

Preparing Special Education Personnel for Rural Schools: Current Practices and Future Directions

Barbara L. Ludlow
West Virginia University

There has been dramatic growth in the number of special education programs to serve students with special needs in the nation's schools since the federal mandate for a free appropriate public education in 1975. Such growth created a parallel demand for qualified teachers and therapists to staff these programs. This demand resulted in the development of a vast personnel preparation infrastructure to support the training, licensure, and employment of practitioners in special education and related services. The last two decades have witnessed a huge investment of state and federal funds into the development of preservice programs at colleges and universities; elaborate policies and procedures for state licensing and professional certification; and recruitment, retention, and staff development practices in local school systems. Rural schools have experienced major problems related to every aspect of personnel preparation in special education: lack of preservice programs designed to prepare personnel for rural programs; an insufficient supply of adequately trained and appropriately qualified personnel to staff rural positions; and significant difficulties in recruiting, retaining, and retraining teachers and therapists in rural areas. Despite ongoing experimentation and innovation in the area of preservice programs, licensure and certification policies, recruitment and retention efforts, and staff development activities, rural schools will continue to face these challenges as the next century begins. This article discusses current trends and future directions in personnel preparation in special education as they affect rural schools.

Preparing special educators and related services specialists skilled in best practices for working with children and adolescents with special needs is one of the most pressing issues in education today. To insure that these students have well-trained teachers and therapists requires a personnel preparation infrastructure that includes three major components: preservice programs to teach personnel the competencies needed to work with students in school settings; state policies and procedures to license personnel for practice as well as certification requirements through which professional organizations exercise oversight of individuals and programs; and school system efforts related to recruitment, retention, and staff development to insure that all students are served by qualified personnel. This infrastructure is highly developed and functioning well in many respects, but it still faces a number of critical issues in insuring an adequate and appropriate supply of personnel to meet the demand for teachers and therapists in the nation's schools. Nowhere are these issues more urgent than in the preparation of personnel for schools in rural areas, which continue to experience difficulties in securing a sufficient number of trained and qualified special educators and related services specialists to work with students with special needs.

Correspondence concerning this article should be addressed to Barbara L. Ludlow, Special Education Programs, 608 E. Allen Hall, P.O. Box 6122, West Virginia University, Morgantown, WV 26506. (bludlow@wvu.edu)

Overview of Personnel Preparation Issues

Program Development

The last 2 decades have witnessed an incredible growth in the need for special education and related services personnel as well as in the programs to prepare them. The passage of the Education of All Handicapped Children Act (EHA) in 1975 mandated a free appropriate public education for all students and led to a rapid increase in the number of students with special needs identified and served, as well as the number of teachers and therapists required to serve them in elementary and secondary schools (McLaughlin, Smith-Davis, & Burke, 1986). The 1986 amendments to the Act required schools to extend services to preschoolers at ages three through five, stimulating further growth in the number of both students and personnel (Hurley, 1989). Additional provisions of the law, renamed the Individuals with Disabilities Education Act (IDEA) in 1990, encouraged placement of students in neighborhood schools and regular classroom settings, further increasing the number of programs in the schools as well as the number of personnel needed to staff them (Lauritzen & Friedman, 1993). The most recent reauthorization of IDEA in June 1997 not only has re-emphasized the move to more inclusive schools, but also has recognized the need to increase the number of special educators and therapists who are members of minority groups to match changing demo-

graphics in the school population (National Information Center for Children and Youth with Disabilities, 1997). These trends suggest that the demand for appropriately trained personnel to provide special education services will continue to remain high well into the 21st century.

This rapid expansion in the number and types of personnel needed for special education and related services was paralleled by a similar growth in the number and types of personnel preparation programs available to prepare them for and sustain them in their roles. Colleges and universities across the country rushed to establish or expand their offerings in teacher education and related service therapies, with the result that there are currently some 700 preservice programs in operation (Weintraub & McLane, 1995). Each state education agency was required by law to develop a Comprehensive System of Personnel Development (CSPD) to oversee the preservice and inservice training of teachers and therapists as well as to collect data on program enrollment, certification practices, and personnel employment (Bowen, Butler, Jones, Bresco, & Huang, 1991). These activities were supported by infusions of substantial federal funds for personnel preparation at both preservice and inservice levels (Rieth, 1990). Despite these extensive and intensive efforts to recruit, train, retain, and retool teachers and therapists, the special education personnel infrastructure continues to face many challenges.

Personnel Supply and Demand

Critical shortages of special educators and related services specialists have plagued the field since its inception and show no signs of abating. All states have reported shortages in most areas of special education, but especially in low incidence disabilities. Rural school systems have been hardest hit by these shortages; in some areas, there may even be no qualified special education personnel to serve students with special needs.

National personnel needs. Personnel preparation program development and expansion efforts have been unable to keep pace with the persistent demand for new teachers and therapists. All agencies that collect data on special education supply and demand report significant shortages (Association for School, College, and University Staffing [ASCUS], 1996; U.S. Department of Education [USDOE], 1996; U.S. Department of Health and Human Services [USDHHS], 1996). Initially, personnel shortages were attributed to the rapid growth of new school programs and staff positions during the expansion phase (Lauritzen, 1988; Smith-Davis & Raphael, 1988). The assumption was that a sufficient pool of qualified educators would be available when preservice training programs reached their full capacity. When the supply-demand imbalance persisted, however, the role of attrition in increasing the need for personnel was soon recognized (Billingsley, 1993; Lauritzen & Fried-

man, 1993). It is now well known that personnel may leave the field due to burnout from stressful working conditions as well as to personal reasons, such as having a baby or moving with a spouse's relocation. Beginning teachers are particularly likely to leave the field if they experienced difficulty adjusting to the demands (Minner & Lepich, 1993; Platt & Olson, 1990).

Educators also have begun to see that the number of personnel completing preservice programs is not adequate to meet the demands of the typical teaching or therapy position (Broyles & Morgan, 1992). Few prospective educators can be persuaded to choose special education as an area of specialization, and recruitment is especially problematic in areas such as emotional/behavior disorders and severe/multiple disabilities (Bowen & Klass, 1993). In addition, new teachers and therapists may fail to seek employment in their specialization area after training, or they accept only the most desirable positions in suburban schools, hospitals or clinics, or corporations (Brownell & Smith, 1993). The impact of complicated or conflicting state licensure policies has been cited as another factor contributing to the supply problem (Smith-Davis & Billingsley, 1993). Many special educators are licensed in one state but not eligible to teach if they move to another state. Recent data suggest that the shortages are not due as much to unfilled positions, as to positions filled by unlicensed personnel (Boe, Cook, Bobbitt, & Terhanian, 1998). These factors have led to a chronic imbalance between personnel supply and demand and a serious shortage of teachers and therapists in many areas of the country.

Rural personnel needs. The problems associated with personnel preparation may be at their worst in schools located in rural areas. Rural school systems have experienced the most severe and consistent difficulties in obtaining an adequate supply of new special educators and therapists to work in local schools (Helge, 1992a; Theobald, 1991). Because few colleges and universities prepare personnel specifically for the context of special education in rural schools, new staff may be unprepared for the job's demands (Keiper & Busselle, 1996; Reetz, 1988). New teachers and therapists who are unprepared for the unique constraints and opportunities of rural special education may experience "reality shock" that results initially in stress, and ultimately in burnout.

Administrators also report continued difficulty recruiting personnel for rural school positions (Lemke, 1994; Helge 1992b). New teachers may be reluctant to move to a rural area because of geographic isolation, socioeconomic conditions, or cultural differences. Rural schools experience greater problems with attrition of special education personnel as well (Westling & Whitten, 1996). Staff turnover in rural special education positions has been reported to be as high as 100% every 3 to 5 years (Helge & Marrs, 1982; Ludlow, 1985). Rural personnel leave their positions

more frequently as a result of seeking more attractive positions elsewhere. Inexperienced staff may want the social opportunities of larger towns and cities, while experienced staff may look for the financial incentives of a promotion to administrative or supervisory positions. All too often, rural students with special needs may be unserved (with little or no access to a trained special educator or related services specialist) or underserved (experiencing a succession of untrained teachers or aides) (Berkeley & Ludlow, 1991). These problems represent significant threats to the quality of educational programming provided to students with special needs in rural schools.

Preservice Program Models

The majority of programs designed to prepare personnel for special education and related services followed a traditional preservice model of full-time, 4-year study on campus, with licensure or certification combined with a baccalaureate degree. Educators soon realized, however, that this model could not provide a sufficient pool to supply the demand for new personnel. As a result, the last decade has seen a major effort to develop nontraditional preservice programs to address this shortcoming and to fashion innovative program content and delivery systems in order to better prepare special educators and related services specialists for the schools of the 21st century.

Traditional Preservice Programs in Special Education and Related Services

Although some preservice programs in special education and related services were in existence prior to 1975, many institutions of higher education only developed programs in response to the passage of EHA. The major growth was in the area of special education, where all state colleges and universities and many private institutions added new programs in one or more areas of specialization. Some growth was also seen in the capacity of programs that prepared related service therapists to keep pace with the increased demand. Leadership programs to prepare special education administrators, teacher educators, and researchers were developed to insure sufficient personnel to train and supervise the growing numbers of teachers and therapists. When IDEA requirements resulted in an increase in the use of paraeducators and paratherapists, some colleges and universities responded by creating preservice programs for paraprofessional personnel.

Special education programs. Nearly all state colleges and universities, and many private institutions of higher education, currently operate programs to train special education teachers. Programs that offer initial licensure in special education generally are at the undergraduate level and require 4 years of study for a bachelor's degree (Weintraub

& McLane, 1995). In areas where severe personnel shortages have forced schools to hire teachers on emergency permits or out-of-field authorizations, however, some preservice programs have been compelled for many years to offer a post-baccalaureate option to enable these teachers to obtain an additional endorsement or even an initial license in special education (Simpson, Whelan, & Zabel, 1993). State colleges located in rural areas, or land-grant universities with a mission to serve a rural state, have been especially likely to institute such programs. These programs are similar in content and structure to traditional programs, but may be offered at night, on weekends, or as summer institutes on campus (Berkeley & Ludlow, 1991). Some authors (Helge, 1983; Harriman, 1998) have argued that special educators and therapists preparing to work in rural areas needed specially designed preservice programs to address the conditions in rural schools, which present both opportunities (e.g., close collaboration with families, more integrated settings) and constraints (e.g., limited resources, itinerant service models). However, few traditional preservice programs to date have made any effort in this regard.

Related services programs. Programs to train personnel in areas such as speech therapy, physical therapy, occupational therapy, nursing, and school psychology are generally located in major universities with medical schools. Most of these programs offer initial licensure following an undergraduate program with a bachelor's degree, but some (e.g., speech therapy) may require an advanced degree or post-baccalaureate training for full professional certification (Weintraub & McLane, 1995). Because these training programs were designed originally to prepare personnel for hospital or other clinical settings, they often rely upon a medical model of diagnosis and isolated therapy in one-to-one or private settings (Longhurst, 1997). Some programs have begun to incorporate additional course work and practicum experiences designed to teach practitioners more functional skills for public school or early intervention settings (Brown & Rule, 1993; York, Rainforth, & Dunn, 1990). Nevertheless, there are no reports in the literature that these programs have made any efforts to address the specialized training needs of related services personnel who plan to work in rural schools.

Special education administrator programs. Little attention has been paid to the preparation of school administrators in special education. Only a handful of programs exist to prepare professionals for administrative and supervisory roles in working with special education and related services; are all graduate programs at major universities (Weintraub & McLane, 1995). Graduates of these programs are more likely to take positions in higher education or in large school systems, and they rarely find their way to rural areas. General education programs for administrators and supervisors generally include little or no content re-

lated to special education and related services. In fact, few states even require specialized training or licensure for these administrative and supervisory positions (National Association of State Directors of Teacher Education and Certification [NASDTEC], 1994). Consequently, school administrators and supervisors, including those in rural schools, many have little or no advanced training and may even have less knowledge than the teachers and therapists whose work they oversee.

Special education leadership programs. The need for more special educators and therapists presupposes a need for appropriately trained leadership personnel to prepare them. Leadership programs are located primarily at major research universities which offer a doctoral degree (Weintraub & McLane, 1995). Existing programs have not been able to produce a sufficient supply of new doctorates to fill available faculty positions in special education (Bos, Roberts, Rieth, & Derer, 1995). This shortage is predicted to worsen, due to program expansion to meet the demand for teachers and therapists, as well as because of anticipated retirements of current faculty members (Dil, Geiger, Hoover, & Sindelar, 1993). Graduates prepared to be researchers tend to seek out positions at major universities with fewer teaching responsibilities (Lowenbraun, 1990; Smith & Pierce, 1995). In addition, many graduates do not even consider faculty positions, preferring to take administrative jobs or return to teaching because of better pay and benefits (Pierce & Smith, 1994; Smith & Salzberg, 1994). As a result, many special education personnel preparation programs are not staffed by appropriately trained faculty members. Because faculty at rural colleges and universities in particular often have minimal training, assignments outside their areas of specialization, and no terminal degree, prospective rural special educators may receive inadequate preservice preparation.

Paraprofessional programs. Although paraprofessionals have long been recognized as key members of the service delivery team for students with special needs, only recently has any attention been paid to the preparation of paraeducators and paratherapists. As paraprofessionals assume new roles in planning and implementing programs and participating in team meetings, they need training to insure that they have appropriate knowledge and skill (Pickett, 1997). At the same time, professionals need training to utilize and monitor instructional and therapy aides well (Salzberg & Morgan, 1995). Because paraprofessionals have expertise critical to becoming teachers and therapists, some programs have offered opportunities for on-the-job training toward an undergraduate degree and professional licensure (French & Pickett, 1997; Haselkorn & Fideler, 1996).

Educational leaders have pointed to the need for a complete system of training, licensure, certification, and career advancement for paraprofessionals (Pickett, 1996). Instruc-

tional aides and therapy aides are already widely used in rural schools, where they help schools provide services despite shortages of teachers and therapists. They assist in the implementation of inclusion, bilingual education, community-based programming, and transition planning (Jones & Bender, 1993; Miramontes, 1990; Morehouse & Albright, 1991). These paraprofessionals often provide most of the special education and related services that rural students receive (Passaro, Pickett, Latham, & HongBo, 1994). Preservice and inservice personnel preparation programs are desperately needed to insure that paraprofessionals are able to provide high quality services to rural students with special needs.

Nontraditional Programs in Special Education and Related Services

The continuing demand for personnel has led to extensive experimentation by personnel preparation programs that train special educators and related services therapists. Not only have colleges and universities tried out innovative models of preparation, but state and local education agencies have collaborated in the design of new program content and delivery systems. These experimental programs have been directed at solving the unique problems related to personnel preparation in rural areas.

Alternative certification programs. Because of the number of teachers on emergency permits or out-of-field authorizations, alternative certification programs have been used for the last decade to prepare special educators on the job in areas experiencing shortages, especially in urban and rural schools. In a typical alternative certification program, new teachers receive an intensive summer orientation and training session, extensive mentoring and supervision during the first year of employment, and additional coursework as needed to meet state licensure requirements (Feistritzer & Chester, 1996). Alternative certification programs in special education have been operated by state, regional, or local educational agencies, as well as by colleges and universities; most often, however, they are collaborative efforts across several institutions (Buck, Polloway, & Robb, 1995).

Alternative certification programs that have been in operation for many years, such as those in Texas and California. They have been successful in recruiting new teachers to work in urban and rural schools and in training members of minority groups to serve students with special needs (Edelen-Smith & Sileo, 1996; Lombardi & Ludlow, 1996). Nevertheless, some educators have expressed doubts about the quality of special education personnel prepared by these alternative programs (Sindelar & Marks, 1993). It seems likely, however, that alternative certification programs will continue to exist in some form as the new century begins, at least in some urban and rural areas, where

they have proven to be successful in recruiting and training new teachers.

Innovative delivery systems. Innovations in delivery systems have been utilized to improve access to personnel preparation programs, especially in rural areas. Field-based programs, which have a long history in the preparation of rural special educators, typically involve faculty offering coursework at regional centers and supervising on-the-job practicum experiences in rural classrooms (Jensen, Mortoff, & Myers, 1992; Ludlow & Lombardi, 1992). More recently, distance education programs have become popular through applications of various telecommunications technologies, which further enhance program accessibility to prospective and practicing special educators in rural areas (Lombardi & Ludlow, 1996). Programs to train special education and related services personnel have employed prepackaged print, tape, and multimedia modules; telephone conferencing; satellite television broadcasts; interactive video teleconferences; Internet and Web-based self-study courses; and desktop computer conferencing (Hughes & Forest, 1997; Ludlow, 1995).

These innovations have not only increased the number of personnel trained even in the most remote rural areas, but they also have enticed new categories of individuals, such as minorities and career changers, into the personnel pool (Sebastian, 1995). Emerging technologies will increase the options for delivery of distance education programs to prepare special education personnel (Howard, Ault, Knowlton, & Swall, 1992). Technology-based distance education promises to be a major avenue in the preparation of special education and related services personnel for many years to come, and it can be expected to contribute significantly to solving the personnel shortage in rural schools.

Preservice Program Content

The content of preservice personnel preparation programs in special education has been based largely on current best practice in the field as well as existing requirements for state teaching licensure. Programs that were developed during the early days of special education were largely designed for specific disability categories as educators became aware of the need for special services to each group. Some programs have chosen to prepare personnel across categories by age level or degree of severity. More recently, the inclusive schooling movement has led to interest in collaborative programs between special education and general education as well as across professional disciplines that serve students with special needs.

Cross-categorical programs. The last decade has witnessed a substantial increase in the number of cross-categorical preparation programs. Some educators have argued that the needs of students with academic learning problems are similar, whatever their category, so that teachers can

best be trained through cross-categorical programs organized by age or severity (York & Reynolds, 1996). Educators generally disapprove of a generic model, preferring to keep separate categories such as vision and hearing impairments and severe/multiple disabilities (Cranston-Gingras & Mauser, 1992). Other educators have argued that the characteristics and methods are sufficiently unique to warrant specialized training by category (Heller, 1996). Some educators have proposed a two-tier system in which novice special educators would be trained in a cross-categorical model at the undergraduate level (primarily to facilitate inclusion), while specialists would be trained in each category at the graduate level to deal with more complex and challenging special needs (Bondurant-Utz, Gorbett, & Quinby, 1992).

Most states license special education personnel through a series of categorical endorsements. However, a few grant a generic endorsement (across all possible categories), while others endorse by category groupings, such as mild disabilities or educational handicaps (Lilly, 1992). School systems generally prefer to employ special educators who have been trained in a cross-categorical model, even when they serve students by category, because they can deploy staff more flexibly. Rural schools, in particular, may be best served by personnel with cross-categorical training because they rarely have a sufficient number of students in a given category to justify hiring several different specially trained personnel (Gold, Russell, & Williams, 1993).

The Council for Exceptional Children's Professional Standards and Practices Committee recently approved standards for a mult categorial program (Multicategorical framework approved, 1998). These developments indicate that today's categorical programs are likely to be transformed into tomorrow's cross-categorical programs, especially in institutions of higher education that serve primarily rural areas.

Collaborative programs. The movement to integrate students with special needs in regular schools and classrooms requires close collaboration between special and general educators to insure that such inclusion is successful. Preservice programs that have traditionally operated separate programs to prepare general and special educators have begun to recognize the need for common coursework and practicum experiences to insure that classroom teachers and specialists develop skills for successful teamwork (Reiff, Evans, & Cass, 1991; Sindelar, Pugach, Griffin, & Seidl, 1995; Winn & Blanton, 1997). Unified personnel preparation programs are seen as one critical component of the unified school systems that have become the focus of the current education reform movement (Pugach, 1992a). As a result, many colleges and universities have moved to develop collaborative preservice programs at the early childhood level (Correa et al., 1997; Stayton & Miller, 1993), at the elementary level (Smith et

al., 1995), and even at the secondary level (Norander, Case, Reagan, Campbell, & Strauch, 1997). A few of these programs have specifically addressed the challenges of preparing rural educators (Salzberg, Lignugaris/Kraft, Manson, 1997). Since collaborative preservice programs usually provide graduates with licensure in both general education and special education, they may be especially appropriate for the preparation of teachers for rural areas, where such dual licensure can help schools provide more effective services to students with special needs.

Cross-disciplinary programs. Effective collaboration across a variety of professional disciplines is now recognized as critical to insuring effective educational programming for all children, whether or not they have special needs. The America 2000 initiative has suggested the key role that schools will begin to play in meeting the many needs of children and families (Davila, 1991). The American Association of Colleges of Teacher Education has called for collaborative training across all disciplines that provide education and human services to children and families (Corrigan, 1996). Rural schools must become the focus of a community-based integrated services system that provides a broad array of social services to students with special needs (Berkeley & Bull, 1995; Lombardi & Ludlow, 1996). As the move toward "wrap-around services" gathers momentum in the next century, cross-disciplinary preparation programs will be needed to insure effective collaboration in special education and early intervention.

The focus on inclusive schooling also has created a need for both teachers and therapists to acquire new skills for consultation and cross-disciplinary expertise to insure that all students receive appropriate services in an integrated manner. This is nowhere more important than in the context of rural schools, where specialists are in short supply and frequently provide indirect, consultative services that must be carried out by classroom teachers (Squires, 1996). Educators have recognized that teachers and therapists need special skills to work effectively in an interdisciplinary program, especially when serving young children and their families (Brown & Rule, 1993; McCollum & Yates, 1994) and children with multiple special needs (Bruder, 1994; Lehr, 1996). Universities that have always trained both educators and therapists, but in different programs. Even schools have started to identify cross-disciplinary competencies and explore opportunities for cross-training activities, such as team teaching, seminars, or shared field experiences (Kilgo & Bruder, 1997; Widerstrom & Abelman, 1996).

Personnel trained to be more effective in consultation and integrated education and therapy will be better prepared to face the challenges of special education service delivery in rural schools (Davis, Thurman, & Mauro, 1995; Lombardi & Ludlow, 1996). The promising results of these initial efforts suggest that much work needs to be done to

eliminate barriers and create new structures that will facilitate the growth of such cross-disciplinary preparation programs in the future.

Policies and Procedures Related to Licensure/Certification and Program Approval/Accreditation

The policies and procedures through which professionals are licensed and certified, and programs are approved and accredited, are an essential component of the special education personnel preparation infrastructure. At present, state licensure and program approval have had the most impact on the field because they are compulsory processes. Professional certification and program accreditation, on the other hand, have yet to realize their potential because they remain voluntary options. Nevertheless, current trends in personnel licensure/certification as well as program approval/accreditation promise to bring significant changes to personnel preparation in special education.

Individual Qualification Mechanisms

Licensure and certification of professional personnel in special education and related services therapies are the two main mechanisms through which individuals are qualified as professionals in some field. While the policies and procedures for licensing and certifying related services specialists is fairly consistent across states due to the influence of national certification standards, no such consistency exists for special education personnel. The resulting confusion adds to the problems schools face in recruiting and retaining qualified special teachers and therapists, especially in rural areas.

State licensure. Under the United States Constitution, states retain authority over all aspects of the education of their citizens. Consequently, each state has established standards for licensing educational personnel, including teachers and therapists, to provide special education and related services in the schools (NASDTEC, 1994). Reciprocity agreements allow some states to recognize teaching licenses granted in other states through the auspices of professionally accredited personnel preparation programs (Roth, 1996). At present, the standards for licensure of special educators vary widely from state to state, with some states providing a generic license across all disability categories and others licensing personnel in specific areas or at specific grade levels (Lilly, 1992; Putnam & Vanselow Habanek, 1993). The lack of consistency across states is believed to contribute to the personnel supply-demand imbalance, because individual teachers previously licensed in one state often find themselves unable to work in another state without meeting additional requirements (Billingsley, 1993). This problem may be exacerbated in rural areas, where limited access to training programs may

prevent these teachers from meeting additional requirements in their new home state (Squires, 1996). The Interstate New Teacher Assessment and Support Consortium (INTASC), a group of policymakers and professionals sponsored by the Council of Chief State School Officers, has been working for several years to develop a unified set of licensure standards for all educational personnel, including special educators and related services specialists (Bradley, 1993; INTASC, 1992). The establishment of national licensure requirements has important implications for reducing the shortage of special education personnel as well as for insuring the quality of both professionals and personnel preparation programs.

Competency assessment. Public demands for accountability in the last decade led legislatures and state educational agencies to implement competency tests for teachers to insure that personnel preparation programs developed skills needed in the classroom. To date, most competency assessments have been limited to the use of standardized tests, either designed for a national population, such as those included in the National Teachers Examination (NTE), or developed for a specific state, such as the California Beginning Educator Skill Test (Darling-Hammond, Wise, & Klein, 1995). Educators, while recognizing the need for quality assurance in the preparation of teachers, have expressed concern about these tests because they fail to measure the most important aspects of teaching performance and may discriminate against minority group members (Anderson, 1991; Castenell & Soled, 1993; Nassif, 1992). Some educators have called for performance appraisal process, as well as review of a portfolio of teaching accomplishments prepared by the prospective or novice teacher (Darling-Hammond, Wise, & Klein, 1995). Recently, the NTE added such a performance component to its Praxis series (including the special education areas), although the tests are not yet in widespread use (Tom, 1997). However, the difficulty of implementing performance appraisal processes by means of efficient and effective procedures that provide a fair and accurate representation of teaching skills has hindered efforts to fully utilize them for competency assessment to qualify professionals for practice.

Professional certification. Certification has traditionally been a key component of recognized disciplines, such as medicine, law, and engineering, to confer verification of professional status by the organization charged with representing the discipline to the public. Professional certification can standardize requirements for practitioners in a discipline and allow individuals to achieve qualified status even when working or moving across state lines (Darling-Hammond, 1997). Certification available through the American Speech and Hearing Association in the area of speech/language therapy has improved the consistency of state licensing standards in this discipline (Cooper, 1993). For nearly a decade, educators have called for national cer-

tification in special education to serve as a set of guidelines for evaluating personnel preparation programs. This is a means for insuring the quality of special education personnel (Heller, 1996), a mechanism for standardizing state licensure policies (Lilly, 1992), and a way to ease the shortages of personnel in rural schools (Helge, 1992). The National Board for Professional Teaching Standards (NBPTS), established in 1987, issued a draft of national standards for educators (including special education categories), as well as an outline of a process that will include performance appraisal (NBPTS, 1992; 1996). More recently, the Council for Exceptional Children (1997) inaugurated the Professionally Recognized Special Educator program to provide teachers, administrators, and educational diagnosticians in special education with an opportunity to demonstrate that they meet national standards for practice in special education. The next several years will likely see a competition between different sets of professional standards that will likely determine the viability and direction of national certification in special education in the next century.

Program Qualification Mechanisms

Program approval and accreditation processes are the primary forces influencing the quality of today's personnel preparation programs in special education. State program approval is a requirement for any preservice program that trains and licenses special education personnel, while professional program accreditation is an option that some programs use to enhance their image and attract students. Efforts are underway, however, to unite the program approval and accreditation mechanisms to insure that special educators are trained through preservice programs that meet national standards.

State program approval. States also exercise authority over the personnel preparation programs that train teachers and other professionals within state borders through the program approval process. Most states have applied policies, procedures, and standards for designing and evaluating teacher education programs at colleges and universities for more than 20 years (Tom, 1996). Special education and related services program standards are based upon competencies that personnel will be expected to demonstrate in providing services to students with special needs in the schools (Lilly, 1992). The state program approval process varies greatly across states, with some states allowing a single course and related field experience, and others requiring extensive coursework and practicum experiences (Ludlow & Lombardi, 1992). In recent years, some state legislatures and agencies have limited the number of hours in the professional education component of teacher education programs, sometimes restricting programs to a mere 9 hours for a specialization in special education (Roth, 1996). These differences imply that, in some areas of the country,

it is a simple matter for a prospective special educator to obtain an initial license or additional endorsement, while in others, it may be a long and difficult process. Unfortunately, many rural states require some of the most elaborate requirements, which makes it quite difficult for teachers practicing in rural schools to complete programs in a timely manner (NASDTEC, 1994).

Professional program accreditation. Professional organizations have long operated program approval processes for training programs in disciplines such as psychology, social work, and education. The National Council for the Accreditation for Teacher Education (NCATE) has provided a rigorous program review and approval process for teacher education programs for 2 decades (Labaree, 1992). In 1983, NCATE affiliated with professional organizations to develop program standards in each of the content and specialization areas and to participate in program review and approval process (Gideonse, 1989). Since that time, the Council for Exceptional Children (CEC) has been responsible for developing and revising the standards for special education categories (CEC, 1987; 1996). Recently, a number of states have substituted the NCATE approval process for their own, requiring all state programs to attain NCATE approval to be considered a state-approved program (Roth, 1996). The NCATE review process has been successful in identifying weak programs and stimulating them to improve, but it has not been effective in encouraging program development and innovation (Edmundsen, 1993; Tom, 1997). Nevertheless, the professional program accreditation process has the potential to enhance the quality and consistency of preservice programs in special education and related services and insure that new personnel meet minimum standards for practice, which will benefit schools in rural as well as urban and suburban areas.

Recruitment, Retention, and Staff Development

Staffing the nation's schools with qualified special educators and therapists is another major issue for personnel preparation. Recruiting students into the field, employing newly trained personnel in available positions, promoting personnel retention in the face of high attrition rates, and maintaining and updating personnel skills through staff development activities represent significant challenges for many school systems. Rural schools in particular have experienced many difficulties related to recruitment, retention, and staff development for special education and related services personnel.

Supply-Demand Issues

Persistent personnel shortages have led educators to adopt practices that threaten the quality of school services for students with special needs. Many schools, most nota-

bly those in rural areas, have been forced to hire special educators on emergency licenses and out-of-field authorizations to fill new and vacant positions (Singer, 1992; Smith-Davis & Billingsley, 1993). These untrained teachers often do not have the skills to provide appropriate instruction and classroom management, and they quit at the end of the school year only to be replaced by other untrained teachers (Berkeley & Ludlow, 1991). Related services therapists also are in short supply, especially in rural areas (Merrell et al., 1994; USDHHS, 1996). Schools in desperate need of personnel may instead substitute para-professional educators and therapists to provide all direct services, with minimal supervision by qualified professionals (Lombardi & Ludlow, 1996). Many students with special needs thus receive educational services from a succession of untrained teachers and/or minimally trained instructional or therapy aides, a situation that is unlikely to protect their right to a free appropriate public education (Ludlow, Bloom, & Wienke, 1990; Morsink & Lenk, 1992). Because conditions in rural areas are not likely to change dramatically in the near future, it is likely that these supply demand imbalances will continue to challenge educators for many years to come. Consequently, special initiatives aimed at recruitment, retention and staff development will be necessary to insure a sufficient supply of well-prepared teachers and therapists to meet the future demand.

Recruitment Activities

State education agencies, institutions of higher education and local school systems are all concerned with recruitment of individuals into special education and related services. The fact that recruitment of special educators has become a major concern for the field has led to the development of special recruitment strategies as well as efforts to increase the pool of potential personnel by attracting nontraditional students and minority group members. Rural schools have experienced the most significant recruitment concerns and they have designed the most innovative recruitment strategies.

Recruitment concerns. Colleges and universities have not been successful in recruiting students into special education, despite the wide availability of such programs and financial support made possible through federal funding. The number of students entering and completing preservice programs in special education and related services has not been sufficient to meet the demand for personnel nationwide (Broyles & Morgan, 1992; Hales & Carlson, 1992). To be effective, recruitment at this level may need to incorporate efforts to approach high school students preparing for college as well as incentives to persuade students to switch majors during college (Lemke, 1995).

School systems also have been confronted by significant difficulties in recruiting newly trained special educa-

tion and related service personnel. Rural schools have experienced the most severe problems in recruiting personnel for many years (Boe, Cook, Kaufman, & Danielson, 1996; Hare, 1991). Preservice teacher education program graduates often do not seek employment in the field, and therapy program graduates prefer higher paying jobs in hospitals and clinics (Simpson, Thomas, & Jones, 1990).

Recruitment strategies. Special education leaders have undertaken a variety of efforts directed at enhancing recruitment. The Council for Exceptional Children, in collaboration with the National Association of State Directors of Special Education (NASDSE), operates the federally funded National Clearinghouse for the Professions in Special Education, to provide information about careers in special education and related services and to assist schools in recruitment efforts (NICHCY, 1997). The federal Office of Special Education Programs has funded numerous personnel preparation grants dedicated to assisting colleges and universities with recruiting and training special education and related services personnel, many of which were directed at addressing shortages in rural areas (Early & Schneider, 1996). Colleges and universities have used these funds to develop and operate a variety of innovative training programs, including alternative certification models, distance education delivery systems, and other activities designed to increase accessibility of training nontraditional students and those in remote rural areas (Ludlow & Lombardi, 1996).

At the local level, rural school administrators have developed a number of recruitment strategies to address shortages. Most recruitment activities can be categorized as attempts to reduce the disincentives and increase the attractions of a particular teaching position (Darling-Hammond & Sclan, 1996). Some rural schools have entered into cooperative agreements with other school systems to share the costs of advertising positions or participating in job fairs, to pool resources to hire personnel, or to offer premium pay (Lemke, 1994). Other rural schools offer scholarships or other financial incentives to elementary and secondary educators who are willing to acquire special education endorsements, especially when there is a surplus of general educators in the area (Billingsley & Cross, 1991a). A few rural schools provide assistance to paraprofessionals who pursue certification and degree programs to become qualified professionals (Epanchin & Wooley-Brown, 1992). Because special educators' career paths are characterized by a pattern of entry-exit-re-entry, former special educators may constitute an important source of trained personnel to fill new or vacant positions (Singer, 1993).

Nontraditional student recruitment. Educators have begun to realize that the traditional pool of students is not, and will never be, adequate to meet the persistent demand for personnel to serve students with special needs without expanding the pool to include nontraditional students (e.g.,

midlife career changers, homemakers returning to the workforce, or retiring professionals interested in community service). Rural schools may be more successful in recruiting and retaining new personnel from community members with an established commitment to the local area (Bornfield, Hall, Hall, & Hoover, 1997; Luft, 1993). The need to induce nontraditional students to enter preservice programs to insure a sufficient supply of appropriately trained and qualified personnel will require redesign of delivery systems to accommodate their unique learning needs (Ludlow & Lombardi, 1992). Such students, who often have family and job responsibilities, require better access to programs in their own communities, greater flexibility in meeting requirements, and special supports in coping with multiple demands (Roberts et al., 1994). Distance education programs that utilize a variety of telecommunications technologies will be best positioned to meet these needs effectively and efficiently without compromising program quality and to provide access to training in even the most remote rural areas (Ludlow, 1995).

Minority student recruitment. As the nation's demographics change to represent increasing cultural diversity, there is a growing need for special education personnel from minority groups to provide culturally sensitive service delivery to students with special needs. The discrepancy between professional culture and student culture is especially significant in special education, where minority groups continue to be overrepresented (Artiles & Trent, 1994). Demographic projections predict a substantial increase in culturally diverse students with special needs or at risk conditions in both urban and rural areas within the next 2 decades (Hobbs, 1994; Hodgkinson, 1991). The vast majority of practicing and prospective teachers are European-American women, both in general education (Darling-Hammond & Sclan, 1996) and in special education (Cook & Boe, 1995; Crutchfield, 1997). Preservice programs so far have been unsuccessful in recruiting minority group members into the teaching profession, and those who do complete programs often take better paying, higher prestige positions in other fields, where they are also in great demand (Cartledge, Gardner, & Tillman, 1995; Shaw, 1996). Consequently, there is a critical need to train more special educators who are members of minority groups (Simpson, Whelan, & Zabel, 1993). The 1997 Amendments to the Individuals with Disabilities Education Act requires federal and state education agencies to engage in special efforts to recruit minority group members into special education and related services therapies (NICHCY, 1997).

Retention Efforts

Retention of special educators and related services therapists in school positions is another pressing concern, and nowhere is it a more crucial issue than in rural schools.

Both preservice and inservice programs have engaged in activities directed at decreasing the likelihood that personnel will leave positions by improving training and support. Because rural schools have experienced more problems with retention, they have devoted more energy to unique retention strategies.

Retention concerns. The high attrition rate of special education personnel has created serious concerns related to retention. Special educators are more prone to both exit attrition (leaving the field of teaching entirely) and transfer attrition (moving to a different position) (Billingsley & Cross, 1991b; Brownell & Smith, 1993). They may leave positions for personal reasons, such as marriage, pregnancy, or job mobility, or they may leave for professional reasons, such as better pay and working conditions or increased status (Frank & McKenzie, 1993; Reetz, 1988).

Attrition of professional personnel due to job stress is common in special education and early intervention (Krahn, Thorn, Hale, & Williams, 1995; Sweeney & McCabe, 1992), and it is especially serious in areas such as severe/multiple disabilities (Weber & Toffler, 1989) and emotional and behavior disorders (Singh & Billingsley, 1996).

Many special educators transfer to regular education positions or less demanding special education positions (Boe, Bobbitt, & Cook, 1997). Attrition of special educators and therapists in rural schools is exceptionally high (Schnorr, 1995) and is believed likely to continue because of the constraints of rural areas (Cole & Leeper, 1995; Stephens, 1994). Additional factors that contribute to attrition of rural special educators include geographic remoteness, social and professional isolation, and limited career opportunities (Gold, Russell, & Williams, 1993). Such attrition contributes significantly to the chronic personnel shortage in rural areas. It also impairs the quality and continuity of services provided to rural students with special needs.

Retention strategies. Schools engage in retention efforts to decrease the likelihood that personnel will leave teaching positions. State education agencies as well as local school systems in rural areas have taken to inducing individuals who live in rural communities to enter teaching or therapy fields, because some research suggests that people with a commitment to the local community are more likely to stay there (Lemke, 1994; Brownell & Smith, 1992). In such "grow your own" strategies, recruits may be provided with paraprofessional or professional positions (depending on prior training and experience) in the schools while they obtain the needed training and licensure, or they may attend campus-based preservice programs with all expenses paid on the condition that they provide several years of service to the school district. Increasing use of telecommunications technologies for distance education personnel preparation programs enhances the ability of rural schools to recruit and retain community members to fill

special education positions (Sebastian, 1995). In addition, rural schools can work to assist newly employed personnel to become established in the community, thereby reducing feelings of isolation and strengthening ties to the area (Guernsey, 1990).

Schools also engage in retention efforts to ameliorate the conditions that influence personnel to leave teaching positions after they are hired. Although schools have little influence over educators' personal reasons for leaving, they can gain some control over their professional reasons by modifying working conditions. New special educators need help in adjusting to the cultural values and social mores of rural schools (Mallory & Berkeley, 1987). Induction programs for beginning teachers have used mentoring by master teachers to help new teachers adjust to the demands of the job and develop survival skills for success in the school setting (Cheney, Krajewski, & Combs, 1992; Lane & Canosa, 1995).

Effective support by building and central office administrators has been recognized as important in helping even veteran teachers cope with the demands of special education (Brownell & Smith, 1992; Littrell, Billingsley, & Cross, 1994). Burnout prevention efforts include appropriate preservice and inservice training designed to help staff cope with the stress of special education services (Cooley & Yovanoff, 1996; Greer & Greer, 1992). Career ladders that recognize the contributions and expertise of individuals through enhanced prestige and salary increments may also help to minimize the transfer of personnel to other positions in education or other jobs outside the field (Lemke, 1995; Schnorr, 1995). Effective retention efforts are a key component of reducing critical personnel shortages and providing appropriate special education services in rural areas.

Staff Development Activities

Staff development is an important component of inservice personnel preparation to insure that practicing teachers and therapists are able to keep up with current best practices. Staff development is largely the responsibility of state and local education agencies, although colleges and universities may offer coursework that can contribute to ongoing professional development. Traditionally, staff development activities have been sponsored by the local school system and tailored to meet the specific needs of system personnel. Such activities have been limited in scope and have often failed to address new initiatives. Consequently, many special educators and related services therapists educators continue to engage in practices that were current at the time they received their initial training, but may be seriously outdated in today's world.

Staff development concerns. Most rural school systems experience some difficulty in designing and delivering ef-

fective inservice training to special education and related services personnel due to limited resources and geographical distance (Berkeley & Ludlow, 1991). In rural areas, staff development may even have to focus on basic rather than advanced knowledge and skills in special education because of the high proportion of untrained teachers in practice (Helge, 1992b). Limited staff development opportunities may hinder teachers and therapists from providing high quality services to students with special needs in rural areas.

Staff development strategies. The need for alternatives to traditional staff development activities have been recognized by leaders in education in general as well as in various specializations within special education. Staff development must be both collaborative and comprehensive, encompassing activities from initiation into teaching through retirement (Gold, 1996; Muse & Thomas, 1992; Nachtigal, 1992; Showers, 1990; Sprinthall, Reiman, & Thies-Sprinthall, 1996). Staff development plans also must provide career ladders that offer incentives for undertaking professional growth and assuming more demanding responsibilities (Darling-Hammond, 1997). Traditional conference/workshop group formats, although widely used, are not consistent with best practice in adult education (Sexton et al., 1996) or with movement from current proficiency to desired competency (Gallagher, Malone, Cleghorne, & Helms, 1997). Effective staff development must acknowledge the need of professionals to participate in decisions about training goals and delivery mechanisms to insure learner-centered activities and promote personal growth (Miller & Stayton, 1997). Rural schools are most in need of effective staff development because they are more likely to hire untrained personnel and they may have few resources for inservice training (Boe, Cook, Kaufman, & Danielson, 1996).

State agencies (and in some cases, colleges and universities) have utilized federal IDEA funds available for personnel preparation to develop and disseminate inservice training activities related to new ideas and practices such as transition and inclusion. Beginning special educators have been socialized into the field by mentor teachers and helped to cope with the demands of teaching and therapy with appropriate induction programs (Cheney, Krajewski, & Combs, 1992; Lane & Canosa, 1995). Veteran special educators have been helped to refine and enhance their skills through individualized peer coaching and mentoring programs involving portfolio design and review (Gallacher, 1997; McCollum & Yates, 1994; Wischnowski, Yates, & McCollum, 1995). General and special educators have developed new skills for changing roles in collaborative programming and inclusive schools through staff development programs (Bradley & West, 1994; Villa, Thousand, Nevin, & Malgeri, 1996). In recognition of the "recycling" pattern of special educators' career paths, some educators have

recommended that schools provide teachers with opportunities for "planned breaks" that allow them opportunities for renewal prior to re-entry (Pugach, 1992b; Singer, 1993). Administrators need to provide supportive supervision of teachers and therapists to promote their professional development (Osborne, DiMatta, & Curran, 1993). Although most of these recommendations will prove difficult, if not impossible, to implement in rural areas, rural schools need to offer well-designed staff development activities to maintain and enhance the skills of their special education and related services personnel (Merrell et al., 1994).

Local, regional, and state educational agencies, as well as colleges and universities, have used a variety of technologies to provide inservice training to practicing teachers and therapists in rural areas (Ludlow, 1995). The Internet now permits educators to exchange information and connect with others through teletraining and telementoring (Kelker, Garthwait, & Seligman, 1992; Kendal, 1992). But many rural schools lack access to the most useful technologies, and others may find the costs prohibitive for local activities (Howard, Ault, Knowlton, & Swall, 1992). Although rural educators are aware of Internet opportunities, they make little use of them due to unfamiliarity with systems and unavailability of equipment (Nelson, Simonsen, & Michaelson, 1996). Today's telecommunications technologies offer opportunities for staff development activities to be offered nationwide, through the auspices of professional organizations or major universities. The ADDNET Network was the first university-sponsored effort to provide national inservice training via satellite broadcasts (Bender, McLaughlin, & Ehrhart, 1993). In fall 1997, the Council for Exceptional Children (CEC) became the first professional organization to initiate technology-based staff development activities with nationwide dissemination of a teleconference series on IDEA revisions, as well as a Web-based electronic study group for special educators (CEC, 1997). The success of current and future distance education efforts will allow even the most remote and resource-poor rural school to access high quality inservice training and technical assistance for its special education personnel (Ludlow, 1995).

Future Directions

Predictions for Change

Preservice personnel preparation programs in special education and related services will undergo significant changes in the years to come to accommodate the changing roles of teachers and therapists in tomorrow's schools. They will necessarily evolve to meet the needs of the changing demographics of the more culturally diverse student population predicted for the future. They also are likely to take advantage of the availability and capabilities of new

technologies to deliver preservice and inservice training via distance education programs that are more accessible in rural areas. But, perhaps, most important, they must be transformed by their effort to search for solutions to the pressing problems of personnel supply and demand which are at their most severe in urban and rural schools. If these changes do not occur, today's personnel preparation issues will confront special education well beyond the year 2000.

Personnel preparation policies, procedures, and programs will need to accommodate current trends and future directions in the delivery of special education and related services to students with special needs. As schools assume an ever-expanding role in the coordination of wrap-around services to meet the needs of all students, collaborative and cross-disciplinary training will become essential to prepare personnel to provide these services well. With a growing number of children and adolescents with special needs included in regular elementary and secondary classrooms, specialists will have a greater need for noncategorical or multicategorical training to address a wider range of individual abilities and needs. Insuring a sufficient supply of well-trained teachers and therapists to staff all the nations' schools will demand a comprehensive and well-articulated system of personnel development. Such a system promises to alter the conditions in which special education and related services are delivered in rural schools and thereby place new demands on the personnel infrastructure to insure that rural personnel are prepared for new roles and responsibilities.

Implications for Action

A careful examination of current issues and future tends suggests a number of implications for research, policy, and practice in preparing special education personnel and related services personnel for rural schools.

Implications for research. Researchers need to design studies that include

- quantitative and qualitative research into factors that influence the supply and demand of special educators and therapists that are specific to rural areas, including the reasons that professionals seek and accept jobs in a rural school as well as the conditions that influence their decision to leave their positions;
- applied research that investigates the extent to which field-based and distance education programs designed to prepare special education and related services personnel in rural areas have been successful in increasing the supply of personnel, reducing the numbers of untrained or

unlicensed teachers, and increasing the use of best practices in school programs; and

- program evaluation research that assesses the impact of recruitment, retention, and staff development activities implemented by rural schools on reducing personnel shortages and improving the quality of programs for students with special needs.

Implications for policy. Policymakers need to consider how best to effect

- collaborative efforts across professional organizations and licensure/accreditation agencies to establish consistent standards so that special educators and therapists share common knowledge and skills that will allow them to transfer across state boundaries;
- additional state and federal financial support for institutions of higher education to improve the accessibility of personnel preparation programs to prospective and practicing teachers and therapists in rural areas through technology-mediated distance education and a curriculum designed to address the needs of rural schools; and
- state-school-community partnerships developed to provide social supports and financial incentives to encourage individuals from rural areas to pursue personnel preparation opportunities so that they may later assume special education or related services positions in rural schools.

Practitioners need to develop and refine successful practices by

- monitoring personnel preparation processes and outcomes to insure that rural special education preservice and inservice programs are effective and cost-efficient;
- developing coordinated efforts across state and local education agencies, as well as institutions of higher education, to insure that special educators and therapists in even the most rural areas have access to high quality training in the most current best practices; and
- disseminating successful strategies for preservice and inservice training, as well as recruitment, retention, and staff development activities, through professional conferences and publica-

tions with a focus on rural education or rural special education.

The personnel preparation issues that have challenged the fields of special education and related services for the last 25 years will persist into the 21st century. Rural schools in particular will continue to experience problems in recruiting, training, retaining, and retraining special education and related services personnel. Nevertheless, many exciting trends have invigorated the preparation of special education and related services personnel, and most of these developments have important implications for rural schools. Today's promising practices may become tomorrow's business as usual for rural special education: collaboration across state agencies, institutions of higher education, and local schools in the design and delivery of preservice and inservice programs in rural schools; national standards to insure the quality of professional personnel as well as the preservice programs that prepare them; use of emerging technologies to enhance quality of and accessibility to preservice and inservice training for rural teachers and therapists; and, refocusing program content on reconceptualized roles and responsibilities for the provision of special education and related services as rural schools strive to meet the demands for educating all children in the 21st century.

References

- Anderson, J. (1991). Meeting the challenges of the bias review process. In National Evaluation Systems (Ed.), *Teacher certification testing: Recent perspectives* (pp. 47-59). Amherst, MA: Author.
- Artiles, A. J., & Trent, S. C. (1994). Overrepresentation of minority students in special education: A continuing debate. *Journal of Special Education*, 27(6), 410-437.
- Association for School, College, and University Staffing. (1996). *Teacher supply and demand in the United States: 1996 report*. Addison, IL: Author.
- Bender, W. N., McLaughlin, P. J., & Ehrhart, L. M. (1993). ADDNET network: A low-end technology success. *T.H.E. Journal*, 21(2), 96-100.
- Berkeley, T. R., & Bull, K. S. (1995). Voices in rural special education: Retrospectives, prospectives, and possibilities. *Rural Special Education Quarterly*, 14(2), 10-16.
- Berkeley, T. R., & Ludlow, B. L. (1991). Meeting the needs of special student populations in rural locales. In A. J. DeYoung (Ed.), *Rural education: Issues and practices* (pp. 239-268). New York: Garland Publishing.
- Billingsley, B. S. (1993). Teacher retention and attrition in special and general education: A critical review of the literature. *Journal of Special Education*, 27(3), 137-174.
- Billingsley, B. S., & Cross, L. H. (1991a). General education teachers' interest in special education teaching: Deterrents, incentives, and training needs. *Teacher Education and Special Education*, 14(3), 162-168.
- Billingsley, B. S., & Cross, L. H. (1991b). Teachers' decisions to transfer from special to general education. *Journal of Special Education*, 24(4), 496-511.
- Boe, E. E., Bobbitt, S. A., & Cook, L. H. (1997). Whither didst thou go? Retention, reassignment, migration, and attrition of special and general education teachers in national perspective. *Journal of Special Education*, 30(6), 371-389.
- Boe, E. E., Cook, L. H., Bobbitt, S. A., & Terhanian, G. (1998). The shortage of fully certified teachers in special and general education. *Teacher Education and Special Education*, 21(3), 1-21.
- Boe, E. E., Cook, L. H., Kaufman, M. J., & Danielson, L. (1996). Special and general education teachers in public schools: Sources of supply in national perspective. *Teacher Education and Special Education*, 19(1), 1-16.
- Bondurant-Utz, J. A., Gorbett, K. T., & Quinby, S. S. (1992). Do we have to choose categorical versus noncategorical? *Remedial and Special Education*, 14(3), 15-17.
- Bornfield, G., Hall, N., Hall, P., & Hoover, J. H. (1997). Leaving rural special education positions: It's a matter of roots. *Rural Special Education Quarterly*, 16(1), 30-37.
- Bos, C., Roberts, R., Rieth, H., & Derer, K. (1995). Doctoral programs in special education: Current status and trends. *Teacher Education and Special Education*, 18(3), 147-155.
- Bowen, M. L., Butler, K., Jones, P., Bresco, M., & Huang, A. (1991). Personnel preparation. In L. M. Bullock & R. L. Simpson (Eds.), *Monograph on critical issues in special education: Implications for personnel preparation* (pp. 71-82). Denton, TX: University of North Texas.
- Bowen, M. L., & Klass, P. H. (1993). Low-incidence special education teacher preparation: A supply and capacity pilot study. *Teacher Education and Special Education*, 16(4), 248-257.
- Bradley, A. (1993). Consortium drafts model standards for new teachers. *Education Week* (February 10), 1, 14.
- Bradley, D. F., & West, J. F. (1994). Staff training for the inclusion of students with disabilities: Visions from school-based educators. *Teacher Education and Special Education*, 17(2), 117-128.
- Brown, W., & Rule, S. (1993). Personnel and disciplines in early intervention. In W. Brown, S. K. Thurman, & L. F. Pearl (Eds.), *Family-centered early intervention with infants and toddlers: Innovative cross-disciplin-*

- ary approaches (pp. 245-268): Baltimore, MD: Brookes.
- Brownell, M. T., & Smith, S. W. (1992). Attrition/retention of special education teachers: Critique of current research and recommendations for retention efforts. *Teacher Education and Special Education, 15*(3), 229-248.
- Brownell, M. T., & Smith, S. W. (1993). Understanding special education attrition: A conceptual model and implications for teacher educators. *Teacher Education and Special Education, 16*(3), 270-282.
- Broyles, S., & Morgan, F. (1992). *National trends, education degrees conferred*. Washington, DC: National Center for Statistics, U. S. Department of Education.
- Bruder, M. (1994). Working with members of other disciplines: Collaboration for success. In M. Wolery & J. S. Wilbers (Eds.), *Including children with special needs in early childhood programs* (pp. 45-70). Washington, DC: National Association for the Education of Young Children.
- Buck, G. H., Polloway, E. A., & Robb, S. M. (1995). Alternative certification programs: A national survey. *Teacher Education and Special Education, 18*(1), 22-38.
- Cartledge, G., Gardner, R., & Tillman, L. (1995). African Americans in higher education special education: Issues in recruitment and retention. *Teacher Education and Special Education, 18*(3), 166-178.
- Castenell, L. A., & Soled, S. W. (1993). Standards, assessments, and valuing diversity. In M. E. Diez, L. A. Castenell, Jr., S. W. Soled, G. R. Galluzzo, D. E. Hinkle, F. B. Murray, L. Trentham, & R. C. Kunkel (Ed.), *Essays on emerging assessment issues* (pp. 43-48). Washington, DC: American Association of Colleges of Teacher Education.
- Cheney, C. O., Krajewski, J., & Combs, M. (1992). Understanding the first year teacher: Implications for induction programs. *Teacher Education and Special Education, 15*(1), 18-24.
- Cole, J. T., & Leeper, L. K. (1995). What a long, strange trip it's been. *Rural Special Education Quarterly, 14*(2), 53-56.
- Cook, L. H., & Boe, E. (1995). Who is teaching students with disabilities? *Teaching Exceptional Children, 28*(1), 70-72.
- Cooley, E., & Yovanoff, P. (1996). Supporting professionals-at-risk: Evaluating interventions to reduce burnout and improve retention of special educators. *Exceptional Children, 62*(4), 336-355.
- Cooper, E. (1993). The fractionation of our discipline. *ASHA, 35*(1), 51-54.
- Correa, V. I., Rapport, M. J. K., Hartle, L. C., Jones, H. A., Kemple, K. M., & Smith-Bonahue, T. (1997). The unified PROTEACH early childhood program at the University of Florida. In L. P. Blanton, C. C. Griffin, J. A. Winn, & M. C. Pugach (Eds.), *Teacher education in transition: Collaborative programs to prepare general and special educators* (pp. 84-105). Denver: Love.
- Corrigan, D. (1996). Teacher education and interprofessional collaboration: Creation of family-centered, community-based integrated service systems. In L. Kaplan, & R. A. Edelfelt (Eds.), *Teachers for the new millennium: Aligning teacher development, national goals, and high standards for all students* (pp. 142-171). Thousand Oaks, CA: Corwin Press.
- Council for Exceptional Children. (1987). *Standards and guidelines for curriculum excellence in personnel preparation programs*. Reston, VA: Author.
- Council for Exceptional Children. (1996). *What every special educator must know: The international standards for the preparation and certification of special education teachers* (2nd ed.). Reston, VA: Author.
- Council for Exceptional Children. (1997). *Professionally recognized special educator granted*. Reston, VA: Author.
- Cranston-Gingras, A., & Mauser, A. J. (1992). Categorical and noncategorical teacher certification in special education: How wide the gap? *Remedial and Special Education, 13*(1), 6-9.
- Crutchfield, M. (August, 1997). Who's teaching our children with disabilities? *NICHCY News Digest, 27*, 1-22.
- Darling-Hammond, L. (1997). What matters most: A competent teacher for every child. *Phi Delta Kappan, 78*(3), 193-200.
- Darling-Hammond, L., & Sclan, E. M. (1996). Who teaches and why: Dilemmas of building a profession for twenty-first century schools. In J. Sikula, T. J. Buttery, & E. Guyton (Eds.), *Handbook of research on teacher education* (2nd ed., pp. 67-101). New York: Macmillan.
- Darling-Hammond, L., Wise, A. E., & Klein, S. P. (1995). *A license to teach: Building a profession for 21st century schools*. Boulder, CO: Westview Press.
- Davila, R. R. (1991). America 2000: A challenge and opportunity for special educators. *Exceptional Children, 24*(1), 5.
- Davis, L., Thurman, S. K., & Mauro, L. (1995). Meeting the challenge of establishing interdisciplinary preservice preparation for infant personnel. *Infants and Young Children, 8*(2), 65-70.
- Dil, N. D., Geiger, W. L., Hoover, J. J., & Sindelar, P. T. (1993). Available faculty positions in higher education. *Teacher Education and Special Education, 16*(4), 230-239.
- Early, P. M., & Schneider, E. J. (1996). Federal policy and teacher education. In J. Sikula, T. J. Buttery, & E. Guyton (Eds.), *Handbook of research on teacher education* (2nd ed., pp. 306-319). New York: Macmillan.

- Edelen-Smith, P., & Sileo, T. W. (1996). The alternative basic certification program in special education: In search of quantity and quality in special education. *Teacher Education and Special Education, 19*(4), 313-330.
- Edmundsen, P. J. (1993). Renewal agendas and accreditation requirements: Contrasts and correspondence. *Journal of Teacher Education, 44*(3), 170-182.
- Epanchin, B. C., & Wooley-Brown, C. (1992). A university-school district collaborative project for preparing paraprofessionals to become special educators. *Teacher Education and Special Education, 16*(2), 110-123.
- Feistritzer, C. E., & Chester, D. T. (1996). *Alternative teacher certification: A state-by-state analysis 1993-94*. Washington, DC: National Center for Education Information.
- Frank, A. R., & McKenzie, R. (1993). The development of burnout among special educators. *Teacher Education and Special Education, 16*(2), 161-170.
- French, N. K., & Pickett, A. L. (1997). Paraprofessionals in special education: Issues for teacher educators. *Teacher Education and Special Education, 20*(1), 63-73.
- Gallacher, K. K. (1997). Supervision, mentoring, and coaching: Methods for supporting personnel development. In P. J. Winton, J. A. McCollum, & C. Catlett (Eds.), *Reforming personnel preparation in early intervention: Issues, models, and practical strategies* (pp. 191-214). Baltimore, MD: Brookes.
- Gallagher, P., Malone, D. M., Cleghorne, M., & Helms, K. A. (1997). Perceived inservice training needs for early intervention personnel. *Exceptional Children, 64*(1), 19-30.
- Gideonse, H. D. (1989). *Relating knowledge to teacher education: Responding to NCATE's knowledge-based related standards*. Washington, DC: American Association of Colleges of Teacher Education.
- Gold, V., Russell, S., & Williams, E. (1993). Special education in northwest Ohio: A case study of rural service delivery problems. *Rural Special Education Quarterly, 12*(3), 42-46.
- Gold, Y. (1996). Beginning teacher support: Attrition, mentoring, and induction. In J. Sikula, T. J. Buttery, & E. Guyton (Eds.), *Handbook of research on teacher education* (2nd ed., pp. 548-594). New York: Macmillan.
- Greer, J. G., & Greer, B. B. (1992). Stopping burnout before it starts: Prevention measures at the preservice level. *Teacher Education and Special Education, 15*(3), 168-174.
- Guernsey, M. A. (1990). Practical solutions for rural educators. *Rural Special Education Quarterly, 9*(1), 2-6.
- Hales, R. M., & Carlson, L. B. (1992). *Issues and trends in special education*. Lexington, KY: Human Development Institute, University of Kentucky.
- Hare, D. (1991). Identifying, recruiting, selecting, inducting and supervising rural teachers. In A. J. DeYoung (Ed.), *Rural education: Issues and practices* (pp. 149-176). New York: Garland Publishing.
- Harriman, N. (1998). Inclusive teaching in rural schools: Expanding on tradition. *Rural Special Education Quarterly, 17*(1), 21-27.
- Haselkorn, D., & Fideler, E. (1996). *Breaking the glass ceiling: Paraeducator pathways to teaching*. Belmont, MA: Recruiting New Teachers, Inc.
- Helge, D. (1983). Increasing preservice curriculum accountability for rural handicapped populations. *Teacher Education and Special Education, 2*(2), 137-142.
- Helge, D. (1992a). Solving special education reform problems in rural areas. *Preventing School Failure, 36*(4), 11-15.
- Helge, D. (1992b). Special education. In M. W. Galbraith (Ed.), *Education in the rural American community: A lifelong process* (pp. 107-136). Malabar, FL: Krieger Publishing.
- Helge, D. I., & Marrs, L. W. (1982). Personnel recruitment and retention in rural America: A growing problem. *The Pointer, 26*(2), 28-33.
- Heller, H. W. (1996). A rationale for departmentalization of special education. In W. Stainback & S. Stainback (Eds.), *Controversial issues confronting special education: Divergent perspectives* (2nd ed., pp. 253-263). Boston: Allyn & Bacon.
- Hobbs, D. (1994). Demographic trends in nonmetropolitan America. *Journal of Research in Rural Education, 10*, 149-160.
- Hodgkinson, H. (1991). Reform versus reality. *Phi Delta Kappan, 73*(1), 9-16.
- Howard, S. W., Ault, M. M., Knowlton, H. E., & Swall, R. A. (1992). Distance education: promises and cautions for special education. *Teacher Education and Special Education, 15*(4), 275-283.
- Hughes, M. M., & Forest, S. (1997). Distance education in early intervention personnel preparation. In P. J. Winton, J. A. McCollum, & C. Catlett (Eds.), *Reforming personnel preparation in early intervention: Issues, models, and practical strategies* (pp. 475-494). Baltimore, MD: Brookes.
- Hurley, O. L. (1989). Implications of PL 99-457 for preparation of preschool personnel. In J. J. Gallagher, P. L. Trohanis, & R. M. Clifford (Eds.), *Policy implementation and PL 99-457: Planning for young children with special needs* (pp. 133-145). Baltimore, MD: Brookes.

- Interstate New Teacher Assessment and Support Consortium. (1992). *Model standards for beginning teacher licensing and development: A resource for state dialogue*. Washington, DC: Council of Chief State School Officers.
- Jensen, M. C., Mortoff, S. A., & Myers, S. P. (1992). On-the-job training: Is it the answer to a special education personnel shortage? *Teacher Education Quarterly*, 19(2), 91-101.
- Jones, K. H., & Bender, W. N. (1993). Utilization of paraprofessionals in special education: A review of the literature. *Remedial and Special Education*, 14(1), 7-14.
- Keiper, R., & Busselle, K. (1996). The rural educator and stress. *Rural Educator*, 17(1), 18-21.
- Kelker, K., Garthwait, C., & Seligman, M. (1992). Rural special education options. *Human Services in the Rural Environment*, 15(3), 14-17.
- Kendal, R. M. (1992). Evaluating the benefits of a computer based telecommunications network: Telementoring and teletraining for educators in rural areas. *Journal of Research in Rural Education*, 8(1), 41-46.
- Kilgo, J. L., & Bruder, M. B. (1997). Creating new visions in institutions of higher education: Interdisciplinary approaches to personnel preparation in early intervention. In P. J. Winton, J. A. McCollum, & C. Catlett (Eds.), *Reforming personnel preparation in early intervention: Issues, models, and practical strategies* (pp. 81-102). Baltimore, MD: Brookes.
- Krahn, G., Thom, V., Hale, B., & Williams, K. (1995). Running on empty: A look at burnout in early intervention professionals. *Infants and Young Children*, 7(1), 1-11.
- Labaree, D. (1992). Power, knowledge, and the rationalization of teaching: A genealogy of the movement to professionalize teaching. *Harvard Educational Review*, 62(2), 123-154.
- Lane, G. M., & Canosa, R. (1995). A mentoring program for beginning and veteran teachers of students with severe disabilities. *Teacher Education and Special Education*, 18(4), 234-239.
- Lauritzen, P. (1988). Research on personnel supply and demand. *Counterpoint*, 9(1), p. 1.
- Lauritzen, P., & Friedman, S. J. (1993). Meeting the supply/demand requirement of the Individuals with Disabilities Education Act. *Teacher Education and Special Education*, 16(3), 221-229.
- Lehr, D. H. (1996). The challenge of educating students with special health care needs who challenge the system. In D. H. Lehr & F. Brown (Eds.), *People with disabilities who challenge the system* (pp. 59-78). Baltimore, MD: Brookes.
- Lemke, J. C. (1994). How to keep qualified teachers in rural and small towns: What administrators need to know. *Small Towns*, 25(1), 22-25.
- Lemke, J. C. (1995). Attracting and retaining special educators in rural and small schools: Issues and solutions. *Rural Special Education Quarterly*, 14(2), 25-30.
- Lilly, M. S. (1992). Research on teacher licensure and state approval of teacher education programs. *Teacher Education and Special Education*, 15(2) 148-160.
- Littrell, P., Billingsley, B., & Cross, L. (1994). The effects of principal support in special and general educators' stress, job satisfaction, school commitment, health, and intent to stay in teaching. *Remedial and Special Education*, 15(5), 297-310.
- Lombardi, T. P., & Ludlow, B. L. (1996). *Trends shaping the future of special education*. Bloomington, IN: Phi Delta Kappa Educational Foundation.
- Longhurst, T. M. (1997). Team roles in therapy services. In A. L. Pickett & K. Gerlach (Eds.), *Supervising paraeducators in school settings: A team approach* (pp. 55-90). Austin, TX: Pro-Ed.
- Lowenbraun, S. (1990). Leadership training for teacher education. In L. M. Bullock & R. L. Simpson (Eds.), *Monograph on critical issues in special education: Implications for personnel preparation* (pp. 104-114). Denton, TX: University of North Texas.
- Ludlow, B. L. (1985). Variables influencing special education teacher employment in rural areas. *Rural Special Education Quarterly*, 6(2), 24-26.
- Ludlow, B. L. (1995). Distance education applications in rural special education: Where we've been and where we're going. *Rural Special Education Quarterly*, 14(2), 47-52.
- Ludlow, B. L., Bloom, L. A., & Wienke, W. D. (1990). Rural school services for students with severe disabilities: Changes in personnel and programs. *Rural Special Education Quarterly*, 10(2), 16-20.
- Ludlow, B. L., & Lombardi, T. P. (1992). Special education in the year 2000: Current trends and future developments. *Education and Treatment of Children*, 15(2), 147-162.
- Luft, V. (1993). Teacher recruitment and retention practices in rural school districts. *Rural Educator*, 14(2), 20-24.
- Mallory, B. L., & Berkeley, T. R. (1987). The relationship between rural characteristics and the preparation of early childhood special educators. *Rural Special Education Quarterly*, 7(2), 1-5.
- McCollum, J. A., & Yates, T. J. (1994). Technical assistance for meeting early intervention personnel standards: Statewide processes based on peer review. *Topics in Early Childhood Special Education*, 14(3), 295-310.
- McLaughlin, M. J., Smith-Davis, J., & Burke, P. J. (1986). *Personnel to educate the handicapped in America: A status report*. College Park, MD: Institute for the Study of Exceptional Children and Youth.

- Merrell, K. W., Pratt, S., Forbush, D., Jentzsch, C., Nelson, S., Odell, C., & Smith, M. (1994). Special education, school psychology, and community mental health practice in rural settings: Common problems and overlapping solutions for training. *Rural Special Education Quarterly*, 13(4), 28-36.
- Miller, P. S., & Stayton, V. D. (1997). Personnel preparation in early intervention: Recommended preservice and inservice practices. In S. L. Odom & M. E. McLean (Eds.), *Early intervention/early childhood special education: Recommended practices* (pp. 329-358). Austin, TX: Pro-Ed.
- Minner, S., & Lepich, J. (1993). The occupational stress of first year urban and rural special educational teachers. *Rural Special Education Quarterly*, 12(3), 33-35.
- Miramontes, O. B. (1990). Organizing for effective paraprofessional services in special education: A multilingual/multiethnic instructional services team model. *Remedial and Special Education*, 12(1), 29-36.
- Morehouse, J. A., & Albright, L. (1991). Training trends and needs of paraprofessionals in transition services delivery agencies. *Teacher Education and Special Education*, 14(4), 248-256.
- Morsink, C. V., & Lenk, L. L. (1992). The delivery of special education programs and services. *Remedial and Special Education*, 13(6), 33-43.
- Multicategorical framework approved. (1998, June/July). *CEC Today*, 5(1), 1, 9.
- Muse, I., & Thomas, G. (1992). Elementary education. In M. W. Galbraith (Ed.), *Education in the rural American community* (pp. 47-52). Malabar, FL: Krieger.
- Nachtigal, P. (1992). Secondary education. In M. W. Galbraith (Ed.), *Education in the rural American community* (pp. 73-92). Malabar, FL: Krieger.
- Nassif, P. M. (1992). Aligning assessment and instruction. In National Evaluation Systems (Ed.), *Current topics in teacher certification testing* (pp. 101-110). Amherst, MA: Author.
- National Association of State Directors of Teacher Education and Certification. (1994). *Manual on certification and preparation of educational personnel in the United States* (2nd ed.). Dubuque, IA: Kendall/Hunt.
- National Board for Professional Teaching Standards. (1992). *What teachers should know and be able to do*. Detroit, MI: Author.
- National Board for Professional Teaching Standards. (1996). *Exceptional needs specialist draft standards for national board certification*. Detroit, MI: Author.
- National Information Center for Children and Youth with Disabilities. (September, 1997). The IDEA Amendments of 1997. *NICHCY News Digest*, 27, 1-23.
- Nelson, R., Simonsen, F., & Michaelson, K. (1996). Rural special education teachers' knowledge and use of telecomputer networks. *Rural Special Education Quarterly*, 15(4), 3-10.
- Norlander, K. A., Case, C. W., Reagan, T. G., Campbell, P., & Strauch, J. D. (1997). The power of integrated teacher preparation: The University of Connecticut. In L. P. Blanton, C. C. Griffin, J. A. Winn, & M. C. Pugach (Eds.), *Teacher education in transition: Collaborative programs to prepare general and special educators* (pp. 39-65). Denver, CO: Love.
- Osborne, A. G., Jr., DiMatta, P., & Curran, F. X. (1993). *Effective management of special education programs: A handbook for school administrators*. New York: Teachers College Press.
- Passaro, P., Pickett, A. L., Latham, G., & HongBo, W. (1994). The training and support needs of paraprofessionals in rural and special education settings. *Rural Special Education Quarterly*, 13(4), 3-9.
- Pickett, A. L. (1996). *A state of the art report on paraeducators in education & related services*. New York: National Resource Center for Paraprofessionals, City University of New York.
- Pickett, A. L. (1997). Paraeducators in school settings: Framing the issues. In A. L. Pickett & K. Gerlach (Eds.), *Supervising paraeducators in school settings: A team approach* (pp. 1-24). Austin, TX: Pro-Ed..
- Pierce, T. B., & Smith, D. D. (1994). Career choices of recent special education graduates holding doctoral degrees. *Teacher Education and Special Education*, 17(2), 129-136.
- Platt, J. M., & Olson, J. (1990). Why teachers are leaving special education: Implications for preservice and inservice educators. *Teacher Education and Special Education*, 13(3), 192-196.
- Pugach, M. C. (1992a). Unifying the preservice preparation of teachers. In W. Stainback & S. Stainback (Eds.), *Controversial issues confronting special education: Divergent perspectives* (pp. 255-269). Boston: Allyn & Bacon.
- Pugach, M. C. (1992b). Uncharted territory: Research on the socialization of special education teachers. *Teacher Education and Special Education*, 15(2), 133-147.
- Putnam, M. S., & Vanselow Habanek, D. (1993). A national survey of certification requirements for teachers of students with mild handicaps: States of confusion. *Teacher Education and Special Education*, 16(2), 155-160.
- Reiff, H. B., Evans, E. D., & Cass, M. (1991). Special education requirements for general education certification: A national survey of current practice. *Remedial and Special Education*, 12(5), 56-60.
- Reetz, L. J. (1988). Conflict and stress among rural special educators. *Rural Special Education Quarterly*, 8(3), 22-26.

- Rieth, H. J. (1990). The politics of higher education and personnel preparation. In A. P. Kaiser & C. M. McWhorter (Eds.), *Preparing personnel to work with persons with severe disabilities* (pp. 91-109). Baltimore, MD: Brookes.
- Roberts, H., Gonzales, J. C., Harris, O. D., Huff, D. J., Johns, A. M., Lou, R., & Scott, O. L. (Eds.). (1994). *Teaching from a multicultural perspective*. Thousand Oaks, CA: Sage Publications.
- Roth, R. A. (1996). Standards for certification, licensure, and accreditation. In J. Sikula, T. J. Buttery, & E. Guyton (Eds.), *Handbook of research on teacher education* (2nd ed., pp. 242-278). New York: Macmillan.
- Salzberg, C. L., Lignugaris/Kraft, B., & Manson, J. (1997). A voluntary approach to collaborative teacher preparation: A dual-major program at Utah State University. In L. P. Blanton, C. C. Griffin, J. A. Winn, & M. C. Pugach (Eds.), *Teacher education in transition: Collaborative programs to prepare general and special educators* (pp. 207-229). Denver, CO: Love.
- Salzberg, C. L., & Morgan, J. (1995). Preparing teachers to work with paraeducators. *Teacher Education and Special Education*, 18(1), 49-55.
- Schnorr, J. M. (1995). Teacher retention: A CSPD analysis and planning model. *Teacher Education and Special Education*, 18(1), 22-38.
- Sebastian, J. P. (1995). Using technology to prepare teachers: Future possibilities. In G. A. Slick (Ed.), *Emerging trends in teacher preparation: The future of field experience* (pp. 60-69). Thousand Oaks, CA: Corwin Press.
- Sexton, D., Snyder, P., Wolfe, B., Lobman, M., Stricklin, S., & Akers, P. (1996). Early intervention inservice training strategies: Perceptions and suggestions from the field. *Exceptional Children*, 62(6), 485-495.
- Shaw, C. C. (1996). The big picture: An inquiry into the motivations of African-American teacher education students to be or not to be teachers. *American Educational Research Journal*, 33(3), 327-354.
- Showers, B. (1990). Aiming for superior classroom instruction for all children: A comprehensive staff development model. *Remedial and Special Education*, 11(3), 35-39.
- Simpson, R. L., Thomas, M. A., & Jones, G. R. (1990). Recruitment and retention: Emerging trends in special education and implications for teaching personnel. In L. M. Bullock & R. L. Simpson (Eds.), *Critical issues in special education: Implications for personnel preparation* (pp. 58-71). Denton, TX: University of North Texas.
- Simpson, R. L., Whelan, R. J., & Zabel, R. H. (1993). Special education personnel preparation in the 21st century: Issues and strategies. *Remedial and Special Education*, 14(2), 7-22.
- Sindelar, P. T., & Marks, L. J. (1993). Alternative route training: Implications for elementary education and special education. *Teacher Education and Special Education*, 16(2), 146-154.
- Sindelar, P., Pugach, M., Griffin, C., & Seidl, B. (1995). Reforming teacher education: Challenging the philosophy and practice of educating regular and special educators. In J. L. Paul, H. Roselli, & D. Evans (Eds.), *Integrating school restructuring and special education reform* (pp. 140-166). Fort Worth, TX: Harcourt Brace.
- Singer, J. D. (1992). Are special educators' career paths special? Results from a 13 year longitudinal study. *Exceptional Children*, 59(4), 262-279.
- Singer, J. D. (1993). Once is not enough: Former special educators who return to teaching. *Exceptional Children*, 60(1), 58-71.
- Singh, K., & Billingsley, B. (1996). Intent to stay in teaching: Teachers of students with emotional disorders versus other special educators. *Remedial and Special Education*, 17(1), 37-47.
- Smith, D. D., & Pierce, T. P. (1995). The state of special education leadership training and college and university faculty: What we know and what we don't know. *Teacher Education and Special Education*, 18(3), 156-165.
- Smith, D. D., & Salzberg, C. L. (1994). The shortage of special education faculty: Toward a better understanding. *Teacher Education and Special Education*, 17(3), 52-61.
- Smith, L., Delp, W., Hamilton, W., Houck, L., Cierniecki, R., & Archer, F. (1995). Preparing and initiating a collaborative teacher education program. In J. L. Paul, H. Roselli, & D. Evans (Eds.), *Integrating school restructuring and special education reform* (pp. 284-300). Fort Worth, TX: Harcourt Brace.
- Smith-Davis, J., & Billingsley, B. S. (1993). The supply/demand puzzle. *Teacher Education and Special Education*, 16(3), 205-220.
- Smith-Davis, J., & Raphael, H. S. (1988). Personnel supply and demand in special education. *Counterpoint*, 12(1), p. 10.
- Sprinthall, N. A., Reiman, A. J., & Thies-Sprunghall, L. (1996). Teacher professional development. In J. Sikula, T. J. Buttery, & E. Guyton (Eds.), *Handbook of research on teacher education* (2nd ed., pp. 666-703). New York: Macmillan.
- Squires, J. (1996). Preparing personnel in rural areas. In D. Bricker & A. Widerstrom (Eds.), *Preparing personnel to work with infants and young children and their families: A team approach* (pp. 253-272). Baltimore, MD: Brookes.
- Stayton, V. D., & Miller, P. S. (1993). Combining general and special early childhood education standards in personnel preparation programs: Experiences from two

- states. *Topics in Early Childhood Special Education*, 13(3), 372-387.
- Stephens, E. R. (1994). Recent educational trends and their hypothesized impact on rural districts. *Journal of Research in Rural Education*, 10, 169-178.
- Sweeney, D. P., & McCabe, M. (1992). An analysis of stress related to teacher education in general, special, and bilingual education. *Teacher Education Quarterly*, 19(1), 57-77.
- Theobald, N. (1991). A persistent challenge: Staffing special education programs in rural schools. *Journal of Research in Rural Education*, 7(3), 39-50.
- Tom, A. R. (1996). External influences on teacher education programs: National accreditation and state certification. In K. Zeichner, S. Melnick, & M. L. Gomez (Eds.), *Currents of reform in preservice teacher education* (pp. 11-29). New York: Teachers College Press.
- Tom, A. R. (1997). *Redesigning teacher education*. Albany, NY: State University of New York Press.
- U.S. Department of Education. (1996). *Eighteenth annual report to Congress on the implementation of the Individuals with Disabilities Education Act*. Washington, DC: Author.
- U.S. Department of Health and Human Services. (1996). *Health personnel in the United States: Twelfth annual report to Congress*. Washington, DC: Author.
- Villa, R. A., Thousand, J. S., Nevin, A. I., & Malgeri, C. (1996). Instilling collaboration for inclusive schooling as a way of doing business in public schools. *Remedial and Special Education*, 17(3), 169-181.
- Weber, D. B., & Toffler, J. D. (1989). Burnout among teachers of students with moderate, severe, or profound mental retardation. *Teacher Education and Special Education*, 12(2), 117-125.
- Weintraub, F., & McLane, K. (Eds.). (1995). *Directory of programs for preparing individuals for careers in special education* (2nd ed.). Reston, VA: Council for Exceptional Children.
- Westling, D., & Whitten, T. (1996). Rural special education teachers' plans to continue or leave their teaching positions. *Exceptional Children*, 62(4), 319-355.
- Widerstrom, A., & Abelman, D. (1996). Team training issues. In D. Bricker & A. Widerstrom (Eds.), *Preparing personnel to work with infants and young children and their families: A team approach* (pp. 23-42). Baltimore, MD: Brookes.
- Winn, J., & Blanton, L. (1997). The call for collaboration in teacher education. In L. P. Blanton, C. C. Griffin, J. A. Winn, & M. C. Pugach (Eds.), *Teacher education in transition: Collaborative programs to prepare general and special educators* (pp. 1-17). Denver, CO: Love.
- Wischnowski, J. W., Yates, T. J., & McCollum, J. A. (1995). Expanding training options for early intervention personnel: Developing a statewide staff mentoring system. *Infants and Young Children*, 8(4), 49-58.
- York, J. L., Rainforth, B., & Dunn, W. (1990). Training needs of physical and occupational therapists who provide services to children and youth with severe disabilities. In A. P. Kaiser & C. M. McWhorter (Eds.), *Preparing personnel to work with persons with severe disabilities* (pp. 153-179). Baltimore, MD: Brookes.
- York, J. L., & Reynolds, M. C. (1996). Special education and inclusion. In J. Sikula, T. J. Buttery, & E. Guyton (Eds.), *Handbook of research on teacher education* (2nd ed., pp. 820-836). New York: Macmillan.