Teacher Education and Special Education
2004, Volume 27, No. 3, 000–000

Addressing Personnel Needs for Rural Areas

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Abstract: *A chronic shortage of early interventionists and special educators exists in rural areas. The authors argue that special rural knowledge and skills may be required for early interventionists and special educators to be satisfied and productive in rural areas. Both recruitment and retention of rural special educators can be challenging, leading in many states to gaps in services for infants, toddlers, children, and youth with disabilities who live with their families in rural or remote areas. This article began with a review of the literature on personnel preparation for rural services. It summarizes data from 96 recent rural personnel preparation projects funded by U.S. Department of Education (USDE), Office of Special Education Programs (OSEP) and shares the results of an e-mail survey of the directors of recent OSEP rural projects that have concluded. Based on this triad of sources, the authors discuss (a) rural knowledge and skills to be incorporated into personnel preparation programs, (b) effective recruitment strategies for rural professionals, (c) methods of delivering training to personnel in rural areas, and (d) outcomes of the OSEP rural projects. The authors offer recommendations to university personnel and policy makers to increase stability and reduce the longstanding shortages of qualified personnel for rural services.*

More than one fifth of the American population, and most of the land, are rural (U.S. Census Bureau, 2000). Definitions of *rural* are inconsistent. Small town size, lack of population density, remoteness from urban services, or some combination of these factors is variously cited as the critical factor in *rural* (Tickamyer, 1996; Weiss & Correa, 1996). Whatever definition one chooses for *rural,* it is likely to imply isolation from disciplinary information, specialized resources, and professional peers (Magrab, 1992). By any definition, many professionals are needed to serve the children with disabilities and their families who live in sparsely populated areas. Notably, there exists a chronic shortage of early interventionists and special educators (Office of Special Education Programs [OSEP], 1998), and these shortages are especially acute in rural areas (Ryan, 1999).

Particular characteristics often exemplify rural early intervention/special education services: (a) a more relaxed pace of working, (b) supportive relationships among staff and between professionals and family members, (c) considerable distance between service sites as well as distance from major resource centers, (d) more generalists among special educators, (e) geographic barriers that may hinder travel, (f) low base rates of disability, (g) distance from medical specialists, (h) personnel shortages, and (i) local cultural values related to disability (Forest, 1995; Squires, 1996). These characteristics suggest that certain topics may be especially useful for discussion in higher education programs preparing individuals to work in early intervention or spe-

Portions of this work were conducted with support from the U.S. Department of Education, Office of Special Education, grant # H325A010069. Observations herein do not necessarily reflect the views of that agency. For additional information, contact the first author % Human Development and Family Sciences, Oregon State University, Milam Hall 14, Corvallis, OR 97331; 541-737-8529; or sharon.rosenkoetter@oregonstate.edu.

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cial education positions in rural areas. For example, Forest (1995) has proposed a list of rural competencies for assessment, instruction, family support, information gathering, program planning, service delivery, program evaluation, and professional development. Forest suggested that university students guided to develop these competencies may be both more successful and more content in areas with low population and limited services. Dempsey (1990) and Magrab (1992) underscored the special importance of personal initiative, broad knowledge, and generalizable skills for rural personnel because rural educators must regularly use their own creativity when urban professionals might call upon a specialist colleague for assistance. The authors of the present study were interested in learning more about the infusion of so-called rural topics in personnel preparation programs that send graduates to rural areas.

Recruitment and retention of special education personnel are often issues for rural services (Fishbaugh, Christensen, & Budge, 1999; Theobald, 1991; Westling & Whitten, 1996). Recruitment and retention are especially challenging if "new hires" have grown up in urban areas. They must be "sold" on the virtues of rural living and must develop roots in rural cultures in order to be content living apart from a city (Bornfield, Hall, Hall, & Hoover, 1997; Yellin, Bull, & Warner, 1988). When rural caseloads and classrooms are unstaffed, personnel native to the rural area may be pressed into early intervention or special education service while holding emergency licensure and inadequate training. Currently 13% of the nation's special educators are not fully licensed (Westat, 2002). Thus some rural areas experience crises of both quantity—too few teachers and related services personnel—and quality—insufficiently prepared professionals—as they seek to meet the individual needs of infants, toddlers, children, and youth with disabilities and their families. The mandate of the *No Child Left Behind Act of 2001,* which requires fully prepared teachers for every subject, is likely to exacerbate the concern of rural administrators about staffing issues in early intervention and special education (Dillon, 2003). University faculty who work closely with the rural administrators and their districts share in the ongoing concern regarding personnel shortages (*Growing partnerships for rural special education,* 2001). Gaps in services can arise in rural areas when specific types of professionals are unavailable (Helge, 1991). For example, a recent review of postings on Oregon's Recruitment and Retention in Special Education website indicated a severe shortage of speech-language pathologists to serve in rural parts of the state. In another year or another place, the critical shortage might focus on early interventionists, transition coordinators, motor therapists, or teachers to serve youth with low incidence disabilities. Because the total number of employees in a rural program is usually small, the loss of even one can markedly affect the intensity and quality of services to be provided to the relevant population.

Few universities are located in rural or remote areas, but with stimulus from new technologies and Federal funds, higher education is, nevertheless, developing innovative approaches to address rural needs for additional special education personnel. Workable strategies have been devised and shared at conferences and in journals to encourage replication by universities across the nation (see Table 1). In the past, to meet the need for rural personnel, OSEP sponsored grant competitions to provide training stipends for rural preservice personnel. 1992 was the last year during which such a special competition occurred (Bob Gilmore, personal communication, October, 2002). More recently, some individual OSEP grant proposals have targeted the preservice preparation of professionals especially trained to work in rural areas. These have been submitted to general personnel preparation competitions, such as High-Incidence Disabilities, Low-Incidence Disabilities, Leadership Development, Special Projects, or Minority Institutions.

What is the current direction of early intervention/special education personnel preparation for rural services? To the best of our knowledge, there has been no synthesis of aims, strategies, or outcomes of recent efforts to target rural issues. While funded projects file continuation and final reports, these data are not easily accessed in a timely manner by the public or even by Federal workers. Pro-

jects have been asked to file their final reports with the ERIC system, but follow through on this request occurred erratically (Judi DeCarme, personal communication, October, 2002). The authors believe that a synthesis of the findings of published articles with grant sponsored activities and outcomes can be helpful in at least two ways. First, the dissemination of rural personnel preparation strategies can assist higher educators, including both those with OSEP grants and the more numerous professors without Federal funding to support student stipends. By implementing strategies from projects labeled "innovative" by the U. S. Department of Education, university faculties may improve their own practices and place more "rural wise" early interventionists and special educators in rural areas in sufficient numbers to meet current and future needs. Second, a better understanding of how OSEP funds for preparing rural personnel have recently been spent and with what outcomes might assist in the creation of new policy and funding streams to support *rural* as an area of need.

The persistent problems of personnel recruitment and retention in rural areas call out for solution. Some suggest that targeted training strategies or particular recruitment methods may be beneficial in developing and maintaining a professional corps that is loyal to specific rural areas, optimistic about their future, and skillful in overcoming the challenges of rural services. Greater knowledge about potential training and recruitment strategies may help a partnership of higher educators and rural administrators build and maintain a highly qualified workforce that is dedicated to quality services in their own rural area (Westat, 2002). Accordingly, we set out to begin to answer the following questions: (a) Which particular recruitment strategies have been used by universities to attract students committed to working in rural areas? (b) Which particular "rural topics" have been identified for inclusion in university training programs? (c) Which methods of delivering training have been employed to attract potential students in rural or remote areas? (d) What have been the outcomes in terms of student graduates of OSEP-funded rural personnel preparation projects? (e) What recommendations for university personnel and policy makers emerge from answers to the first four questions?

Method

Three strategies were employed to define present knowledge and suggest future directions: (a) literature review, (b) analysis of project abstracts after OSEP's rural projects, and (c) follow-up email interviews with directors of completed OSEP projects.

Procedures

Literature Review

The authors searched ERIC, PSYCHINFO, EBSCO, Article First, FirstSearch, and Worldcat to locate all possible articles and chapters from the past 15 years related to personnel preparation to serve infants, toddlers, children, and youth with disabilities and their families in rural areas. Articles relevant to answering our questions numbered 57. These articles and their general categories are listed in Table 1. An annotated bibliography of the rural personnel preparation articles may be accessed at *http://www.hhs.oregonstate.edu/research-publications/index.html.*

Review of Project Abstracts

Each year for five years (1997–2001), the USDE's OSEP Research to Practice Division published a book containing abstracts of all the personnel preparation projects funded during that year with monies from the Individuals with Disabilities Education Act, Part D. The investigators read and reread each of the 2,219 abstracts in the five books, extracting those that mentioned a rural emphasis or particular rural components. A list of these projects, which numbered 96 for the five year period, may be accessed at *http://www.hhs.oregonstate.edu/research-publications/index.html.* All of the projects were multiyear, (i.e., funded across three, four, or five years), often with no-cost extensions of support to complete students' training. For the present study, when a project was listed in multiple years, we used the abstract for the project's final year of funding for the abstract analysis. Several institutions received multiple, sequential grants for funding. Fewer

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TABLE 1. Reports Related to Personnel Preparation for Early Intervention/Special Education Service in Rural Areas (Note: Annotations for each article as well as a listing of the OSEP-funded projects included in this study may be found at *http://www.hhs.oregonstate.edu/research-publications/index.html.*)

Topic	Citation	Type of Study
Demography; rewards & benefits of rural service	Artesani, & Brown, 1998	Case study (Maine)
	Berkeley, & Bull, 1995	Philosophical exploration
	Bina, 1987	Survey (Texas)
	Boe, Cook., Bobbitt., & Terhanian, 1998	Analysis of national probability sample
	Bornfield, Hall, Hall, & Hoover, 1997	Comparison research (North Dakota)
	Christie, 2001	Review of recent rural state reports (national)
	Cook, & Boe, 1995	Summarization
	Foster, F., & Harvey, 1996	Survey (British Columbia & Saskatchewan)
	Garnes, Menlove, & Adams. (2002).	Survey (Utah)
	Helge, 1991	Literature review
	Johnson, Elrod, Davis, Debbie, & Smith, 2000	Comparison study (Mississippi)
	Magrab, 1992	Topical review; policy recommendations
	Martin, Williams, & Hess, 2001	National survey
	Office of Special Education Programs, U.S. Department of Education (1998).	Summary of data (national)
	Ryan-Vincek, 1995	Interview research (Alaska)
	Theobald, 1991	Literature review; interview data (Washington)
	Tickamyer, 1996	Synthesis of rural demography to guide rural early intervention
	Weiss, & Correa, 1996	DELPHI survey (Florida)
	Westat, 2002	Stratified national study of 8000+ special education professionals and paraprofessionals
	Westling, & Whitten, 1996	Survey; predictive modeling (Florida)
	Yellin, Bull, & Warner, 1988	Survey research (Oklahoma)
Rural Competencies	Dempsey, 1990	Literature review
	Forest, 1995	Program report (Montana)
Diverse populations	Delany-Barmann, Prater, & Minner, 1997	Interview research (Arizona)
	Jacobs, Wounded Head, Forest, Struck, Pituch, & Jacobs, 2001	Program description (South Dakota)
	Powers, 1997	Program description (Alabama)
	Prater, Miller, & Minner, 1996	Program description (Arizona)
	Savelsbergh, 1994	Editorial (California)
	Sealander, Eigenberger, Peterson, Shellady, & Prater, 2001	Program description (Arizona)
Personnel preparation for rural service	Collins, & Schuster, 2001	Historical sketch
	Ludlow, 1998	Historical sketch; discussion of current issues
	Passaro, Pickett, Latham, HongBo, 1994	Survey research (North Dakota, South Dakota, Wyoming)
	Squires, 1996	Literature review
Personnel preparation models & pedagogy	Beattie, Spooner, Jordan, Algozzine, & Spooner, 2002	Comparison research
	Butera, 1998	Program description (West Virginia)
	Cegelka, & Alvarado, 2000	Program description (California)
	Cegelka, Fitch, & Alvarado, 2001	Program description (California)
	Carr, 2000	Course description (California)
	Cates, & Smiley, 2000	Editorial on cross-categorical preparation; case study (national)
	Cheney, Cummings, & Royce, 1990	Program description (Nevada)

TABLE 1. *Continued.*

Topic	Citation	Type of Study
	Churchill, Jensen, & Cepello, 2001	Program description (California)
	Collins, Schuster, Ludlow, & Duff, 2002	Literature review; program description (Kentucky)
	Collins, Schuster, & Grisham-Brown, 1999	Program description (Kentucky)
	Fishbaugh, Christensen, & Burdge, 1999	Program report (Montana)
	Grisham-Brown, & Collins, 2002	Program description; followup data (Kentucky)
	Grisham-Brown, Hemmeter, Laumann, & Ostrosky, 2000	Program description (Kentucky)
	Grisham-Brown, Knoll, Collins, & Baird, 1998	Program report (Kentucky)
	Jordan, Spooner, Calhoun, Beattie, Algozzine, & Galloway, 1999	Program description (North Carolina)
	Kiefer-O'Donnell, & Spooner, 2002	Editorial
	Knapczyk, Rodes, Chung, & Chapman, 1999	Program description (Indiana)
	Knapczyk, Chapman, Rodes, & Chung, 2001	Program description (Indiana)
	Longhurst, & Sorenson, 1995	Program description (Idaho)
	Ludlow, & Brannan, 1999	Literature review; forecast
	Roth, 2000	Description of instructional method
	Ryan, 1999	Program description (Alaska)
	Spooner, Spooner, Algozzine, & Jordan, 1998	Topical analysis
	Squires, 1996	Literature review
	Whitworth, 2000	Program report (Texas)

than 10 of the projects had been funded in a special competition designated *rural.* The abstracts for the 96 rural personnel preparation projects were examined to discern the project characteristics listed in Table 2. Data were tallied and summarized.

Interviews with Directors of the Completed OSEP Projects

Outcome data are desirable for the nation's investment in rural personnel development.

TABLE 2. Project Characteristics (gleaned from 96 program abstracts)

Characteristics of the grantees
States to which grants were awarded
Institutions of higher education that received grants
Collaborations listed
Characteristics of the infants, toddlers, children, or youth with disabilities and their families to be served by the projects' graduates
Ages
Disability categories
Minority/Bilingual status
Pedagogical strategies related to rural focus of the universities' training programs
Special rural competencies identified
Delivery of professional education
Pedagogical practices targeted at rural services
Personnel slated to be prepared
Number
Area of expertise
Level (licensure or advanced degree)
Special characteristics (ethnic group or current occupational status)

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TABLE 3. Questionnaire Used to Guide E-mail Interview (N = 42)

How long did your project function?
Which elements of your project focus were specifically rural in nature?
Recruitment of personnel ___
Retention of rural personnel ___
Delivery of courses ___
Content in courses ___
Practicum ___
Placement of graduates ___
Other ___ Comments:
Did this project define or address specific competencies for personnel serving in rural areas?
Please list below (or if lengthy, please attach a copy):
If distance delivery of preparation was employed, which media were used (video conferencing, videos, web-based coursework, teleconference)?
Were any permanent products developed? Please describe:
How many students were recruited for the project?
0–15 ___ 16–30 ___ 31–45 ___ 46–60 ___ 61–85 ___ over 100 ___
How many students reached licensure during the length of the project?
0–15 ___ 16–30 ___ 31–45 ___ 46–60 ___ 61–85 ___ over 100 ___
How many were still en route at the project's project end? ___
How many took jobs or were placed in rural areas?
0–15 ___ 16–30 ___ 31–45 ___ 46–60 ___ 61–85 ___ over 100 ___
Please share follow up data on how many project participants are still employed in rural areas.

Actual outcomes of the personnel development activities could not, however, be ascertained from the project abstracts or obtained from ERIC or OSEP personnel. The new OSEP-required reports of individual student progress for stipend recipients, initiated in 2001, will eventually provide year-by-year data for a project, though not summaries for a project's completion rate over the course of a grant (personal communication, Helen Thornton, July 2002). Accordingly, we decided to interview the OSEP project directors. Determining the participant pool was the first issue. Of the 96 total rural projects, 19 projects were ongoing after 2001, and 77 concluded 1997–2001. Only completed projects received follow-up interviews and analysis because findings from ongoing projects in various stages of implementation could not be meaningfully synthesized with the 77 completed projects. The investigators then obtained permission from the University's Institutional Review Board to query directors of the 77 completed projects by e-mail, using the protocol in Table 3 to seek greater information about rural components and products of the projects' efforts. E-mail addresses and/or telephone numbers were located for all of the 77 completed projects. More than one third of the project directors had moved or were otherwise unavailable despite repeated efforts to contact them over a three-month period. This situation is instructive for other researchers attempting to conduct outcome research on OSEP personnel preparation projects. Reached via e-mail were 48 projects. Six refused to share their data, yielding 42 respondents who provided information. In some cases the project director was not available, but a designee reported the relevant data. In the end, 53% of the 77 completed rural projects responded with information to the e-mail questionnaire. To support their survey comments, project directors sent curriculum materials, articles, and reports for discussion in this synthesis.

Data Analysis

Themes and strategies were drawn from the articles in the literature review. Data gleaned from the abstracts and survey were tallied by variable. Responses to open-ended questions were listed, individually categorized by the first two investigators, and then discussed until consensus was reached about their synthesis. The authors sought to find agreement among at least two of the triad of sources (i.e., literature review, project abstracts, and e-mail questionnaire). Documentation sent by the project directors was additionally used to interpret findings.

TABLE 4. States that Completed Rural OSEP Grants 1997–2001 or Have Such Grants Ongoing (drawn from 96 project abstracts)

Number of OSEP Rural Grant Projects that Mentioned Serving this State, 1997–2001	States
Listed in 7–10 grants	Arizona, California, North Carolina
Listed in 4–6 grants	Alabama, Alaska, Colorado, Idaho, Georgia, Kansas, Kentucky, New Mexico, Oregon, Pennsylvania, Texas, West Virginia
Listed in 2–3 grants	Iowa, Florida, Maine, Michigan, Missouri, Montana, Nebraska, New York, Ohio, Utah, Vermont, Washington, Wyoming
Listed in 1 grant	Hawaii, Illinois, Indiana, Louisiana, Maryland, Minnesota, Mississippi, New Hampshire, Oklahoma, South Carolina, Tennessee
Listed in 0 grants	Arkansas, Connecticut, Delaware, Massachusetts, Nevada, New Jersey, North Dakota, Rhode Island, South Dakota, Virginia, Wisconsin

Results

Relevant research and model descriptions from the literature review are summarized in Table 1, with annotations at *http://www.hhs.oregonstate.edu/research-publications/index.html*, and interspersed in other sections of this report. Findings from the review of project abstracts and interviews with project directors are summarized below.

Characteristics of the OSEP Grants Awarded to Rural Grantees

Table 4 lists states where OSEP grants provided preparation for personnel for rural early intervention/special education services during 1997–2001. During those years, 90 of the rural grants went to universities, 2 went to professional schools, 2 were awarded to a consortium of private colleges, 1 went to a community college, and 1 went to a family center. As encouraged by some of OSEP's requests for proposals, many projects listed collaborations with state and local partners. Twenty employed collaborations among two or more institutions of higher education to prepare personnel. The OSEP awards also had a significant impact on the published literature regarding rural personnel preparation. Of the 57 articles located during our extensive search, 22 (39%) were written by directors of OSEP funded projects.

TABLE 5. Age Groups of Infants, Toddlers, Children, and Youth on Which Rural OSEP Grant Projects Focused, 1997–2001 (as gleaned from 96 project abstracts; some projects prepare for more than one age group)

Age Group To Be Served	Number of Projects Targeting This Age
Early Intervention	26
Early Intervention/Early Childhood	27
Elementary	17
Secondary	11
Not specified	54

Ages of the Infants, Toddlers, Children, or Youth for Whom Federal Stipends Supported Personnel Training

All of the OSEP projects examined here provided stipends to college or university students to prepare licensed early intervention or special education personnel. The age groups that stipend students were being prepared to serve varied over the five year period included in this report. During the first two years, Early Intervention/Early Childhood received a disproportionate percentage of the grants that were coming to completion. During the early- and mid-1990s, when the bulk of these grants were awarded, OSEP focused attention on the recent mandate for services for these age groups and the resulting severe shortage of early childhood personnel. Later years of project abstracts in this study show a more even distribution of ages targeted by the rural personnel preparation grants. Actual breakdowns of age groups to be served by graduates of the 96 projects appear in Table 5. Many projects stressed a content area plus *rural* but did not specify an age group

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TABLE 6. Disciplines for Which Students Were Prepared in Rural Personnel Preparation Projects, 1997–2001 (as gleaned from 96 project abstracts; some abstracts did not specify a discipline)

Discipline and Number of Rural OSEP Projects Targeting
Early Intervention — 13
Early Childhood Special Education — 13
Speech Language Pathology — 10
Multiple Disciplines — 8
School Psychology/Diagnosis — 5
Generic Special Education — 4
Leadership/Administration — 3
Educational Interpretation — 1
Paraprofessionalism — 1

focus. Content emphases of the 96 rural projects varied. These data are profiled in Tables 6 and 7. Some projects targeted particular disciplines within education or related services, while others focused on specific disabilities or topical emphases: literacy (2), assistive technology (3), transition (3), and inclusion (5).

Though more OSEP rural grants mentioned recruitment of individuals with minority or bilingual status, only nine (five concluded, four continuing) specified those areas as an emphasis. These awards went to grantees from areas with large numbers of special education students from underrepresented groups. The grantees recruited prospective teachers from a local ethnic group and then prepared these bilingual/multicultural students for service to homogeneous rural populations. By placing culture and language at the center of their training programs, these grantees hoped to improve service delivery through the preparation of personnel that understood not only the rural components, but also the linguistic and cultural aspects of the populations they would serve (cf., Delaney-Barman, Prater, & Minner, 1997). The nine projects focused on Native American or Hispanic populations, predominately in California and Arizona. No rural projects were located that targeted African-American, Asian, or Pacific Islander groups.

TABLE 7. Disabilities of Infants, Toddlers, Children, and Youth for Which Professionals Were Prepared in Rural Personnel Preparation Projects, 1997–2001 (as gleaned from project abstracts; some projects did not specify a disability area)*

Disabilities on Which Rural Grants are Focused and Number for Each
High incidence disabilities — 11
Speech-language disabilities — 10
Low incidence disabilities — 9
Deafness — 6
Emotional–behavioral disorders — 6
Vision disabilities — 4
Learning disabilities — 4
Autism — 3
Deaf-blindness — 1

* Note: Some projects targeted more than one of these areas.

Teaching Strategies Related to the Rural Focus of the Universities' Training Programs

Little information about training strategies was found during the abstract review. E-mail survey data, in addition to reports in the literature review, provided most of the information about preparation strategies. About two-thirds of the 42 survey respondents identified special rural knowledge or skills that were emphasized in their preparation of graduates for successful placement in rural communities. These topics are listed in Table 8. The literature reviewed (Table 1) was congruent with the topics listed in the surveys in two areas: First, coping with professional isolation (Collins, 1999; Mack & Boehm, 2001; Selander, Eigenberger, Peterson, Shellady, & Prater, 2001) and, second, teaching about the impact of culture and language (Delandy-Barmann et al., 1997; Sealander et al., 2001). Thirty six percent of the rural project abstracts identified no specific rural knowledge or skills other than state generic special educator competencies.

Four of the projects surveyed reported preparing special educators to deal with issues of rural poverty. Poverty is 50% higher in rural areas than urban areas (O'Hare, 1996), and rural poverty appears to be less affected by periods of national prosperity or recession than is low income in other types of locations (ERIC, 1991). During the nation's

TABLE 8. Rural Topics Targeted by OSEP Funded Rural Personnel Preparation Projects (from 42 projects supplying e-mail interview data)

Special considerations for personnel working in special education in a rural area — 10 projects
Strategies for collaboration and rural community building, including leadership in systems change and conducting community strengths and needs assessments — 10 projects
Strategies for coping with professional isolation — 7 projects
Identifying and accessing resources — 7 projects
Issues of culture and language — 5 projects
Supporting families in sparsely populated areas — 5 projects
Using educational technology — 5 projects
Rural socioeconomic and political realities, including rural poverty — 4 projects
Administrative and legal issues, transportation/itinerancy, and rural inclusion — 3 projects each
Assistive technology — 2 projects
Ongoing professional development, resourcefulness, and broad-based disability competencies — 1 project each
1 project assesses areas of the curriculum where personnel are in short supply (e.g., motor development, language, audiology) and enriches the higher education curriculum in those areas

most recent time of prosperity, over 25% of the rural hourly wage earners over the age of 25 made fulltime income below the Federal poverty level of $17,000 annually for a family of 4 (Mack & Boehm, 2001). While not all rural areas are impoverished, many are, especially those with extensive out migration due to the ending of resource extraction (lumbering, mining, fishing) or those with increasing dependence on recreational services with a high incidence of minimum wage jobs (Tickamyer, 1996). Disability is higher among children living in poverty (Turnbull, Turnbull, Shank, Smith, & Leal, 2002), as are child health problems, school failure, and family stress (Children, Youth, and Family Consortium Electronic Clearinghouse, 2000). The impact of these problems on child development is heightened when they are coupled with rural isolation from services, especially for families without extended family networks. Thus, introduction to "the culture of poverty" is a major topic for the rural personnel preparation program at Stephen F. Austin University in Texas (e-mail survey). Enhanced competence in this area is thought to affect employee retention as program participants come to the rural area with an increased understanding of survival issues for many of the families they will be supporting in their work.

Recruitment

Thirty-five of the 42 projects responding to the e-mail survey intentionally recruited students from rural areas who have loyalty to their geographic region and are likely to work there for many years. Four projects sought nominations for candidates for licensure from rural special education administrators, four recruited paraprofessionals, and at least nine sought licensed teachers without early intervention or special education endorsements. According to OSEP (1998), the last group has been a good source of new special educators, but the number recruited in this way has been declining in recent years. Note also that recruiting emergency certified personnel to take coursework and become licensed increases the quality of personnel but not the quantity, since those individuals are already counted in employee data. There is evidence, however, that such individuals are more likely than unlicensed employees to remain in their positions (Westat, 2002). Many respondents to this survey commented that their university students from rural areas typically return there to work. Several also offered that their projects have a poor record of rural placements with university graduates from other than rural areas, individuals who initially agreed but eventually declined to assume positions in rural areas.

The Timing of Coursework

A common barrier to higher education for individuals interested in becoming licensed early interventionists or special educators is that they cannot afford to cease working to

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take university courses. Some universities, such as Idaho State University and California State University-Chico (e-mail surveys), developed cooperative relationships with school districts. Unlicensed teachers were allowed to job share, working half days and taking classes half days. Other programs, such as the ones at the University of Kentucky and Indiana University (e-mail surveys), offered practicum and internship in the rural teachers' own classrooms. Some programs collaborated with school districts to provide substitutes to take over the teachers' classes for several days each month, days which were then devoted to coursework toward licensure. Many institutions, such as the Associated Colleges of Central Kansas, Western Oregon University, and Auburn University (e-mail surveys), offered classes during evenings, weekends, and summers, when students employed as teachers or paraeducators could attend.

Location of Classes

Indiana University at Bloomington determined the rural region of the state it served in a given year by analyzing regional data on special education teacher shortages (Knapcyzk, Chapman, Rodes, & Chung, 2001), while the University of Florida determined geographic concentrations of prospective students and took classes to their region (e-mail surveys). Several respondents reported using off campus regional centers for either face to face or distance classes. Other universities, such as the University of Alaska–Anchorage (e-mail survey), have designed programs so that almost no travel is required; university students may do most classes from their homes or workplaces and travel to campus only for one summer of coursework.

Effective Instruction for Rural Programs

Most respondents noted the importance of university faculty visiting rural areas, either regularly or occasionally, in order to strengthen their own understanding of rural issues as well as to interact with students in their every day worlds. For example, the University of Oregon (Squires, 1996) sent faculty to a rural site for meetings with students 12 hours per month. Nine universities incorporated rural family members, teachers, and administrators as instructors, co-instructors, or individual mentors to ground instruction in the context where it is to be applied.

Although several of the rural personnel preparation projects have developed new courses with rural emphases or special modules directed at rural topics, most have chosen an infusion model, whereby lectures, examples, case studies, simulations, and problem sets purposefully incorporate rural situations and rural dilemmas. Utah State University's project director commented, "Practicum and student teaching were all rural, so the realities of rural special education were experienced" (e-mail survey). Three universities reported requiring students to develop rural-based projects during practicum and share them with peers (e-mail survey). Resulting discussions led to group deliberations about alternative ways to attain desired results for rural children and their families. Videotaping is another tool for bringing the rural home visit or school classroom into the university classroom (e-mail survey). Incidents may be chosen by a professor to illustrate a point, or they may be selected by a university student or the student's mentor and used for group discussion or one to one coaching.

Rural Practica

Nearly all the OSEP funded rural personnel preparation projects encouraged or required rural practica; that is, they required students to intern in a rural community and reflect upon the impact of context on service delivery and child/family outcomes (abstracts and e-mail survey). Personnel who are already working in rural areas as paraprofessionals or emergency licensed teachers typically continue in their own milieu. Three project directors noted the value of a cohort model of preparation when personnel are remaining in their own settings for practicum (e-mail survey). This approach allows the development of strong peer networks and mutual support during times that are stressful for special educators who are also university students.

Distance Education

Distance learning approaches are highly varied and rapidly changing. Thus it is essential for programs to communicate to potential students as well as to professional colleagues precisely how it is they propose to reach students at rural and remote locations. During the five years covered by the conclusion of the projects in this survey, the capacities, uses, and availability of technology have blossomed. Even project directors that did not use distance-learning strategies in 1997 or 1998 volunteered that they would do so now in order to serve rural based students.The most basic strategy employed is to make instructional videotapes or to purchase commercial ones to share with students participating in instruction at a distance. Fourteen projects have done that at least occasionally. Most projects surveyed use e-mail, fax, and audio conferencing to connect students to one another and to faculty. Satellite downlinks have been employed for some time by four projects, as have video conferencing by three projects. Asynchronous transfer mode/interactive TV and compressed video have been employed by nine projects and Web-based instruction by 12 projects. CD-based instruction downloaded on computers has been more useful for one project. It notes that, with this medium, students can participate at home rather than at a satellite campus, and they can use computers that are not the latest models. Several projects noted the importance of having university or community based technical support to assist students who may be uncertain and uninformed about web-based interactions. The University of California-Chico, for example, funded a staff member to travel about the rural region to troubleshoot computer glitches (e-mail survey). Other projects offered technology consultations via telephone. It is noteworthy that all but 8 of the 27 OSEP funded projects that employed distance learning specified human interactions to accompany their distance learning approaches. The interpersonal elements included a site facilitator when distance learning is delivered at a remote center, faculty visits to individuals and groups of students, and student trips to campus for short periods, even when most of the coursework occurs in the rural area.

Recent research by Beattie et al. (2002) compared classroom interaction with two-way interactive television coupled with web based instruction in terms of instructor evaluations and student outcomes. They found comparable performance. Collins, Schuster, Ludlow, and Duff (2002) defined the kinds of university support that must be available to students to make the most of student learning at a distance. Kiefer-O'Donnell and Spooner (2002) quoted Chickering and Ehrmann (1996) on the seven elements that must be present in distance education experiences for rural areas: (1) contact between students and faculty, (2) reciprocity and cooperation among students, (3) active learning, (4) prompt feedback, (5) emphasis on time on task, (6) high expectations, and (7) respect for diverse talents and ways of learning.

Personnel Prepared

The university level (undergraduate or graduate) at which students are supported in OSEP grants depends heavily on the educational level at which licensure is awarded by a given state, though more Federal funds for rural personnel preparation are supporting graduate than undergraduate studies, as seen in Table 9. Table 10 indicates the number of rural personnel slated to be prepared with Federal funds in the 77 concluded projects. Twenty two projects of the 77 projects did not forecast in their abstracts the number of graduates scheduled to be licensed. According to the interviews, 65% of the projects met or surpassed their aims, yielding several thousand graduates, many of whom would not have been prepared without the stipend support. Most projects exceeded their goals, some quite dramatically. Nearly all of the graduates are reported to be currently working in rural areas.

Discussion

Limitations of this study include the following:

1. The literature review summarized in Table 1 and at *http://www.hhs.oregonstate.edu/research-publications/index.html* shows that

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TABLE 9. Education Level of Rural Personnel Preparation Projects Supported by the Office of Special Education Programs, 1997–2001 (as gleaned from 96 project abstracts)

Fiscal Year Project Ended	Graduate Program	Undergrad Program	Both	Not Indicated
1997	16	5	3	0
1998	16	6	2	0
1999	3	1	2	1
2000	5	3	2	0
2001 ending	8	1	2	1
2001 continuing	9	3	3	4

most of the 57 articles are reviews of literature or explanations and/or evaluations of models. Only 18 articles of the 57 report research related to rural personnel. Most of the existing research studies were conducted in only one state. Accordingly, the matrix with annotations available on the website has attempted to put together reports from multiple states to obtain a national picture. The USDE's SPeNSE study (*Study of Personnel Needs in Special Education;* Westat, 2002) provides valuable national information in comparing rural and urban special educators and general and special rural educators as well as disaggregating many other data according to location.

2. All the targeted OSEP funded rural projects could not be reached for input into these findings. Some of the rural projects concluding 1997–2001 were initially funded as early as 1992. Their directors may have retired or moved on to other universities, and their participant records appear to be inaccessible to current faculty. Nevertheless, approximately three-fourths of the funded universities were reached, and 53% of the projects contributed to the survey findings.

TABLE 10. Number of Graduates Projected by Rural Personnel Preparation Projects, 1997–2001 (gleaned from abstracts of 77 completed projects)

Ending Fiscal Year	Total Number of Projects	Personnel To Be Prepared (Projects)	Projects Not Specifying Number
1997	24	737 919)	5
1998	24	615 (15)	9
1999	7	373 (6)	1
2000	10	401 (7)	3
2001 (ending)	12	322 (8)	4

What Information Do We Need to Teach Students?

A recurring theme in all three of our information sources is that rural service is not sufficiently valued, nor are adequate provisions made to ensure a workforce appropriately trained to serve effectively and long term in rural areas. Nearly 1 in 3 of America's children attends school in a rural area or small town of fewer than 25,000, and more than 1 in 6 goes to school in the very smallest communities, those with populations under 2,500 (The Rural School and Community Trust, 2003). Issues of the quality and quantity of the rural workforce for the children with disabilities among these students are being addressed by some of the innovative—and respectful—strategies discussed by our three types of informants.

Immersion in this literature strengthened our previous conviction that there is not one type of place called *rural.* Rural communities differ dramatically in their income levels, personnel needs, salary and benefit policies, resources, professional development opportunities, ethnic cultures, degrees of interdependence, and distance from more populated areas. The literature reviewed here indicates that these factors play a major role in a community's ability to recruit and retain qualified special educators.

Another critical element is attitude. Ann Tickamyer (1996) wrote,

> "The farm crisis and related economic shocks sent many rural areas into decline and led to renewed out-migration from rural America," but "a funny thing hap-

> pened on the way to writing the obituary for rural America. The most recent figures make it appear that once again the population turnaround has turned around, and rural areas are growing faster than urban places. The places that are growing, however, are not the same places that were previously depleted and continue to decline. In particular, there is substantial growth in retirement and recreation destinations but very little in the places whose economies are based on exploitation of natural resources, the traditional base of rural life" (p. 3).

How individuals and communities adjust to the myriad changes implied by Tickamyer's description contributes mightily to a community's degree of optimism about its future and its concomitant ability to attract and retain special education professionals.

Recruitment and Retention

Studies from Florida, Mississippi, North Dakota, Texas, and Washington (Bina, 1987; Bornfield, et al., 1997; Johnson, Elrod, Davis & Smith, 2000; Theobald, 1991; Westling & Whitten, 1996) indicate that the particular characteristics of a rural area make a great deal of difference in its recruitment of personnel, but then the "rootedness," or the personal relationships, of the employees help to determine whether they stay or move on. Accordingly, a project director from California State University—Chico, reported (e-mail survey) that she helps to foster support networks for students living in rural areas as a strategy to promote job satisfaction for graduates. Administrators and higher education personnel might become proactive about these relationship factors in mentoring prospective or newly hired professionals.

Personnel Preparation Strategies

Many of the pedagogical strategies cited by respondents can be implemented by universities without additional financial support. In fact, a sage bit of advice for university faculty might be to incorporate contextual features, such as rural/suburban/urban, community culture, family values, and political climate, more frequently into lectures, case studies, role-plays, simulations, and classroom discussions and then to draw students' attention to these factors as important elements to consider in successful adjustment to teaching. Mack and Boehm (2001) point out that culture is more than race, religion, and ethnicity. One's culture should consciously and intentionally include geography.

Distance delivery promises incredible possibilities for future training opportunities that allow preservice personnel to learn at home in their rural communities. Distance delivery is, however, not without cost to higher education, both for transmission and for coordination, monitoring, and feedback to students. In this study, most of the universities that have implemented distance delivery have done so with federal support. While the costs of distance delivery are decreasing, financially strapped universities cannot be assumed to carry on those costs without assistance. At present, the field needs clear explanations of project models that have devised ways to cover distance delivery costs without Federal support.

Similarly, despite Federal promptings to "institutionalize" grant projects, that is, to take on the program costs previously supported by the Federal government, most universities have difficulty providing student stipends after Federal funding ends. Broad-based university support may be limited because rural university students who are simultaneously teaching are enrolled for less than a full course load, while most financial aid regulations specify support to full time students. Many of the university students recruited from rural areas must work to support their families as well as pay university fees. As discovered by the University of California at San Diego and explained by Martin, Williams, and Hess (2001), here is an area where collaboration with school districts can provide student support for tuition. That strategy faces limitations, however, in states where declining state resources have restricted school districts' abilities to provide basic services, much less faculty tuition toward licensure.

Findings Relevant to OSEP

The OSEP funded personnel preparation grants that advertise a rural focus appear largely to have met their goals. This is no-

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tably true if they (a) worked with rural special education administrators in establishing and conducting their programs, (b) recruited students from rural areas and supported them in doing practica in those areas, (c) delivered instruction largely in the rural area to enable place bound individuals to participate, and (d) incorporated into their instruction reflections about and responsiveness to the rural context. Consistently the project directors we surveyed noted the importance of stipends to allow mature students from rural areas who have family responsibilities to attend the university and prepare for licensure. It appears that rural personnel preparation grants should continue to be awarded to ensure an increasing supply of well-qualified early interventionists and special educators. Based upon the results of this study, it also appears that requests for proposals for future OSEP personnel preparation grants should incorporate the specific rural elements as outlined above if they are to meet their stated goals of placing graduates in rural service.

As seen in Table 10, it is noteworthy how the number of personnel preparation projects with a rural focus have decreased. Using an OSEP strategy from the past, targeted rural competitions might increase the number of licensed personnel to address rural shortages.

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