educational audiologists,” typically have extensive experience with pediatric populations, and comprehensive knowledge of the effects that hearing loss and (central) auditory processing disorders [(C)APDs] can have on communication, academic performance, and psychosocial development.

Educational audiologists also have a unique understanding of legislation related to audiology service provision to children, birth to 21 years, and the processes of state education agencies (SEAs) and local education agencies (LEAs). This paper will address issues related to professional preparation, certification and licensure, and supply and demand that are of critical importance to audiologists and the children, SEAs, and LEAs they serve.

Audiology Services in the Schools

Susan J. Brannen, M.A., CCC-A
Monroe 2 – Orleans BOCES

Nancy P. Huffman, M.S. Ed., CCC-A/SLP
Churchville, NY

Joan Marttila, M.A., CCC-A
Mississippi Bend Area Education Agency

Evelyn J. Williams, M.S., CCC-A
American Speech-Language-Hearing Association (ASHA)

- The role of the audiologist in the schools is critical, mandated public law and should be recognized as a permanent and integral part of the educational processes.
- The field is moving toward a doctoral-level degree requirement for certification.
- States have varying credential and licensure requirements. Determining which credentials are needed is the audiologist’s responsibility.

Professional Preparation for Audiologists in the Schools

Changes in Professional Preparation in Audiology

Audiology services in the schools are affected by the changes occurring in the field of audiology. These changes began in the late 1990s, when audiologists recognized that, in the 21st century, there would be a greater need for academic and clinical training to keep up with the advancements in knowledge, techniques, and technology within the field of audiology and to ensure provision of the highest-quality service to consumers. To broaden the knowledge base of audiologists, and facilitate high-quality service provision changes to audiology, preservice training and certification requirements are being instituted.

Transition to the Doctorate

Recognizing the need for audiologists to acquire advanced post-baccalaureate study that emphasizes clinical practice, the audiology profession worked to develop and implement a specialized doctoral program of study. Before January 1, 2001, it was the responsibility of the Council on Professional Standards in Speech-Language Pathology and Audiology (Standards Council) of ASHA to develop standards for clinical certification and to monitor those standards in the context of changes in the scope of practice of the professions. The Standards Council developed an action plan to identify the “academic, clinical practicum and other require-
ments for the acquisition of critical knowledge and skills necessary for entry-level, independent practice of audiology” (ASHA, n.d.-b). As a part of that plan, the Educational Testing Service was commissioned by ASHA to conduct a skills validation study for the profession of audiology. Following a review of the data provided by the skills validation study, practice-specific literature, feasibility studies, and other pertinent information, in October 1996, the Standards Council published proposed standards for widespread peer review. Significant modifications were made to the document, and it was then released for a second round of widespread peer review in July 1997. Additionally, ASHA commissioned an independent research firm to conduct a telephone poll of academic programs in an attempt to gather information from 124 academic program chairs. Responses were obtained from 91 programs through the use of this technique. The proposed standards were modified on the basis of the second round of peer review and adopted by the Standards Council at its meeting in September 1997, and are to be implemented in 2007.

The 1997 Standards for the Certificate of Clinical Competence in Audiology are intended to make the scope and level of professional education in audiology consistent with the scope of practice of the profession. They address the significant discrepancies between the level of preparation and requirements for practice that were identified in the skills validation study.

Salient features of the new standards include the following:
1. Applicants for the certificate of clinical competence must complete a minimum of 75 semester credit hours of post-baccalaureate study that culminates in a doctoral or other recognized academic degree.
2. The requirement for 75 post-baccalaureate semester credit hours becomes effective for persons who apply for certification after December 31, 2006. The requirement for a doctoral degree is mandated for persons who apply for certification after December 31, 2011.
3. The graduate education in audiology must be initiated and completed in a program accredited by the Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA) of the American Speech-Language-Hearing Association.
4. The program of study must include a practicum experience that is equivalent to a minimum of 12 months of full-time, supervised experience.
5. The applicant will be required to demonstrate that the acquisition of knowledge and skills was assessed by the educational program that grants the post-baccalaureate degree.
6. The standards include maintenance of certification requirements (Standard VI) that went into effect on January 1, 2003. Requirements for maintenance of certification can be met through a variety of professional development activities or academic coursework (ASHA, 2001b).

The profession is in a time of transition. Not only is ASHA requiring a doctorate, the American Academy of Audiology (AAA) also has doctoral-level requirements for certification (AAA, n.d.). Audiologists in all practice settings are evaluating whether or not they will obtain a doctoral degree, and individuals entering or currently enrolled in training programs are evaluating their doctoral degree options in order to meet certification requirements. At the time the new standards go into effect, audiologists holding ASHA certification will not be required to obtain a doctoral degree as long as their certification remains current. To facilitate the acquisition of doctoral degrees, especially the clinical Doctor of Audiology (Au.D.) degree, distance-learning programs have been established to meet the academic and clinical needs for practicing audiologists. Once a significant number of universities have audiology doctoral programs in place, distance-learning programs may be phased out.
others have not been able to meet doctoral degree standards or are unable to obtain university funding to move to the doctorate.

**Necessity of Continuing Education**

Standard VI requires audiologists wishing to maintain their ASHA Certificate of Clinical Competence (CCC-A) to obtain and document continuing professional development. This mandate began on January 1, 2003, and will be phased in according to initial certification dates. The renewal period will be three years. This standard will apply to all certificate holders, regardless of the date of initial certification (ASHA, 2001b). For audiologists with a master’s degree who already possess their ASHA CCC-A, continuing education is essential in order to continue practicing audiology and to have a certificate that is portable across work sites and state boundaries. For audiologists who have obtained their doctorate, either through distance-learning programs or the newly established on-campus doctoral programs, continuing education is essential as they continually improve their knowledge and practical skills.

According to Standard VI, professional development is defined as “any activity that relates to the science of and contemporary practice in audiology, speech-language pathology, or speech, language, and hearing sciences, and results in the acquisition of new knowledge and skills or the enhancement of current knowledge and skills. Professional development activities should be planned in advance and based on an assessment of knowledge, skills, and competencies of the individual and/or an assessment of knowledge, skills, and competencies required for the independent practice of any area of the professions” (ASHA, 2001b). Audiologists may demonstrate continued professional development through continuing education (CE) providers approved by ASHA; from a provider authorized by the International Association for Continuing Education and Training (IACET); from a college or university that holds regional accreditation or governmental accreditation authority; or from employer-sponsored in-service or other continuing education activities that contribute to professional development (ASHA, 2001b).

**Impact of Changes in Audiology Standards**

At the present time, the long-term impact of the changing standards on the profession of audiology and specifically audiology in the schools is unknown, but the two major areas that are likely to be impacted are financing and knowledge.

One of the basic tenets of advocates for the Au.D. and other doctoral-level degrees is that audiologists who possess a doctorate can expect to see improvements in their salaries. For audiologists practicing in school settings, this may actually be realized, as many salary schedules in educational settings are based on academic degree. Individuals with various advanced degrees (e.g., master’s, education specialist, doctorate) frequently start out on progressively higher salary schedules. In addition, most educators are able to better themselves financially by obtaining advanced degrees after being hired by a LEA. For audiologists with master’s degrees who are currently practicing in the schools, it is anticipated that these individuals would move into higher salary schedules if they obtain their doctorate.

On the other hand, the increased salary demands of doctoral-level audiologists may result in a decreasing number of audiologists directly employed by LEAs and increased use of audiology support personnel, such as technicians, in order to offset the costs of employing audiologists. For LEAs that contract with audiologists in private practice, hospital, clinical, or university settings, the cost of obtaining equivalent contracted services will increase.

**Knowledge Impact**

The audiology doctorate will broaden the knowledge base and the clinical skills of audiologists. The audiology doctorate can meet the needs of audiologists providing services in the schools if one or more
of the components of the doctoral program focuses on audiology practice issues specific to educational settings. It is absolutely critical that advocates for and experts in audiology service provision in the schools participate in the development of audiology doctoral programs in order to assure that coursework and clinical experience are relevant to pediatric populations and educational settings. The next few years will be an opportunity to shape new audiology doctoral programs to meet the needs of audiologists providing services in schools.

The need for continuing education will also affect audiologists in the schools. Educators have traditionally used academic coursework at the graduate level as a way to enhance their knowledge base and improve their salaries. Although graduate credit classes can meet the continuing education requirements of ASHA if they result “in the acquisition of new knowledge and skills or the enhancement of current knowledge and skills” in audiology or related communication sciences (ASHA, 2001b), other activities can also be used to meet the continuing education requirement. LEAs will need either to provide graduate courses or continuing professional development programs that are relevant to the practice of audiology or provide adequate release time and financial support for their audiologists to obtain necessary continuing education through other mechanisms outside of the school setting.

Professional Preparation Needs of Audiology Practitioners in the Schools

Various professional organizations have helped define the role of the audiologist in the schools. Most recently, the Guidelines for Audiology Service Provision in and for Schools (ASHA, 2002b) have provided information about the legal mandates and the critical components of audiology service delivery in the schools. The document includes information about the need to be able to provide audiologic assessment, audiologic (re)habilitation, education management, education training, counseling, classroom acoustics measurements and recommendations, and integration with early hearing detection programs. The Educational Audiology Association (EAA), developed the document Minimum Competencies for Educational Audiologists (EAA, 1994) that describes the knowledge that is necessary for practitioners to work in the school setting. Preservice competencies such as service delivery models, overviews of educational theory of curriculum and instruction, speech and language acquisition, and the psychological aspects of hearing loss in children and its impact on the family are included in the EAA document. The Recommended Professional Practices for Educational Audiology (EAA, 1997) also describes skills that the competent school practitioner needs in the areas of identification and assessment, amplification, hearing loss management, conservation and consultation, program management, and professional leadership and development.

ASHA’s new Audiology Standards address knowledge, skills, and attitudes pertinent to educational audiology practice. Clearly, the intent of the new Audiology Standards is to prepare audiologists to provide competent, comprehensive services in all settings, including school-based audiology programs.

What Needs to Be Done

The impetus for the audiology doctorate sprang from the needs of audiologists working in private practice and hospital settings to have increased autonomy and an expanded knowledge base. Indeed, the vast majority of audiologists are employed in hospitals or private practice settings (ASHA, 2001c). Audiology services in the schools have always been provided by a relatively small number of audiologists, and as audiology doctorate programs are developed, it is critical that the needs of the school practitioner be incorporated into the doctoral program. This will take dedication and perseverance because the majority of audiology doctoral graduates will be employed in other practice settings. The mandate for the doctoral degree
becoming the entry-level credential for audiologists and for continuing education provides proponents for audiology services in and for the schools the opportunity to advocate for better preparation of individuals who choose to practice in this setting.

**Certification and Licensing for Audiologists Practicing in the Schools**

**National Credentials**

Audiology, like many other education and health-related professions, has national certification available that is often required for employment, reimbursement, and career advancement. ASHA’s Certificate of Clinical Competence in Audiology (CCC-A) is the national credential held by most audiologists seeking national-level recognition. Approximately 13,000 audiologists currently hold this credential (ASHA, n.d.-a). The American Board of Audiology (ABA), an affiliate of the AAA, has a national credential that is held by approximately 700 audiologists (Phil Darrin, personal communication, April 9, 2003).

**State Credentials**

Licensure is required for the practice of audiology in most states. Forty-seven states regulate audiologists, 44 through licensure and 3 through registration or certification (ASHA, 2002c). To date, licensure credentials have been modeled on ASHA’s CCC requirements. Licensure boards are discussing how to modify their licensure laws to accommodate the impending change in educational preparation. Consistent with national trends, many licensure boards require continuing education/competence for renewal. However, not all employment in the public school sector requires state audiology licensure. Only 21 of the states that require licensure for the practice of audiology use this as the credential required in the public schools. Another 20 states have a special audiology credential for the practice of audiology in the schools. A review of these credentials suggests that they are also based on equivalent requirements found with the CCC-A and additional pedagogy courses or tests. Within the regulations for most of the states, the title “audiologist” is protected and reserved for individuals who hold state licensure or registration regardless of practice setting.

In addition, many states also require registration or licensing that allows otherwise licensed or registered audiologists to dispense hearing aids. This often includes the fitting and dispensing of hearing assistive technology as it relates to classroom educational amplification (e.g., FM systems). Typically, continuing education requirements are tied to this credential, allowing audiologists to fit and dispense hearing aids and other hearing assistive technology. Some school districts prefer that the audiologist also hold a teaching credential.

**Issues Facing the Credentialing Agencies**

Credentials required for audiologists employed in the public school sector vary from state to state. Although most of the entry-level credentials appear to be based on the national certification, ASHA’s CCC-A, there are differences. As mentioned earlier, the continuing education/competence requirement for audiologists has been instituted in many states. Continuing education is also now a requirement for maintaining national certification. Credentialing agencies within states as well as national certifying agencies have their own unique requirements. Although some of these might “overlap,” they do not all require the same type, format, or amount of professional development for audiologists practicing in the schools.

The new requirements for continuing professional development and a doctorate as the entry degree for practice as an audiologist will affect these credentialing bodies. As college and university programs that offer the master’s degree in audiology close (a trend already in evidence), audiologists seeking positions in all settings will hold a doctoral-level degree. Credentialing bodies will need to determine if their credential will reflect the new standard and, if not, how to resolve the difference.

**Issues Facing the State and Local Education Agencies**

SEAs, LEAs, and administrators will need to carefully examine job descriptions, supervision requirements, and budgetary issues as they relate to
Audiologists. Although some LEAs may have doctoral-level staff, it is not the common degree. Attracting and retaining these professionals in the public school arena to provide service to children with a variety of significant needs will be a challenge. Salaries, equipment and material resources, autonomy, and respect are hurdles LEAs and SEAs will face. Additionally, collective bargaining units will need to examine their contracts carefully to best represent the needs of this small, but important, category of professionals.

A question often posed is which credential is best suited for the types of responsibilities an audiologist has in the public schools. To date, it does not appear that one single credential suffices, but the prevailing credentials would suggest that the CCC-A does provide the basic clinical, rehabilitation, and counseling requirements needed. It becomes incumbent, however, on the state to clearly define the credentials necessary for practice in the schools. In doing so, consideration must be given to IDEA, ADA, and Section 504 provisions and Medicaid requirements as they pertain to reimbursement and school practices. LEAs also need guidance from the state to assure proper credentialing of independently contracted audiology providers. As mentioned earlier, credentials currently include, for some, a teaching certificate, a license, and/or a registration for dispensing. This discussion alone can cause administrators to look at current staff to fulfill the functions of an audiologist. The myriad of credentialing requirements may cause confusion for administrators resulting in the inappropriate assignment of the functions of an audiologist to another staff member.

**Issues Facing the Audiologist**

Surveys, membership information, and other data suggest that there are fewer than 1,300 audiologists working in the schools in some capacity nationwide. This reflects a much smaller number of audiologists than is needed and is a small percentage of the professional staff employed in this sector. This fact can lead to professional isolation, an overextension of responsibilities, and a tendency to be underappreciated or undersupported by the administration.

The issue of what credentials are needed is also the responsibility of the audiologist who chooses to work in the schools. Gathering this information can be formidable as often the various required credentials are managed by different governmental bodies or divisions. Fees associated with obtaining and maintaining multiple credentials as well as the frequent need to affiliate with a collective bargaining unit becomes an additional cost for the audiologist working in the schools. Additionally, representation within a collective bargaining unit can be difficult as audiologists often have a “nontraditional” role within the school setting. Gaining representation might present another challenge to the audiologist who chooses to practice within school settings and affiliate with collective bargaining units.

Continuing professional development will become an overwhelming activity for the busy audiologist employed in the LEA. Release time as well as financial support are concerns. Meeting and reconciling the variety of requirements to maintain the multiple credentials is indeed both an issue and a challenge.

Audiologists are faced with rapidly changing technology, new research, and advanced and expensive instrumentation. Children in schools have increased listening and hearing needs. Schools have shrinking budgets. Providing quality services in or for schools will demand that audiologists work with LEAs to carefully manage the way in which audiology services are provided, programs are developed, and contracts are made.

Audiology services are clearly delineated in IDEA. However, many parents and teachers do not know of their availability. Often they are delivered in a non-traditional manner relative to service provision in the schools. Advocacy at all levels is required to allow audiologists to provide services to our children in the schools. Organization of this effort and quality information continues to be a challenge for the audiologist working in the schools.
With all of its challenges, the role the audiologist plays in the schools is critical and is mandated by public law. The issues, hurdles, and challenges mentioned above will be met with success if SEAs, LEAs, audiologists, administrators and other professionals, and bargaining units understand and recognize the importance of including the credentialed audiologist as a permanent and integral part of the educational team.

Audiologist Supply and Demand

Needs Estimates

Estimating the number of students in schools requiring educational audiology services is a difficult task. Some LEAs may elect to provide services only to students who qualify under IDEA, Section 504, and ADA. Others may choose to make certain audiology services available to all students, depending on the size and depth of the program. LEAs may currently choose to provide educational audiology services to children from birth to age 21 or may serve children from ages 3 to 21. Yet others may only serve students from ages 5 to 21. LEAs, often by state law, are typically required to conduct audiologic screenings and hearing conservation programs for all children. Universal newborn screening programs have been helpful in the early identification of hearing loss and better delineation of their hearing needs by school age. Also with the increased number of children receiving cochlear implants, it is anticipated that these children will attend their neighborhood schools rather than being placed in special or self-contained classrooms or schools. LEA-based audiologists are involved in many of the programs and services directed toward children with hearing loss and/or auditory disorders. Thus, depending on the depth and breadth of the services required and offered, estimating the numbers of students requiring audiology services can be complicated.

One source of information on the number of children who might potentially require or benefit from the services of an audiologist is the Twenty-Third Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act (U.S. Department of Education, 2001). In Table AF1 of that report, the total resident population of children 3 to 21 years old in 1999–2000 was estimated to be 74,453,695. Table AF2 shows the birth to age 2 resident population to be 11,334,677. One could then deduce that there are approximately 86 million children in the United States in need of audiology services of some nature.

If one simply looks at students identified with “Hearing Impairments,” Table AA2 in the report shows that in the 1999–2000 school year, 71,539 students from 6 to 21 years old were served. If one adds students with Deaf-Blindness, Table AA2 would show an additional 1,840 students 6 to 21 years old who were served. It is reasonable to assume that these children require audiology services.

...there are approximately 86 million children in the United States in need of audiology services of some nature.

Knowing that hearing loss and/or auditory processing problems can coexist with all of the disabling conditions identified under IDEA, one can look at Table AA1 and see that during the 1999–2000 school year, 6,253,853 students with disabilities from 3 to 21 years old were served under IDEA. Thus, one could extrapolate and suggest that the numbers of children from 3 to 21 years old in need of educational audiology services is over 6 million.

Beyond looking at the report to Congress (which focuses only on services to students served under IDEA), one can look at data dealing with the prevalence and incidence of hearing loss in children. For example, in the document *Healthy People 2000*, the U.S. Public Health Service makes several statements about hearing loss in children.

- Over one million children in the United States have a hearing loss.
- Five percent (5%) of children 18 years old and under have a hearing loss.
- Approximately 83 of every 1,000 children in the United States have what is termed an educationally significant hearing loss (U.S. Public Health Service, 1990).

Additionally, the U.S. Department of Health and Human Services reports that 2 to 3 out of every 1000 live births result in a baby with a congenital hearing loss and that approximately 15% of all children have...
a hearing loss (U.S. Department of Health and Human Services, 2000).

Berg (1985) states that “among every 1,000 school-age students in the U.S., 7 have bilateral and 16–19 have unilateral hearing losses that may significantly interfere with their education.” More recent research has found the number to be between 11.3% and 14.9%—an average of 131 of every 1,000 school-age children have some degree of hearing loss that affects learning and development (Bess, Dodd-Murphy, & Parker, 1998; Niskar, Kieszak, Holmes, Esteban, Rubin, & Brody, 1998).

While audiologists are very much involved in the assessment, intervention, and management of children with (C)APD, it is difficult to provide an estimate of the number of children who may have auditory processing problems. Factors that complicate obtaining demographic data include the varying definitions of (C)APD and the fact that (C)APD is not a category of disability under IDEA. These children are often classified under IDEA as having a learning disability and/or a speech-language impairment. Chermack and Musiek (1997) estimate that 2% to 3% of all children have a (C)APD. Based on this estimate, given the resident population of children 3–21 years old as 74,453,685 (U.S. Department of Education, 2001), one could propose that there are approximately 1,489,073 to 2,233,611 children in the U.S. with an auditory processing disorder.

Estimates of the number of audiologists currently employed in schools. Again, the Twenty-Third Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act (U.S. Department of Education, 2001) cites data on full-time equivalent (FTE) audiologists employed during the 1998–1999 school year (the only year reported) to provide special education and related services for children and youth with disabilities. In 1998–1999 (Table AC3), 1,051 fully-certified audiologists were employed. In addition, there were 175 audiologists employed who were not fully certified as audiologists. This represents an increase in employment of 122 not fully certified as audiologists in comparison to the 22nd Annual Report (U.S. Department of Education, 2000). Data are not available in the 23rd Annual Report regarding vacant positions. However, the previous report noted that there were 36 FTE positions vacant. The presence of vacant funded positions and the dramatic increase in the employment of individuals not fully certified suggests a shortage of educational audiologists. Using the total resident population figure for 1999–2000 of children 3 to 21 years, 74,453,685, there is approximately one educational audiologist for every 70,840 students in the United States.

ASHA reports that 12,650 audiologists hold the Certificate of Clinical Competence in Audiology in the document “Highlights and Trends: Annual Counts of the ASHA Membership and Affiliation, 2002.” Further, Table 6 of that report, “Demographic Profile of the ASHA Member and Nonmember Certificate Holders Certified in Audiology Only for January 1 through December 31, 2002,” indicates that of those who identified a primary employment facility (n = 10,095), 9.5%, or 959 certificate holders, indicated they were employed in a school (ASHA, n.d.-a).

The presence of vacant funded positions and the dramatic increase in the employment of individuals not fully certified suggests a shortage of educational audiologists.

Current and suggested ratios of educational audiologists per number of children. To adequately serve the needs of children in educational settings, one full-time equivalent audiologist for every 10,000 children age birth through 21 years old served by a LEA is recommended (Colorado Department of Education Special Education Unit, 1998). ASHA, in its “Guidelines for Audiology Service Provision in and for Schools” (2002b), recommends one FTE audiologist for every 10,000 children as well. However, the guidelines state that “when audiologists provide time-intensive services (e.g., direct management/intervention, service to infants and toddlers) and one or more of the factors listed below is present, a caseload ratio of 1:10,000 will be unreasonable and must be reduced.” The following is a list of factors that will affect and influence caseload size:

- Itinerancy/excessive travel time.
- Number of schools and LEAs served.
- Student placements with an LEA.
• The number of children with hearing loss and/or (C)APD.
• The number and age of children with other disabilities requiring audiologic assessment and intervention services.
• The number of hearing aids, cochlear implants, and HATs (hearing assistive technology systems) in use.
• The number and age of students receiving direct, ongoing audiologic intervention services.
• The number of infants and preschoolers receiving assessment and intervention services.
• EHDI (early hearing detection and intervention) program responsibilities.
• Hearing loss identification/prevention/conservation program responsibilities.
• The scope of audiologic services provided (e.g., assessment, intervention, hearing aid dispensing).
• The extent of supervisory and administrative responsibilities.
• The number of multidisciplinary team meetings and reporting requirements.
• In-service training and counseling responsibilities.
• Other duties assigned that are outside the audiologist’s scope of service delivery (ASHA, 2002b).

In ASHA’s Audiology Survey 2000 Edition: Final Report (2000), 71.8% of audiologists working in schools report that they participate “frequently” to “very frequently” on Individual Educational Program (IEP) development teams. More than twenty-seven percent report that they participate on Individualized Family Service Plan (IFSP) development teams.

Based on the number of students with hearing loss identified and served under IDEA, and the number of children with hearing loss and/or auditory disorders that are receiving or are in need of or audiologic services under mandates such as Section 504, ADA, and/or other federal, state, and/or local initiatives, it is clear that the need for LEA-based or contracted audiology services will not diminish in the near future. Additionally, with the advent of universal newborn and infant hearing screening, hearing loss in children will be identified early, intervention programs will be instituted early, and audiologists in educational settings should and will be involved, in increasing numbers, in assessment, intervention, and management of these children. It is clear that educational audiologists provide comprehensive services in and for LEAs. Roles have expanded and continue to expand, which suggests that the recommended ratio of one FTE audiologist for every 10,000 students may be inadequate and should be improved.

Additionally, with the advent of universal newborn and infant hearing screening, hearing loss in children will be identified early, intervention programs will be instituted early, and audiologists in educational settings should and will be involved, in increasing numbers, in assessment, intervention, and management of these children.

Factors Influencing the Demand for Educational Audiologists

Legislative mandates. Mandates such as IDEA, Section 504, and the ADA all have requirements for determining eligibility, assessment and evaluation, re-evaluation, and program implementation and monitoring that require the services of an audiologist. IDEA’s requirements for assistive technology and the assurance of proper functioning of hearing aids also require the expertise of an audiologist.

Health care regulations. Recently enacted legislation for universal newborn hearing screening will place identified children into early intervention programs sooner. In those states where the lead agency for “Child Find” and early identification and intervention programs is the SEA or LEA, educational audiologists have and will continue to have a major role in program development, management, and implementation.

• Unique hearing and listening disabilities of children in schools that require specialized and frequent audiology services and technology. Some examples of situations requiring specialized and frequent audiology services are coordination of services...
for children with cochlear implants, use of hearing assistive technology (such as FM systems and classroom amplification), monitoring of fluctuating hearing loss in students (especially with otitis media) and the accommodation required to assure a student’s accessibility to the acoustic instructional environment, providing direct intervention services to students with hearing loss or (C)APDs.

**New federal initiatives in education.** Legislation such as the No Child Left Behind Act (NCLB), Reading First, and other initiatives in the general education arena have involved audiologists in programs in listening skills development and phonemic awareness skills development for children who have not been classified as having disabilities.

**Expanded roles of audiologists in schools beyond those associated with hearing loss.** Examples of expanded roles of educational audiologists are:

- Consulting with teachers as they employ strategies for meeting state standards dealing with listening skills.
- Consulting with teachers and administrators on reducing the effects of damaging noise on hearing that occurs in instructional environments, particularly in career and vocational education.
- Working with teachers and administrators to assure appropriate classroom acoustics for instruction (creating an environment with appropriate signal to noise ratios and reverberation times) (ASA, 2000, 2002; ASHA, 2002a, 2002b).
- Providing assessments for children who fail audiologic screening as well as children with disorders other than peripheral hearing loss (e.g., (C)APDs, attention deficit disorders, learning disabilities, autism) and children served under Section 504 plans.
- Providing for and monitoring of hearing assistive technology such as personal and sound field amplification systems to improve listening capability for students with hearing loss, (C)APDs and other disorders such as attention deficit disorders.

**Value placed on audiology services by a school district in the absence of mandates.** Although all school districts must comply with state and federal mandates, some districts have come to value the expertise of the educational audiologist and involve the educational audiologist throughout their programs and services. Educational audiologists have an understanding of curricula, the variety of settings and contexts of instruction (natural environments, hospitals, distance learning), and instructional dynamics (coteaching, using teacher aides, one-on-one aides for individual students, instruction involving related service providers) (Huffman, 1997).

**Factors Influencing the Supply of Educational Audiologists**

**Desire to work in a public school.** Audiologists work in a number of employment settings including health care (hospitals, nursing homes, home health, private physician’s offices), clinics and agencies (speech and hearing centers), colleges and universities, private practice, industry, and schools (special schools, preschools, elementary and secondary schools, and intermediate units) (ASHA, 2001a). Given the roles and responsibilities and the knowledge and skills required for educational audiology services, some audiologists may choose not to work in schools. On the other hand, the working conditions, roles and responsibilities, and prestige in the school setting may be highly appealing for others.

**Availability of employment.** Regarding demand, small school districts may not necessarily hire audiologists. They may use intermediate education agencies or cooperatives to provide audiology services or contract with a local agency, clinic, university, or private practice for specified audiology services. Regarding supply, there may be geographical “pockets” where universities in close proximity produce audiology candidates for certification, resulting in an over-supply of available audiologists. In other geographical regions, such as rural areas, there may be an undersupply.

Until recent changes to the audiology standards were made, the number of audiology students seeking doctoral-level degrees was on the decline.
Therefore, as audiology programs make the transition to the doctoral degree, they are faced with a shortage of doctoral-level faculty, thus limiting the number of students who can be admitted to programs. This may ultimately lead to an initial reduction in the number of audiologists entering the profession and a need for LEAs to increase recruitment and retention efforts.

**Salary.** The ASHA 2001 Omnibus Survey: Salary Report (2001d) reports median academic year salaries in school settings as $42,600 per year for audiologists. Median calendar year salaries for audiologists in private practice are $50,000. Audiologists working in LEAs are often covered by collectively bargained salary and benefits packages that may have immediate and long-term appeal. On the other hand, as audiologists begin to command higher salaries based on their doctoral degrees, salaries offered by LEAs may not be appealing or will have to be negotiated differently or outside of collective bargaining units.

**Credentialing requirements.** As discussed elsewhere in this paper, credentialing requirements are in transition. Many audiologists, including those who are currently employed in schools, are in the process of obtaining an AuD or other doctoral degree. Individual states have requirements for licensing and teacher certification, which may or may not include a doctorate requirement in order to be employed in schools. For example, with a transition to a doctoral degree, fewer audiologists may graduate, those who do graduate may be attracted to private practice where more attractive salaries are perceived, and schools with collective bargaining agreements may not offer salaries that persons holding doctoral degrees find attractive. Nonetheless, it remains to be seen what the impact will be on the supply of educational audiologists.

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**Critical Questions**

When studying issues of supply and demand for audiologists in the schools, there are several critical questions to be answered.

- Given the unique needs of children with hearing and listening disabilities in today’s schools, how do professional preparation requirements for audiologists influence the supply and demand of audiologists (i.e., educational audiologists) who wish to work in school settings?
- How can certification requirements and licensure requirements promote easily accessible and high-quality services for students in schools?
- Given changing credentialing requirements, how can the supply of qualified audiologists be increased to meet recommend needs, that is, one audiologist per 10,000 students?
- Given the date of the 23rd Annual Report to Congress, what accounts for the significant increase in the number of personnel employed who are not fully certified as audiologists?
- Given legislative mandates and the limited funding resources of LEAs, how can educational audiology services be made readily available to students in need?
- What will the audiologist’s role be in federal initiatives targeting children who are not identified as disabled but who must be provided services such as those required in the No Child Left Behind Act, Reading First, and other initiatives undertaken as a result of presidential commission panels?
- How can educational audiologists demonstrate efficacy? Given the current climate and interest on outcomes, how can audiologists better define and educate others about the value of their services?
- How can audiologists increase the visibility of their services and promote the provision of services when they are not mandated? If states and LEAs are not mandated to provide services, they are not likely to do so. If parents are not aware of their rights to services, they will not request them. If name recognition is increased, will demand for services increase?
Conclusion
Research continues to document the high incidence of hearing loss in children of all ages and the potentially negative consequences hearing loss and/or (C)APD can have on communication, academic performance, and psychosocial development. The effects of hearing loss and/or (C)APD are variable, depending on several factors, including the nature and degree of loss or disorder. Thus it is essential that children with hearing loss and/or (C)APD receive comprehensive audiologic services to reduce the possible negative effects of the loss or disorder and to maximize their auditory learning and communication skills. Furthermore, all children in educational settings can benefit from audiologic services in terms of the development of listening skills, instruction in prevention of hearing loss, and the provision of accessible acoustic environments. It is clear that the preparation of audiologists that provide services in educational settings will be impacted by the changes in audiology standards facilitating a need for SEAs and LEAs to evaluate and modify the way in which they access and provide audiologic services in the schools and continuing professional development for LEA-based audiologists. As national credentialing standards change, it is imperative that states, SEAs, and LEAs examine their licensure, registration, and/or certification requirements and, perhaps, modify them to accommodate provisions of the new audiology standards. In addition, as audiologists obtain and/or enter the profession with doctoral degrees, SEAs and LEAs will need to make fiscal modifications to accommodate the increased salary demands of LEA-based audiologists as well as increased fees for contracted services. LEAs will also need to implement or modify recruitment and retention efforts to attract audiologists with doctoral degrees to school settings.

It is essential that children with hearing loss and/or (C)APD receive comprehensive audiologic services to reduce the possible negative effects of the loss or disorder and to maximize their auditory learning and communication skills.

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About the Authors

Susan J. Brannen, M.A., CCC-A, is chair of the Department of Audiology for Monroe 2 – Orleans BOCES, 3599 Big Ridge Road, Spencerport, NY 14459. E-mail: sbrannen@monroe2boces.org.

Nancy P. Huffman, M.S. Ed., CCC-A/SLP, is an audiologist, 590 Stearns Road, Churchville, NY 14428-9530. E-mail: nphuffman@aol.com.

Joan Marttila, M.A., CCC-A, is the coordinator for Audiology, Vision, Assistive Technology for the Mississippi Bend Area Education Agency, 729 21st Street, Bettendorf, IA 52722-5086. E-mail: jmarttila@aea9.k12.ia.us.

Evelyn J. Williams, M.S., CCC-A, is the director of Audiology Practice in Schools, American Speech-Language-Hearing Association (ASHA), 10801 Rockville Pike, Rockville, MD 20852. E-mail: ewilliams@asha.org.
While reliance on paraprofessionals has increased in virtually all settings, advancement opportunities, systematic training and preparation, and supervision have not (Boomer, 1982). The number of paraeducators reported in the 1999–2000 survey has expanded by a minimum of 50,000 since results of a similar survey conducted in 1996...[yet] there has been very little progress in finding viable solutions to the problems connected with the employment, preparation, and supervision of paraeducators (Pickett, Likins, & Wallace, 2002).

In the past 20 years, from Boomer in 1982 to Pickett and her colleagues in 2002, paraprofessionals have been evolving as critical members of instructional teams providing services to students with special needs; however, the infrastructure to support them has not substantially improved. The role of paraprofessionals has evolved over the past 50 years, moving increasingly from primarily assisting with clerical tasks to assisting with instructional tasks. Their changing role reflects changes in educational practices, evolution of teachers’ roles, shifts in legislation and policy, and shortages in the number of qualified teachers. These changes require the development of (a) standards for paraprofessional roles and competencies, (b) infrastructures to prepare paraprofessionals for their new roles, and (c) administrative systems to support instructional teams at the school level. The active involvement of many different constituents—policymakers in federal and state governments, administrators in state and local education agencies, personnel developers in two- and four-year institutions of higher education, researchers, professional organizations and others—is required. Quite clearly, although solutions are possible, the evolution of the paraprofessional role is not without its issues. Solutions require that the actions of the constituents listed above be aligned and coordinated.

For the purposes of this paper, Pickett’s definition will be used to define “paraprofessional,” as her definition emphasizes the role of the paraprofessional as one who assists with the delivery of services under the direction of licensed staff:

Paraeducators are school employees: 1) who work under the supervision of teachers or other licensed/certificated professionals who have responsibility for a) identifying learner needs, b) developing and implementing programs to meet learners needs, c) assessing learner performance, and d) evaluating the effectiveness of education programs and related services, and 2) who assist with the delivery of instructional and other direct services as assigned and developed by certified/licensed professional practitioners (Pickett et al., 2002).

This paper will provide a brief history of the paraprofessional position and a review of the current literature addressing three topics: (a) supply and demand, (b) preparation and training, and (c) certification and licensure. A summary of the issues and implications for further research will also be addressed.
Evolution of the Paraprofessional Role

Historical Summary

The role of paraprofessionals as instructional supports and key members of educational teams does not have a long history. Although they number more than 500,000 today (NCES, 2000), as recently as 1965, there were fewer than 10,000 (Green & Barnes, 1989). As their numbers have increased, their roles have expanded. In 1997, Pickett and Gerlach identified several events and trends relevant today that have caused policymakers, educators, and others to reassess the role of the paraprofessional workforce. These include: (a) continuing efforts to include youth with disabilities in the general education classroom and their communities (Blalock, 1991; Hales & Carlson, 1992; Hofmeister, 1993; Morehouse & Albright, 1991; Pickett, 1996); (b) a growing need for occupational and physical therapy and speech-language pathology services for children and youth of all ages (Fenichel & Eggbeer, 1990); (c) increasing numbers of students who come from ethnic and language minority heritages in school systems nationwide (Ebenstein & Gooler, 1993; Haselkorn & Fiedeler, 1996; OSERS, 1993); (d) ongoing shortages of teachers and related services personnel (National Center for Education Statistics [NCES], 1993; OSERS, 1993); and (e) changing and expanding roles of school professionals as classroom and program managers (French & Pickett, 1997; Pickett, Vasa, & Steckelberg, 1993; Putnam, 1993; Snodgrass, 1991).

It is these and other developments that have had a significant impact on the emerging role of paraprofessionals in special education at the time they occurred, and a current review will show their relevance today. In describing the evolving role of this workforce, the most logical framework is to move from a review of the past, to an overview of the present, and finally to an anticipation of the future.

1950s and 1960s

There are examples of paraprofessionals working in education and human service programs as far back as the early 1900s. However, it was not until the mid 1950s that recognition of the value of paraprofessionals began to emerge. This attention to the employment of paraprofessionals was due to the postwar shortage of teachers that demanded local school boards look for alternative service providers. Paraprofessionals were recruited to perform clerical functions to free the teachers to spend more time providing instruction to students (Frith, 1982; Lindsey, 1983; Morehouse & Albright, 1991; Pickett, 1996).

During this time the Ford Foundation funded the Bay City Project (Michigan Schools), which recruited and trained paraprofessionals to complete clerical duties and various administrative tasks to enable teachers to provide more direct instruction to students in general education programs (Gartner & Reissman, 1974; Pickett, 1994). Although the employment of paraprofessionals began to occur across the country based on the outcomes of this effort, the approach was not without its critics. In fact, many individuals were concerned that paraprofessionals would be used as cheap labor to replace teachers, or that their presence would justify increased class size.

In fact, many individuals were concerned that paraprofessionals would be used as cheap labor to replace teachers, or that their presence would justify increased class size.

Another equally significant project was being implemented in special education while the effects of the Bay City Project were being realized in general education. Cruickshank and Haring (1957) initiated the first demonstration project to investigate the responsibilities of paraprofessionals in special education. They found that the primary responsibilities of paraprofessionals were the same regardless of the educational setting in which they worked. Cruickshank and Haring examined paraprofessionals in three settings, including: (a) a regular kindergarten that included students with blindness, (b) another classroom that included students who were labeled gifted, and (c) six different types of self-contained special education classrooms. The primary responsibilities reported in each of the settings included noninstructional tasks such as playground supervision, housekeeping in the classroom, material preparation, and record keeping. In summarizing
their work, Cruickshank and Haring indicated that the use of paraprofessionals provided an opportunity for the professionally trained teacher to use other skills. They stated that their study provided further support for the assumption that teacher assistants can be effectively utilized in the enrichment of the instructional program.

Many events throughout the 1960s served to change the roles of paraprofessionals in education. The growth of the civil rights movement, efforts to improve equality for women, and the beginning of the campaign to secure entitlement for children and adults with disabilities all led to expanded programs across education and human services (Gartner & Riessman, 1974; Pickett, 1994). In fact, the very nature of schools began to look different. These social changes took on a new emphasis and along with them came increased societal expectations, which placed so many new demands on schools that the status quo was no longer good enough. Compensatory education for disadvantaged students, individualized education for students with disabilities, specialized programs for students from various cultural backgrounds, and an increase in governmental infrastructure to support the delivery of special services stimulated the employment of paraprofessionals (Green & Barnes, 1989). These changes led to teachers needing instructional assistance in addition to clerical support.

The growth of the civil rights movement, efforts to improve equality for women, and the beginning of the campaign to secure entitlement for children and adults with disabilities all led to expanded programs across education and human services.

Similarly, an increase in public attention to the inequities in educational opportunities for students from minority groups led to a growing lack of confidence by parents and policymakers in the ability of teachers to meet the needs of students from diverse cultural backgrounds (Gartner & Riessman, 1974; Pickett, 1994). This led to the employment of paraprofessionals from local communities in which students and their families resided. These paraprofessionals were called upon to serve as liaisons between home and school. For the first time, paraprofessionals provided instructional support to students and their parents (Green & Barnes, 1989).

During this time of evolution in the role of the paraprofessional in education, there was an increase in theory and position papers that discussed the possibility of using paraprofessionals in instructional positions (Doyle, 1995). Many projects and reports that came out of general education, for example, Headstart and Title I of P.L. 89-10, suggested that a paraprofessional in a classroom could relieve the teacher of several tasks and facilitate the professional responsibilities of the instructor (Blessing, 1967).

Although Blessing found that paraprofessionals working in Title I programs performed mostly non-instructional tasks, Ebenson (1966), and Blessing both agreed that, given appropriate supervision, paraprofessionals could perform instructional activities, and that an increased and expanded use of paraprofessionals could impact the increasing shortage of teachers.

At the same time the utilization of paraprofessionals gained momentum, recognition of the importance of improving opportunities for people from varied cultural backgrounds, women, and individuals with disabilities to achieve professional status began to emerge. In 1965, a book entitled New Careers for the Poor described an approach for higher education to use to develop programs for paraprofessionals, which would encourage them to enter the professional ranks (Pearl & Riessman, 1965; Pickett, 1986). This also served as a catalyst to provide the expanding movement with a new name—New Careers. This evolution in the preparation of paraprofessionals reflected the current political and social climate at the time, which promoted more opportunities for a greater number of people.

1970s and 1980s

The federal government played an active role in the New Careers Movement through legislative actions, funding, and administrative guidelines (Pickett, 1986). For example, the U.S. Department of Education supported the Career Opportunities Program (COP), a training effort instituted in 1971, which involved 20,000 individuals in career advancement programs (Pickett, 1986). COP programs were developed jointly by school districts and
teacher education programs to support paraprofessionals who wanted to become teachers.

The federal government played an active role in the New Careers Movement through legislative actions, funding, and administrative guidelines.

At the same time that higher education was recruiting paraprofessionals into teacher education programs, states were developing certification procedures, identifying duties of paraprofessionals, mandating the use of paraprofessionals in some programs, and addressing training and career mobility for paraprofessionals wanting to remain in their current roles. In 1977, although COP ended with positive reactions from all involved, few local education agencies or universities that originally participated in COP continued to offer opportunities for career development based on the COP model (Pickett, 1994). Additionally, Pickett states that, as federal funding for all education programs was reduced during the 1980s, interest and concern about improving the performance of paraprofessionals lessened as their use increased. Lindsey (1983) states that the double-digit inflation, shrinking tax bases and other economic factors of the time were responsible for reducing funds for education. He also suggests that one variable that permitted state education agencies (SEAs) and local education agencies (LEAs) to continue to provide services in a more cost-effective way was hiring and integrating paraprofessionals into existing organizational and administrative structures. At the same time, practices associated with the deployment, management, and training of paraprofessionals became more unstructured and, many times, non-existent.

1990s, 2000, and 2001

These years have brought with them changes in federal legislation regarding the preparation of paraprofessionals, changes in teacher roles, need for clarification regarding the appropriate roles for paraprofessionals, and new attention to educational reform and accountability.

The role of paraprofessionals has changed substantially during the past 50 years, and the role is still evolving. Educational reform efforts are promoting new roles for teachers as managers and instructional team leaders. Specifically, teachers have greater responsibility for program and classroom management, participation in school site decision-making, and implementation of accountability systems and measures. These changes in teachers’ roles have implications for the roles of paraprofessionals (Pickett, 2000; Pickett et al., 2002). In addition, provisions in federal legislation require that all personnel should be adequately prepared for their roles and responsibilities. Such legislation includes the 1997 Amendments to the Individuals with Disabilities Education Act (IDEA), the Elementary and Secondary Education Act (ESEA) of 1994, the School-to-Work Opportunities Act of 1994, and the No Child Left Behind Act (NCLB) of 2002.

Two specific pieces of legislation described have important implications for the role and preparation of paraprofessionals: the amendments to IDEA (P.L. 105-17) and NCLB (P.L. 107-110). Both of the laws refer to preparation and supervision requirements needed for paraprofessionals to provide specific services. The 1997 Amendments to IDEA, as quoted below, require training and supervision when paraprofessionals are to assist in the provision of special education services.

A State may allow paraprofessionals and assistants who are appropriately trained and supervised, in accordance with State law, regulations, or written policy, in meeting the requirements of this part to be used to assist in the provision of special education and related services to children with disabilities under Part B of the Act. [34 CFR §300.136(f)]

In addition, the NCLB act established paraprofessional training requirements for new paraprofessionals (anyone hired on or after January 8, 2002); NCLB also provides 4 years from enactment (January 8, 2006) for currently employed paraprofessionals to meet one of the following requirements: (a) completed at least 2 years of study at an institution of higher education; (b) obtained an associate’s (or higher) degree; or (c) met a rigorous standard of quality and can demonstrate, through a formal state or local academic assessment, knowledge of, and the ability to assist in instructing, reading, writing, and mathematics; or knowledge of, and the ability to assist in instructing, reading readiness, writing
readiness, and mathematics readiness, as appropri-
ate [Title I, Section 1119/b]. These requirements
apply to any paraprofessional whose position is
directly funded by Title I and who provides instruc-
tional support services. In a Title I school-wide
program, any paraprofessional providing instruc-
tional support services will have to meet these
requirements, including paraprofessionals providing
special education services that are instructional in
nature. In addition, the regulations state that a para-
professional must work under the direct supervision
of a teacher, which means that the teacher plans the
paraprofessional’s instructional activities and evaluates the students with whom the paraprofessional
works. In addition, the paraprofessional must work
in close proximity to the teacher. Paraprofessionals
who do not have instructional duties are not
included in the definition of “paraprofessional.”

These requirements have prompted a renewed
interest in competencies and standards, credentialing
systems, and infrastructures to support preparation
and ongoing development. In addition, there has
been an increase in the amount of research in this
area regarding the training needs, supervision,
appropriate use, and efficacy of paraprofessionals,
which will be reviewed in the next section of this
paper. This research provides the basis for the results
and recommendations of this issue brief.

A Review of Current Literature

Supply and Demand

Attempting to establish a clear understanding of the
number of paraprofessionals working in schools
across the nation is a huge challenge. There is a lack
of data available to assist various constituents in
their decision-making regarding this workforce. It is
important to note that because data collected by fed-
eral agencies is based in part on information
reported by SEAs or is in some cases self-reported
by individuals, it is at best incomplete and may pro-
vide an inadequate picture of paraprofessional
employment. In addition, data are often not reported
in a timely fashion, which provides a delay in under-
standing the current employment situation.

Given these cautions and issues, three mecha-
nisms are discussed that exist to secure information
about the paraprofessional workforce. None of the
three methods captures the entire paraprofessional
workforce and aggregating the results is not appro-
priate. For example, the Occupational Outlook
Handbook (2000–2001) reported approximately 1.2
million teaching aides/assistants employed in public
and private schools and early childhood and day
While the handbook suggests that a large number of
these individuals work in special education, no spe-
cific breakdown is given. Other approaches delineate
the sub-groups a bit more. Specifically, the Schools
and Staffing Survey (SASS) of the National Center for
Educational Statistics (NCES) has been gathering
data on non-professional staff since 1987–88, but it
wasn’t until their most recent report in 2000 that
they published information about them. While the
SASS figures are based on a sample of schools, each
year the NCES Common Core of Data (CCD) pro-
gram gathers staffing information from all local
education agencies in the United States.

Pickett et al. (2002) state that there are approxi-
mately 550,000 paraprofessionals currently
employed in full-time equivalent positions across the
nation. The number was generated from a 1999–2000
survey of chief state school officers in the 50 states,
the territories of the U.S., the District of Columbia,
the Bureau of Indian Affairs, and the Department of
Defense conducted by the National Resource Center
for Paraprofessionals (NRCP). This number repre-
sents an increase of 50,000 paraprofessionals (10%)
since a similar NRCP survey conducted in 1996.
Also, Pickett et al. state that of the 550,000 parapro-
fessionals, approximately 290,000 work with
children and youth with disabilities, and 130,000 or
more work with multilingual learners, Title I, and
other remedial education programs. Approximately
130,000 work as library and media pareducators,
computer assistants, and more. In addition to the
increase in paraprofessionals, the NCES reported a
48% increase in instructional paraprofessional
employment compared to a 13% increase in student
enrollment and an 18% increase in teacher employ-
ment between the years 1990 and 1998 (NCES, 2000). These differences in growth are noteworthy and should be analyzed to determine their meaning. Gerber, Finn, Achilles, and Boyd-Zaharias (2001) suggest that the rapid increase in the numbers of paraprofessionals has to do with the expansion of special education and Title I programs, the perception that the use of paraprofessionals is a low-cost alternative to small classes, and the perceived success of paraprofessionals in affecting student engagement and achievement as well as other positive classroom contributions.

Pickett et al. (2002) state that there are approximately 550,000 paraprofessionals currently employed in full-time equivalent positions across the nation.

Pickett (1994) stated that at the time the largest recorded use of paraprofessionals in schools was due to federal legislation such as Chapter I of the Improving America’s Schools Act (IASA) and the Individuals with Disabilities Education Act (IDEA) passed in 1990. The legislation emphasized the inclusion of students with disabilities into the general education and community environments and increased the need for and use of paraprofessionals. Not unlike the changes evidenced in the 1990s, the increased demands on teachers to address the individual needs of students resulted in a reliance on the paraprofessional workforce.

Clearly, the numbers of paraprofessionals continue to increase, and as they do, recruitment strategies must also increase and improve.

Not surprisingly, Riggs and Mueller (2001) found that the retention of paraprofessionals was most often threatened by other positions that offered higher salaries or greater career advancement. In addition, they found that paraprofessionals reported the following as factors affecting self-esteem: (a) being invited to team meetings centered on the students with whom they work; (b) being provided with adequate break time, (c) having adequate substitute coverage, and (d) being perceived as a “team member” working “along side of” the teacher. In a study of general educators, special educators, paraprofessionals, and administrators, Giangreco, Edelman, and Broer (2001) uncovered six major themes associated with respect, appreciation, and acknowledgement of paraprofessionals. They include: (a) nonmonetary signs and symbols of appreciation, (b) compensation, (c) being entrusted with important responsibilities, (d) noninstructional responsibilities, (e) wanting to be listened to, and (f) orientation and support. In order to address the need for paraprofessionals who can best serve individuals with disabilities, Blalock (1991) recommends strategies for hiring paraprofessionals that include a suggested hiring process, vocational assessments, and interview questions. Clearly,
schools must review the strategies they use to recruit and hire paraprofessionals, and create meaningful ways to support them once hired. In addition, state and federal agencies must identify and implement efficient, accurate methods of capturing the numbers of paraprofessionals working in K–12 education today, and identify the program funds used to support their position.

Preparation and Training of Paraprofessionals

According to Guskey and Huberman (1995), professional development is a crucial component for educational improvement. Many individuals active in this area have likened the “paraprofessional” or “paraeducator” to a “paralegal” or a “paramedic,” but there is a huge difference. Although similar in the role they might have in their “profession”, they are quite different in the amount of preservice preparation and ongoing development that is required of them to work in their respective fields. This section will review the literature regarding the training and preparation of paraprofessionals.

Many individuals active in this area have likened the “paraprofessional” or “paraeducator” to a “paralegal” or a “paramedic,” but there is a huge difference.

In 1974, after reviewing the literature, Reid and Reid classified the duties of paraprofessionals working in special education classrooms with students with mild disabilities as being clerical, housekeeping, noninstructional, and instructional. May and Marozas (1981) stated that “the implications of the tasks delineated under these categories are that the teachers teach and paraprofessionals prepare materials and manage the behavior of children” (p. 228).

The Study of Personnel Needs in Special Education (SPeNSE, 2001) found that, while there were differences by region and district regarding the types of services paraprofessionals provided, the majority of special education paraprofessionals, nationwide, spend at least 10% of their time on each of the following activities: (a) providing instructional support in small groups; (b) providing one-on-one instruction; (c) modifying materials; (d) implementing behavior management plans; (e) monitoring hallways, study hall, other; (f) meeting with teachers; (g) collecting data on students; and (h) providing personal care assistance (SPeNSE, 2001).

Other studies found similar results (Downing, Ryndack, & Clark, 2000; French, 1998; Lamont & Hill, 1991; Minondo, Meyer, & Xin, 2001; Pickett & Gerlach, 1997; Pickett, 2000; Wallace, Stahl, & MacMillan, 2000). In some studies, paraprofessionals reported being responsible for a student’s instructional program when that is the responsibility of the teacher (Giangreco, Edelman, Luiselli, & MacFarland, 1997; Marks, Schrader, & Levine, 1999; Wallace, Stahl, & MacMillan, 2000). Downing, Ryndak, and Clark (2000) found that paraprofessionals reported a high level of responsibility in their jobs, and that they made decisions regarding adaptations, provided behavioral support, and interacted with team members, including parents. This is a huge concern pointing to a need for training and preparation not only of the paraprofessionals but also of those who supervise and direct their work.

Katsiyannis, Hodge, and Lanford (2000) conducted a review of due-process hearings, Office of Civil Rights (OCR) rulings, OSEP memorandums, and court rulings from 1990–1999 regarding the legal parameters associated with the use of paraprofessionals in special education. Four important findings about the role and appropriate use of paraprofessionals to provide special education services include: (a) public schools must supply services provided by paraprofessionals if these services are necessary for a student to receive a free appropriate public education (FAPE); (b) paraprofessionals must be qualified to perform assigned services as indicated in the IEP, and public schools must have broad discretionary power regarding personnel; (c) paraprofessionals who lack appropriate training may not directly provide special education services in either public or private schools; and (d) appropriately trained paraprofessionals may assist in the provision of special education services only if certified special education personnel supervise them (Katsiyannis, Hodge, & Lanford, 2000).

As noted earlier, both the amendments to IDEA and the NCLB act require that paraprofessionals must receive supervision by licensed staff in order to
provide instructional support and special education services. This supervision appears critical for a number of reasons. For example, many studies have found that paraprofessionals often report not having job descriptions, formal orientations, or annual performance reviews (Gerber et al., 2001; Wallace et al., 2000). In addition, Wallace et al. (2000) reported that 58% of the nearly 3,600 paraprofessionals surveyed did not have planning time with the teachers who directed their work. Coupled with findings that paraprofessionals are reporting more responsibility than what is appropriate for their roles, these findings suggest that paraprofessionals may not be receiving adequate guidance or preparation for their roles. It becomes critical that teachers and others responsible for supervision of paraprofessionals provide the needed supervision to ensure that paraprofessionals know what their roles are and how to do them.

There is agreement in the literature that teachers should assign tasks, design instructional plans, provide on-the-job training, conduct planning sessions, and monitor the paraprofessional’s day-to-day activities (Doyle, 1997; French, 2001; Morgan & Ashbaker, 2000; National Joint Committee on Learning Disabilities [NJCLD], 1999; Pickett & Gerlach, 1997; Wallace et al, 2001). There is also agreement that teachers are unlikely to receive the knowledge and skills required for paraprofessional supervision during either their preservice teacher preparation or later during professional development opportunities. Although this topic of paraprofessional supervision appears to be more of an issue related to teachers, it has a huge and fundamental impact on the success of paraprofessional and teacher teams.

Studies have found that paraprofessionals who report receiving more inservice training or preservice preparation report feeling better prepared to fulfill their job responsibilities (SPeNSE, 2001; Wallace, Stahl, & MacMillan, 2000). Numerous recent studies and opinion pieces indicate that there is a general scarcity of training available for paraprofessionals (IDEA Partnerships, 2001; Downing et al., 2000; French & Chopra, 1999; Hilton & Gerlach, 1997; French & Pickett, 1997; Pickett, 2000; Wallace, et al., 2000).

A number of researchers have reported a difference in perceptions among teachers, paraprofessionals, and administrators on the need for paraprofessional training. For example, Wallace, Shin, Bartholomay, and Stahl (2001) reported a statistically significant difference among administrators, teachers, and paraprofessionals regarding the perceived need for training. Paraprofessionals reported the greatest need, while teachers and administrators did not perceive the need for paraprofessional training to be nearly as great. Still others report that even where training exists, paraprofessionals report needing more or different training opportunities. Specifically, Whitaker (2000) found that half of the school districts surveyed (43) employed paraprofessionals to work with students with disabilities in occupational education classes. Although 33% of the districts that employed paraprofessionals provided training, 94% of the coordinators and 93% of the paraprofessionals reported that more training was still needed. The coordinators and paraprofessionals rated highly the need for training in job coaching, behavior management, and knowledge of students with disabilities. Often times, districts may offer training, but it is not the information needed by paraprofessionals. It is important to provide professional development opportunities that are meaningful and that provide an authentic opportunity for paraprofessionals to gain knowledge and skills specific to their jobs and the students with whom they work.

Some states have established a career ladder approach to the recruitment, preparation, and ongoing development of paraprofessionals. The idea is to recruit high school students into two-year programs leading to paraprofessional preparation and/or continued development ultimately leading to a teaching certificate. A person might work on a certificate of competence, a specified diploma, a two-year degree, then matriculate to a 4-year program and pursue a teaching certificate. The recruitment of
paraprofessionals into the teaching profession might have a substantial impact on the current and future teaching shortage, but strategies for recruiting paraprofessionals are important in their own right and must be identified. The paraprofessional workforce is a legitimate educational employee group that must be prepared for its changing and growing responsibilities. The career ladder model provides a potentially sustainable infrastructure for paraprofessional preparation.

The recruitment of paraprofessionals into the teaching profession might have a substantial impact on the current and future teaching shortage, but strategies for recruiting paraprofessionals are important in their own right and must be identified. There are a number of guiding principles that might be used in designing preservice and inservice training for paraprofessionals. For example, the following might be considered as individuals develop paraprofessional preparation and training opportunities: (a) The training should be aligned with a set of competencies and standards of performance; (b) training can take on many formats, and some are more important than others for teaching certain skills; (c) training should be comprehensive in its approach, allowing for various types of opportunities and including specific instruction regarding the needs of the students with whom the paraprofessional works; (d) training opportunities should be built into a sustainable infrastructure to allow for ongoing paraprofessional development; (e) an initial orientation to the school and its procedures and programs must be followed with opportunities for ongoing, targeted training and supervision; (f) training teacher/paraprofessional teaming together on new strategies offers the opportunity to discuss appropriate implementation roles while learning the same content at the same time; (g) when paraprofessionals have received specific skill training, it is important to follow-up and ensure that they implement the skill correctly. Positive feedback is important to ensure appropriate utilization of the skill. Again, training and preparation is important, and it must be aligned with appropriate role expectations and day-to-day supervision.

**Certification and Licensure**

There is substantial agreement that paraprofessionals play an important role in educating students with disabilities (French & Pickett, 1997; Giangreco, Edelman, & Broer, 2001; Hilton & Gerlach, 1997; Jones & Bender, 1993; National Joint Committee on Learning Disabilities, 1999; Pickett, 2000; Pickett & Gerlach, 1997; Wadsworth & Knight, 1996; Wallace, et al., 2001; Wolery, Werts, Caldwell, Snyder, & Liskowski, 1995). Regardless of paraprofessionals’ backgrounds and roles, training is a critical element in effective employment and retention (Frith & Lindsey, 1982; Pickett, 2000; Pickett et al., 1993; Riggs & Mueller, 2001; Wallace et al., 2000). However, despite agreement on the need for paraprofessional training, many local and state education agencies do not provide significant preservice or inservice training (Blalock, 1991; Pickett, 2000; Rubin & Long, 1994; Riggs & Mueller, 2001; Wallace et al., 2000). Since the 1997 Amendments to IDEA, a renewed interest in developing standards and certification has emerged. Several associations [Council for Exceptional Children (CEC), the American Speech, Language and Hearing Association (ASHA), American Physical Therapy Association (APTA), and the American Occupational Therapy Association (AOTA)] have established knowledge and skill competencies. CEC has competencies set for paraprofessionals and some states also have identified competencies or standards for paraprofessionals. Mullins, Morris, and Reinoehl (1997) report that six states have procedures for using paraprofessionals. Currently ASHA, APTA, and AOTA require community college AA degrees for certified therapy assistants. Nationwide, 249 community colleges offer AA degrees to OT assistants and PT assistants. In 1997, ASHA recognized an AA degree for SLP assistants. In response to this recognition, there are already 10 accredited programs and another 50 near completion. Still others are in the developmental stage. A review of NRCP records indicates that there are approximately 198 community colleges that offer either two-year AA degrees or one-year certificate programs to paraprofessionals working in inclusive...
special and general education, bilingual/ESL, Title I, and early childhood programs. However, half of the states, the District of Columbia, the Territories, The Bureau of Indian Affairs, and the Department of Defense have not established standards and/or regulatory procedures for paraprofessional roles and responsibilities, preparation, and supervision (Pickett et al., 2002). Thirteen states have credentialing systems, ranging from multilevel licensure/certification credentials that define roles, training, and career advancement criteria, to one-dimensional systems, that do not specify role or training requirements. Pickett et al. also report that 11 have chosen to establish standards for paraprofessional roles.

A review of NRCP records indicates that there are approximately 198 community colleges that offer either two-year AA degrees or one-year certificate programs to paraprofessionals working in inclusive special and general education, bilingual/ESL, Title I, and early childhood programs.

New legislative requirements will have an impact on certification and licensure across our nation. It is critical that constituents, including policymakers in federal and state governments, administrators in state and local education agencies, personnel developers in two- and four-year institutions of higher education, researchers, professional organizations, and others, align their efforts to ensure an efficient and effective system of preparation.

A Summary of Current Issues

This section will summarize the issues already addressed as well as those not yet raised within the previous sections. There are two remaining issues that must be acknowledged: supervision of paraprofessionals and the efficacy of their work.

There has been increasing dialogue regarding whether or not paraprofessionals have a positive impact on student achievement. This is a difficult question to answer because of the variables associated with it. For example, in the highly publicized STAR (Student/Teacher Achievement Ratio) study, investigators concluded that paraprofessionals did not contribute to the students’ academic achievement in the classroom. However, Finn (1998) also reported that the duties of the paraeducators were left to the discretion of the teacher, who had received no special instructions. The STAR and many other studies did not isolate and control for issues of training and supervision. Gerber, Finn, Achilles and Boyd-Zaharias (2001) used the STAR data to examine further the role of paraprofessionals—they use the term “teacher aides”—and their impact on student achievement. The authors, in general, found consistent achievement advantages associated with small classes compared to regular size class with a paraprofessional. However, these results must be carefully reviewed as the study looked at the achievement of the class in its entirety. Because paraprofessionals often work with individuals or small groups, the authors themselves state that it is a possibility that paraprofessionals may provide important attention and support to specific students, which could be reflected in their achievement data, but the effect of this support is lost when aggregated with the rest of the class. In addition, many paraprofessionals reported not having job descriptions, orientation, or training. There are many variables involved with the appropriate use and supervision of paraprofessionals, and making statements about efficacy when these elements are left unclear seems a bit unfair.

It is critical to carefully consider studies of paraprofessionals’ effectiveness. Satisfaction studies exist, but well-designed studies examining the relationship between the role of paraprofessionals and student achievement do not (Jones & Bender, 1993; Rubin & Long, 1994). In a review of the literature, Giangreco, Edelman, Broer, and Doyle (2001) concluded that little is known about the impact of paraprofessional services on students with disabilities, at least in part because more work is needed on the identification of service delivery models (e.g., program-based supports and one-on-one support) that meet students’ needs. Furthermore, extant research is often contradictory. For example, in a qualitative study of one-aide-to-one-child service delivery, Giangreco, Edelman, Luiselli, and McFarland (1997) found that the aide’s continuous proximity to the child sometimes diminished the benefits of one-to-one
attention. The authors suggested that attention be given to the design and development of models of service delivery that do not focus solely on matching a student with a paraprofessional. On the other hand, Werts, Zigmond, and Looper (2001) found that paraprofessionals’ proximity had a positive impact on the academic engagement of primary-aged students in inclusive settings.

Associated with the efficacy of paraprofessionals and the appropriateness of service delivery is the issue of supervision. Wallace et al. (2001) found that paraprofessionals most often reported a difference between the person responsible for hiring and evaluating their performance (an administrator) and the person directing their day-to-day work with students (an educator). However, there is confusion in many schools that leads to inappropriate expectations and assignments, lack of communication, and little planning between educators and paraprofessionals. Several studies and opinion pieces have addressed the importance of supervision from as early as that work of Ebenson (1966) and Blessing (1967), who both agreed that, given appropriate supervision, paraprofessionals could perform instructional activities. Currently, legislation exists to support the need for supervision, and now teachers must learn strategies for supervising paraprofessionals beginning in their teacher preparation programs (French, 2001; French & Pickett, 1997; Salzberg & Morgan, 1995; Wallace et al., 2001). In addition, administrators must promote effective instructional supervisory relationships and create infrastructures that reward teams.

The key issues are well summarized in a report to the Office of Special Education Programs (OSEP), the IDEA Partnerships Paraprofessional Initiative (2001). In this report six overarching themes were identified by a cross-partnership (IDEA Partnerships, including ASPIIRE, FAPE, ILLIAD and PMP) forum of 35 representatives of professional associations; higher education; federal, state, and local agencies and special projects; and individual professional practitioners, paraprofessionals/assistants, and families. These individuals identified broad issues associated with the roles, supervision, and preparation of instructional and service teams in relation to the 1997 Amendments to IDEA. The six issues include (a) confusion and misunderstanding about roles, responsibilities and supervision of paraprofessionals by teachers, administrators, and families; (b) lack of clear federal, state, and local policies and standards; (c) need for consensus about who a paraprofessional is and what a paraprofessional does; (d) inadequate training for administrators, teachers, and paraprofessionals regarding appropriate roles, responsibilities, and supervision; (e) inadequate opportunities for instructional teams to plan, collaborate, and support one another’s efforts; and (f) need for systematic infrastructures and administrative support for training, team collaboration/planning, and utilization of appropriate practice. These six broad issues, coupled with the need for identifying the efficacy of the paraprofessional role, represent the key issues supported by the literature as well as by a national forum of experienced and informed individuals.

There is confusion in many schools that leads to inappropriate expectations and assignments, lack of communication, and little planning between educators and paraprofessionals.

Implications for Research

While the list of current issues surrounding the paraprofessional workforce is not short, it has a corresponding list of possible solutions. These solutions will come about through a variety of avenues. The following research and development ideas will facilitate improvement: (a) efficient and accurate systems for identifying information about the paraprofessional workforce must be designed and implemented; (b) well-designed research must examine the relationship between paraprofessional behaviors and the academic engagement and achievement of students; (c) models of paraprofessional support that demonstrate alignment among standards for roles, preparation, and supervision must be developed and evaluated; (d) research must occur to understand the factors associated with the successful collaboration and coordination among general educators, special educators, and paraprofessionals in the support of students in inclusive educational settings; (e) examination of recruitment and retention strategies must
be undertaken to identify those that lead to successful paraprofessionals; (f) appropriate examination of the factors (training, supervision, duties, planning time) associated with the successful use of paraprofessionals must occur; (g) examination of how teachers work with paraprofessionals in terms of administrative, instructional, and noninstructional tasks must occur; (h) infrastructure to support the preparation and ongoing development of paraprofessionals (including preservice and inservice training, career ladders, etc.) must be evaluated for effectiveness; (i) knowledge and skill competencies, and corresponding training approaches must be evaluated to determine those leading to competent paraprofessionals; and (j) models must be developed that lead to the preparation of administrators and teachers who effectively supervise and direct the work of paraprofessionals. The importance of the paraprofessional workforce, the issues surrounding this group, and the research and development activities needed to develop solutions might best be summarized in the words of Daniels and McBride (2001):

In the final analysis, schools cannot adequately function without paraprofessionals, and paraprofessionals cannot adequately function in schools that lack an infrastructure that supports and respects them as viable and contributing members of instructional teams.

References


About the Author

Teri Wallace, Ph.D., is the Director of the National Resource Center for Paraprofessionals Institute on Community Integration, College of Education and Human Development, University of Minnesota, 111A Pattee Hall, 150 Pillsbury Drive, SE, Minneapolis, MN 55455. E-mail: Walla001@umn.edu.
The highly qualified teacher language in the No Child Left Behind (NCLB) amendments to the Elementary and Secondary Education Act of 1965 has elevated the discussion of the importance of highly qualified teachers in the teaching/learning process to a new level. No one would argue that a quality teacher makes a difference. In special education, other service providers can have a significant impact on the quality of the education provided and the results achieved as well. Related service personnel are key to the individual success of students with disabilities and to the overall success of school, district, and state accountability for results. Related service personnel are important, not just because they are required by the Individuals with Disabilities Education Act (IDEA), but because these services can reduce and sometimes eliminate academic and nonacademic barriers to learning. Education administrators, teachers, and parents must be aware of the connection these services have to learning, and value the related service provider as an important part of the teaching/learning team in the schools.

The paramount concern for the nation’s education system is the provision of quality service providers in every educational environment. It’s not good enough to accept anything less, because all children are important and all of them can learn to high standards. With that said, what about related service providers? Should not excellence be the norm for them as well? Should not sufficient numbers of these professionals be available too? Of course, the answer is yes, but many barriers challenge states and local communities in ensuring that sufficient numbers of personnel are recruited, trained, employed, supported, and rewarded. The authors providing articles for this issue of the Journal address many of these barriers and challenges.

Whether the service is audiology, occupational therapy, physical therapy, speech-language pathology, or the paraprofessional, the needs are great, the challenges are many, but the solutions to providing good school-based services are similar. Rapport and Williamson provide an excellent summary in this issue of what the researchers are telling us about school-based services. Policymakers and administrators should listen and take action. The following recommendations are a partial list of suggestions to consider in the provision of school-based related services:

- Some, but not all, related service personnel should have adequate preparation for providing school-based services and services for very young children. Preparation programs that include coursework and practicum experiences in working with young children will better prepare related service professionals for work in school and clinical settings.
- Exercising the same vigilance with related service personnel used when recruiting and hiring teachers will guarantee that all staff are highly qualified.
- To attract qualified applicants, schools should consider hiring bonuses, higher salaries, and other incentives consistent with conditions in the private sector.
- Taking full advantage of the multidimensional training and abilities of related service personnel
will produce positive educational outcomes for students and instructional support for teachers.

- Providing environments conducive to learning is essential. Related service personnel, with necessary supports, can help teams effectively bridge academic and non-academic areas, enhancing the educational results of all students.

- Because there is often no critical mass of peers with whom to interact, it is important to provide opportunities for related service personnel to receive appropriate on-going professional development.

- Paraprofessionals will feel valued as key educational team members when they are supported with higher salaries, appropriate training, and advancement opportunities such as career ladder programs.

- Sometimes services such as audiology, speech therapy, OT and PT are seen as “special” to parents when compared to the classroom instruction every child receives. Consideration should be given to using related service personnel to facilitate greater parent participation in planning services for their child with special needs.

- As related service fields consider increasing credentialing requirements for the entry point to their professions, it is important for policymakers and school-based administrators to be included in the discussion. While strengthening credentials is important and desirable, the availability of school-based services must be in reach of students who require them.

As you read the articles on related services in this journal, consider how the appropriate use of related service personnel can enhance the educational results of students with special needs. As the solutions to students’ needs are addressed by No Child Left Behind and IDEA, the most important answer is the provision of highly qualified and supported personnel. While the focus at this time is on teachers, consider that other members of the education team are extremely important for students with special needs. Related service personnel deserve our attention and our support.

About the Author

Bill East, Ed.D, is the executive director for the National Association of State Directors of Special Education (NASDSE), 1800 Diagonal Road, Suite 320, Alexandria, Virginia 22314. E-mail: east@nasdse.org
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