This report describes a program developed by West Virginia University to address the increased demand for doctoral level special education personnel in higher education, particularly for colleges and universities in rural areas. Data indicate that the available pool of qualified teacher educators in special education has not been sufficient to meet the needs of existing and new teacher education programs. In an effort to improve its doctoral program, the Department of Special Education at West Virginia University engaged in a 3-year cycle of activities. The doctoral program curriculum was redesigned to reflect the major roles of leadership personnel in each of the following areas: teaching/supervision, scholarship/research, service, professional knowledge, and innovative technologies. Specifically, doctoral students are required to teach several college courses, develop a new course or substantially modify an existing course, supervise student teaching or practicum experiences in their area of expertise, demonstrate basic microcomputer/technology skills, conduct research, supervise beginning students in developing research competency, author or coauthor a grant application/proposal, author or coauthor a manuscript for publication, attend state and national professional meetings, provide inservice instruction for teachers and parents, and serve on professional committees. Since initiation in July 1992, the program has admitted 18 full-time students and 8-10 students on a part-time basis. The three most recent graduates have taken positions in special-education teacher education at other rural universities. Information on admission criteria and required coursework is included. Contains 22 references. (LP)
Significance of the Personnel Needs

A decade after the passage of PL 94-142, the need for additional special educators continues to grow. During the 1987-88 year, the need rose to over 30,000 special educators (USDOE, 1989). It has been projected that an additional 9% of teachers will be needed in the next ten years, an increase of 6% over the last decade (CES, 1988). The supply-demand imbalance is particularly critical in rural areas. Smith and Lovett (1987) have argued that, because many school districts continue to experience shortages of special education teachers, increased numbers of special education teacher educator faculty positions in colleges and universities will be needed if personnel preparation programs are to address those shortages.

Unfortunately, the supply of new doctorates trained in special education has not been able to keep pace with the demand for new personnel to fill faculty positions and other leadership roles in teacher education. Smith and Lovett (1987) projected a 10 percent turnover rate of special education faculty in institutions of higher education by 1993 with an increasing rate of retirements after that year; and they predicted that over 300 new faculty will be required each year because of retirement alone beginning in 1990. Twenty-six additional college/university programs offering special education were identified in 1986 as compared to 1983 in the directory published by the Teacher Education Division (Blackhurst, et al., 1986). Sindelar and Taylor (1988) reported a steady number of announcements for special education positions in The Chronicle of Higher Education over a 13-year period with increases in more recent years. These findings suggest that the available pool of qualified leadership personnel in special education has not been sufficient to meet this need for teacher educators/scholars to implement existing and new teacher education programs.

At the same time, data on the supply of doctorates in special education in the Digest of Educational Statistics (1988) showed a sharply declining number of new special education doctorates awarded over the 10 year period. These data suggest that even if all the graduates had elected higher education positions, there would still not have been enough to meet the demand. Bunsen (1988) estimated that only 53% of persons with new doctoral degrees in special education took positions in institutions of higher education in the years 1980 to 1988. New doctorates are even less likely to take faculty positions in institutions of higher education in rural areas, where it can be more difficult to settle families, find employment for spouses, or adjust to life as a single person. If the data are accurately interpreted here, then the supply has fallen significantly short of the demand for new doctoral level special education leadership personnel in higher education and the problem is even more urgent for colleges and universities in rural areas.

Need for Improvement of Quality of Doctoral Training

There is also a need for improvement in the quality of training provided to prospective faculty members and other professional personnel in higher education special education. A study by Wienke, Platt & Iannaccone (1990) indicated that the following competencies are desirable in leadership personnel: (1) teaching and supervision in higher education, (2) inquiry and scholarship, (3) professional knowledge in special education, and (4) skills in technology as related to special education. Program quality in higher education is enhanced by proper education and experience as a teacher, along with appropriate opportunities to study and experience the delivery of teacher education.
Several authors have presented a compelling argument for the preparation of scholars and a foundation for research training and experiences in special education doctoral programs (Brady, et al., 1988; Gerber & Semmel, 1984; Prehm, 1980). Ducharme and Agne (1982) found that education faculty frequently have difficulty in academe because of a lack of either the desire or the ability to engage in scholarly activities, confirming an earlier finding by Guba and Clark (1978) that faculty in colleges of education generally have a low rate of scholarly productivity. And, a number of studies (Kasten, 1984) have shown that research and scholarship is closely coupled with the awarding of salary increases in higher education. Doctoral students must acquire and apply scientific inquiry skills in close relationship to their future professional responsibilities and tasks.

Quality research, teaching, supervision, and service are highly correlated to the amount, type, and quality of both historical and current knowledge that an individual has in the professional discipline. Mastery of current and emerging knowledge is critical for the special education teacher educator/scholars (Simpson, et al., 1990; Wienke, et al. 1990). As a hybrid of economic, medical, psychological, and sociological studies of persons with disabilities, special education requires broader interdisciplinary study and understanding than other areas of education. Doctoral programs therefore must provide opportunities for students to acquire and demonstrate competency concerning critical knowledge of the field of special education and related areas.

Leadership personnel in special education are frequently faced with new challenges and opportunities involving emerging computer and telecommunications technologies. From applications in research and personnel preparation, to administration and instructional service delivery, professional technology skills appear to be highly desired competencies in special education leadership personnel (Wienke, et al., 1990). Whether functioning in an electronically automated professional environment with a myriad of software packages and programs, or guiding the activities of pupils, researchers, teachers, or administrators in the field, it is essential that special education leadership personnel possess basic skills in microcomputer and distance education applications.

Design of the Project

The Department of Special Education at West Virginia University engaged in a three-year cycle of activities to revise its doctoral program and develop the teacher educator/scholar model of leadership personnel training outlined in this project proposal. At the Dean's request, the graduate faculty spent one year developing a Five-Year Plan for the doctoral program, based upon a review of the literature, contacts with professional colleagues at comparable universities, and review of catalogues and handbooks. During the following year, the department engaged in a self-study in response to the triennial review by the WVU Graduate Council. And, in the final year, a task force of three faculty members and one doctoral student translated recommendations from the larger group into the competency matrix that serves as the foundation of the new model. Thus, the program incorporates the most recent research and demonstration results, as outlined in the project needs statement, the description of program competencies, and the course syllabi. The doctoral program curriculum was designed to reflect the major roles of leadership personnel in each of the following areas:

**Teaching/Supervision.** Teaching courses and supervision of practicum experiences are two basic responsibilities of the teacher educator role; a high degree of competency is needed to ensure that teacher training programs prepare quality personnel (Simpson, et al., 1990). Teaching involves developing course content, preparing class materials, using a variety of instructional methods, and evaluating student learning and instructor effectiveness (Ingram & Blackhurst, 1975). Supervision involves structuring practicum experiences, observing teaching episodes, giving spoken and written feedback, and evaluating student performance and supervisor effectiveness (Markel, 1982).

**Scholarship/Research.** Scholarship is another central responsibility of the teacher educator role (Prehm, 1980; Rousseau, et al., 1976). Scholarship involves conducting and disseminating empirical, applied, and policy research in the education of individuals with disabilities, as well as in the education of special education teachers (Calder, et al., 1986; Gerber & Semmel, 1984). A broader
concept of scholarship, however, includes inquiry as a way of reflecting and acting in all professional activity (Rose, et al., 1984; Tymitz-Wolf, 1984).

**Service.** Service is another traditional responsibility of the teacher educator. Service involves providing inservice workshops and other training for practicing professionals (Grosenick & McCarney, 1984), serving as a consultant to school systems and other agencies serving individuals with disabilities, chairing and serving on committees and task forces, participating in professional organizations, and collaborating in interagency efforts (Lowenbraun, 1990).

**Professional Knowledge.** Professional knowledge at an advanced level underlies all aspects of the teacher educator role. Advanced knowledge involves an understanding of the historical, social, and political foundations of special education and other disability services in the United States and other countries, current issues and trends, and analysis of existing policies and practices. Mastery of current and emerging knowledge is an essential characteristic of effective teacher educators in a rapidly changing field like special education (Simpson, et al., 1990; Wienke, et al., 1990).

**Innovative Technologies.** Emerging technologies involving the use of computers and telecommunication are rapidly changing teacher education today. Teacher educators must now be competent in the use of microcomputers for the development of course materials, computer-assisted instruction, data analysis, and personal scholarly productivity, as well as the use of video- and satellite-delivery systems for distance learning (Cartwright, 1984).

### Organization of the Project

#### Recruitment
Project staff engage in the following activities related to recruitment:

1. distribution of brochures via mailings to colleges and universities in West Virginia and the surrounding region, as well as displaying them at state, regional, and national conferences in special education; and
2. advertisement of program availability via SpecialNet and newsletters of the various divisions of the Council for Exceptional Children and other professional organizations.

#### Admissions
The departmental Doctoral Admissions Committee engages in the following activities:

1. processing of all inquiries and applications by prospective doctoral students on a continuous basis using department/college/university criteria;
2. admission of applicants for doctoral study as regular or provisional students at least three (3) times per year (in Fall, Spring, and Summer), using department admissions criteria that include scores on the Miller's Analogy Test or Graduate Record Exam, a current vita, three letters of recommendation, and a personal statement;
3. assignment of newly admitted doctoral students to a member of the graduate faculty in special education, who will serve as a temporary advisor and assist the student in planning an initial program of studies.

#### Student Financial Assistance
Project staff engage in the following activities:

1. advising of prospective and current doctoral students about the variety of financial support available to graduate students at WVU;
2. assisting students in completing applications for financial assistance; and
3. seeking funds for student support from university, state and federal sources.

#### Development of Individual Program of Study
Each doctoral student in the project engages in the following activities to develop an individualized program of study leading to the doctoral degree:

1. selection of a major area advisor, minor area advisor, and at least three (3) additional faculty members to serve on the doctoral program committee;
2. development of a program of study approved by the committee, the department chairperson, and the college coordinator of graduate studies; the program of study meet the following college requirements:
a. a minimum of 24 credit hours in the major area  
b. a minimum of 18 credit hours in the minor area  
c. appropriate credit hours in the professional core (research design, foundations);  
3. development of a plan for demonstrating special education program competencies in conjunction with the major advisor, and other members of the special education faculty  
4. selection of elective courses to enhance knowledge in the doctoral student's area of specialization, or to extend knowledge into additional, complementary areas of specialization (e.g., student with a focus in Learning Disabilities may add to her/his knowledge through special topics seminars, independent study, or readings courses, or may add knowledge by taking courses/practicum experiences in Behavior Disorders).

Competency Documentation. Project faculty assist doctoral students in documenting that they have demonstrated all program competencies by means of the following activities:  
1. development of guidelines, criteria, and recording forms to document doctoral student performance and/or products that may serve as evidence of acquisition of each doctoral program competency;  
2. enrollment of doctoral students in required and elective courses and internships;  
3. service as mentors for individual doctoral students in conducting research at professional development product activities or in completing service competencies;  
4. design of independent study courses to allow doctoral students to pursue in-depth knowledge or skill acquisition in areas of individual interest; and  
5. design of readings courses to provide doctoral students with additional exposure to important or emerging topics.

Career Development. Project faculty assist students in planning for a career as a teacher educator in special education by engaging in the following activities:  
1. guiding doctoral students in defining career goals during the initial program interview;  
2. assisting doctoral students in developing individualized programs of study that contribute to the achievement of career goals;  
3. posting notices of job announcements from mailings and advertisements in The Chronicle of Higher Education;  
4. helping doctoral students to match career goals and interests with available positions;  
5. aiding doctoral students in preparing applications and resumes for positions; and  
6. providing letters of reference to support applications submitted by doctoral students.

Creation of Research/Professional Development Products. Project staff, project faculty, and supporting faculty involve doctoral students in the creation of research and professional development products to support teacher education in special education by engaging in the following activities:  
A. Research Products  
1. designing empirical, applied, or policy research studies that investigate some aspect of teacher education on at least an annual basis;  
2. securing approval from the WVU Human Subjects Review Committee;  
3. identifying dependent and independent variables of interest;  
4. developing procedures and/or instruments to collect data;  
5. collecting and analyzing data, and  
6. reporting results via spoken and written presentation formats.  
Sample research activities include, but are not limited to: field validation of training program competencies, survey of recruitment and retention statistics in rural states, policy analysis of alternative certification practices, literature review of international developments in special education, or a comparison of effectiveness of distance learning and traditional courses.

B. Professional Development Products  
1. identifying the need for products to support instruction or supervision in teacher education on at least an annual basis;
2. developing a prototype design for the product;
3. conducting a field test of the prototype;
4. revising the prototype from evaluation results;
5. packaging and producing the product; and
6. distributing the final version to various audiences.

Sample professional development activities include, but are not limited to: manuals for instructors for developing satellite courses, computer-assisted instructional modules to support special education courses, Personalized System of Instruction (PSI) materials for independent studies, student handbooks to explain certification and degree requirements, or videotapes and other audiovisual materials on content topics.

Admission to Candidacy. Graduate faculty in special education and other academic units assist doctoral students in meeting all department, college, and university requirements:
1. a qualifying examination: the type of exam is jointly designed by the student and committee, and is written by the major and minor advisors, with assistance from other committee members, and may take any of the following forms:
   a. a formal written exam with no access to resources;
   b. a written take-home exam with full access to resources;
   c. activities to demonstrate specific program competencies (e.g., a course design, a research project, a manuscript); the exam is graded by all committee members;
2. a dissertation prospectus: the written proposal outlining the research is approved by the committee following a formal presentation by the student, and includes the following:
   a. outline of research purpose and questions;
   b. brief review of the literature; and
   c. description of research design and methodology.

Dissertation. Graduate faculty in special education and other academic units assist doctoral students in meeting all department, college, and university requirements for the dissertation:
1. approval of study by Human Subjects Review Committee;
2. collection and analysis of research data;
3. preparation of dissertation; and
4. oral defense of dissertation.

Induction. Project staff provide assistance to project graduates during their induction year as beginning faculty members in special education teacher education positions:
1. discussing with project graduates how to make contacts at a new institution, how to plan activities to achieve promotion and tenure, and other new faculty concerns;
2. providing project graduates with the names of contact persons in the regional area in which they will be located, who can provide assistance in learning state and local issues in special education;
3. scheduling a reunion of project staff, graduates, and current students at the annual conference of the Teacher Education of the Council for Exceptional Children, which is held each year in November; and
4. maintaining continuous telephone contact with project graduates as needed.

Coursework
All courses are offered at the advanced graduate level and many are restricted to students pursuing a doctoral degree. Each special education course includes content specific to topics and issues in rural special education service delivery and personnel preparation.

Major Area Coursework. Project staff will offer the following required courses:
SPED 470 Advanced Professional Knowledge: Special Education
SPED 471 College Teaching/Supervision: Special Education
SPED 472 Professional Writing/Grantwriting: Special Education
SPED 474 Research Analysis/Interpretation: Special Education
SPED 478 Higher Education Technology: Special Education
SPED 479 Current Issues/Trends: Special Education

Major Area Internships. Project staff will offer the following internships:
SPED 483 College Teaching Internship
SPED 484 College Supervision Internship
SPED 485 Research Internship

Major Area Elective Coursework. Graduate faculty in special education will also offer the following elective advanced graduate courses:
SPED 465 Administration/Supervision: Special Education
SPED 491 Advanced Topics: Collaborative Consultation
SPED 491 Advanced Topics: Developing Social Skills
SPED 491 Advanced Topics: Learning Strategies/Adolescents

Supporting Area Courses. Graduate faculty in other academic units will offer the following advanced graduate courses:
PSYC 311 Research Design and Data Analysis I
PSYC 312 Research Design and Data Analysis II
PSYC 315 Multivariate Analysis
EDPS 320 Introduction to Research
EDPS 423 Designing Single Case/Group Research
EDPS 450 Psychological Foundations of Learning
EDFN 300 Sociology of Education
EDFN 320 Philosophic Systems and Education
EDFN 340 History of American Education
EDFN 350 Comparative Education

Internship Experiences
This project is designed to prepare leadership personnel highly skilled in special education teacher preparation. By completing each of the competencies in this program, they have demonstrated a high level of knowledge and skill in performing each of the major roles typically required of entry-level faculty members. Briefly, graduates have: (1) taught several college courses, (2) developed a new course or substantially modified an existing course, (3) supervised student teaching or practicum experiences in their area of expertise, (4) demonstrated basic micro-computer/technology skills, (5) conducted research, (6) supervised beginning students in developing research competency, (7) authored or co-authored and submitted a grant application/proposal, (8) authored or co-authored manuscripts and submitted them for publication, (9) presented at state and national professional meetings, (10) provided inservice instruction for teachers and parents, and (11) served on several professional committees.

The doctoral program in special education involves demonstration of competencies in teaching, scholarship, and service, the three areas of productivity that must be demonstrated by faculty at most institutions of higher education for promotion and tenure through internship experiences, independent studies, or mentorships with faculty members. College teaching competencies are demonstrated through supervised teaching of any of a number of state-approved and NCATE-accredited undergraduate or graduate level special education courses in the doctoral student’s area(s) of emphasis, either on campus or at several off-campus extension centers. Supervision competencies are demonstrated through assignment to supervise undergraduate student teachers in local schools or graduate practicum students in full-time placements, via an innovative on-the-job model, or through special summer programs. Research and professional writing competencies are demonstrated by working with one or more faculty members on personal research agendas, departmental evaluation programs, or grant projects supported by state and federal funds; professional presentations of
research results also are made at state, regional, and national conferences and meetings. Service competencies are demonstrated through appointments to serve on committees in university activities or professional organizations, assisting faculty members with inservice training or other consultation activities for school districts and community disability agencies in West Virginia and the surrounding geographic area, or election as an officer in a local or regional chapter of a professional organization. Many of these activities require active involvement with pupils, families, teachers, and administrators in rural areas throughout West Virginia.

**Impact of the Project to Date**

Since the project was initiated in July 1992, the program has admitted five full-time students with project traineeship support and an additional 13 full-time on other sources of support and 8-10 other students participating on a part-time basis. Doctoral students complete the degree program at the rate of 2-4 students per year and the first students to complete the redesigned program are expected to graduate in Summer 1995. Doctoral candidates have been drawn from West Virginia and the surrounding region as well as from places like New York and New Jersey and many of these individuals have had teaching experience in rural special education. Over the five years of the project, it is estimated that 20-25 students will complete their doctorates in special education. This estimate is based on a combination of full time and part time students, estimating that full time students will require three (3) years to complete the course of study if they have the desired teaching experience and special education background prior to entering the program. All prior doctoral program graduates who have desired positions in higher education have secured and successfully maintained such employment and quite a few now work in rural areas. The three most recent graduates have all taken positions in special education teacher education at fine institutions, namely, Edinboro University of Pennsylvania, Northeastern University of Illinois, and Western Carolina University. As such, they are having a positive impact on the critical need for additional rural special educators. All had multiple opportunities for employment in higher education, reportedly based on the strength of their preparation and experience. This project and the leadership training program are anticipated to have a significant impact on the supply of new teacher educator/scholars to fill existing and additional positions at colleges and universities around the country.

**REFERENCES**


