Federal legislation requires that all handicapped children be afforded an appropriate and individualized physical education program. The state education agency of Montana, however, has not assumed this responsibility, and unqualified special education classroom teachers and regular physical education teachers are reluctantly charged by local school administrators to assume it. Through three federal personnel preparation projects, the University of Montana Physical Education-Handicapped Program has established a transdisciplinary training program to increase the quality and number of qualified special physical educators available to the rural areas of Montana. Training is focused around the following contextual goals: interdisciplinary recruitment of training personnel, data-based and metacognition methodologies for personnel training, transdisciplinary design of instructional strategies, a preservice integrating inservice model, and university coursework premised on universal excellence. The program, resulting in a Master of Science degree, involves 54 quarter credit hours of study. Statistical data on the condition of special physical education in Montana are outlined, and strategies that were found to be successful in rural personnel preparation are listed. (JDD)

Introduction

Physical Education was the only direct service specifically mentioned with curricular definition in Public Law 94-142 (i.e. 121A.14-121A 14(B)(2)-121A.307). Federal mandates necessitated that all handicapped children be afforded an appropriate and individualized physical education program. Further, this direct service must be provided by qualified personnel and be implemented in the least restrictive environment (not always the mainstream) in accordance with an IEP that is predicated upon a valid and reliable assessment of the handicapped child's unique physical education needs. To this extent special physical educators and parents, even in rural/remote areas, have a vested legal right to actively participate in the psychomotor development and learning of all handicapped children. These children have the legal right to quality physical education experiences provided by qualified and competent professionals as they receive with other direct special education services. Since the discipline of physical education was federally charged with the physical education of all handicapped children, it is a legal, educational, and moral imperative that special physical educators be trained in this crucial area of human development and learning. Teachers and schools alike can also expect similar rights and responsibilities under the Education of the Handicapped Act Amendments of 1986 (i.e. PL 99-457)

Special Physical Education in Montana's Public Schools

Currently the State of Montana does not have any guidelines for the delivery of special physical education services to its over 15,000 handicapped children. The state has not delineated the relationship between direct services and related services with respect to the psychomotor learning of handicapped children. Montana has yet to even determine the extent and appropriateness of special physical education programs except to say that "Physical education
services to be provided" [MT L & R 13.71 (2)] Neither does the state have a direct or add-on teacher certification to insure qualified special physical education personnel in the state's public schools. In essence, due to the rural nature of Montana, any teacher who possesses a teaching certificate is viewed by the state to be a qualified special physical education teacher. Consequently the State of Montana has readily accepted main dumping (not mainstreaming) of its handicapped children as an appropriate solution to the legal mandate of providing appropriate physical education experiences for all of its handicapped children. The fact that such practices are not legally consistent to appropriate assessment or placements in the least restrictive environment are of little consequence to even the monitoring and onsite evaluations conducted by the state educational agency and its personnel.

Since Montana's state education agency will not assume responsibility for the physical education of its handicapped children, unqualified special education classroom teachers and regular physical education teachers are reluctantly charged by local school administrators to assume that responsibility. Parents are relegated to accept decisions about the physical education of their handicapped children which may be illegal, inappropriately premised, and professionally inaccurate to say the least. In some instances physical education services are "waived" by the local school so that the handicapped child receives nothing other than a nonexistent statement of services on the IEP. In the majority of instances, however, the extent of the individualization of physical education services on the IEP is merely a yes or no, if even mentioned.

According to the Eighth Annual Report to Congress, Montana uses a non-categorical service model to provide special education to 15,480 handicapped pupils in over 700 local education agencies with 320 being one, two, or three teacher schools. There are 760 special education teachers employed in the state which is a 21% decrease since 1976. The teacher/pupil ratio in special education is 1:20. Montana received $4,161,151 in state grant awards in special education which ranks it 43rd in the nation.

This represents a very high teacher pupil ratio and ranks Montana's special education teachers as 37th in the nation with only 13 states having teachers with a lighter instructional
load. It is also quite common in Montana for special education services to be provided to all types and levels of handicapped children by one teacher who also likely has to provide other academic services and extra-curricular activities as well.

Montana employs 8 FTE of physical education teachers for 15,480 handicapped pupils which represents a teacher/pupil ratio of 1.1935. This represents only 0.021% of employed special physical personnel in the country. Further, not all of those professionals have the necessary professional qualifications and competencies established by the American Alliance of Health, Physical Education, Recreation, and Dance necessary for their teaching field. At best estimate less than 25% of Montana’s special physical education personnel are professionally qualified. More adversity permeates this situation in that there are no professionally qualified personnel in special physical education in the state education agency to oversee or direct such programs. Thus, teachers in Montana have no professionally legitimate or qualified resource in which to obtain direct assistance in the provision of physical education to the state’s handicapped children.

Additional data about educational aspects in providing special physical education to handicapped children in rural/remote Montana are as follows. These include, but are not limited to:

a. The population density for the State of Montana is 5 persons per square mile;
b. There are over 700 school districts in the state which is almost double that of the State of Illinois which also has almost ten times the population;
c. 46% of school districts in the state are one, two, or three teacher districts K-12. Of that percentage, 38% are one teacher school districts K-12;
d. The state educational agency is having state guidelines for adapted physical education developed exclusively by professionally unqualified adapted physical education specialists;
e. The state educational agency has assigned compliance, monitoring, staff development, supervision, and administration of statewide adapted physical education to a special educator whom does not have such as a primary duty nor possesses minimal AAHPERD competencies for adapted physical education;
f. The state educational agency does not require its state supervisor of physical education to directly oversee and supervise statewide efforts and activities in adapted physical education;
g. There are 20% more related service personnel in physical and occupational therapy employed in Montana than direct service personnel in special physical education;
h. There has been a 66% increase in the employment of instructional aides in the provision of special education with a 21% decrease in teachers since 1976,
The state education agency reported that it has no shortage or personnel needs for special education teachers in the following areas: LD-SI-MR-ED-HH-MH-OH-OH-VH-DB.

The state education agency reported that it needs only 5 more non-categorical special education teachers in the entire state.

The state education agency reported that it does not need any more special physical education personnel and that a teacher/pupil ratio of 1.1935 is acceptable for compliance with PL 94-142.

There has been a 37% increase in related services by school psychologists while there has been a 21% decrease in direct service special education personnel since 1976.

The state education agency reported that Montana's top personnel needs for special education throughout the state are:
1. 5 non-categorical special education teachers
2. 3 school psychologists
3. 3 Speech pathologists

The state education agency now refuses to endorse personnel preparation training grants in adapted physical education.

Each school district in the State of Montana is largely funded by local mil levies requiring annual voter elections.

The standard per pupil cost for pupils in Montana's public schools provided by the state is approximately $450 per year; and,

There is no district power equalization in terms of local school district funding throughout Montana.

**Transdisciplinary Personnel Preparation at the University of Montana**

Recruiting physical and special educators to become qualified special physical education personnel to interdisciplinarily integrate physical education services in rural schools has demonstrated potential for facilitating and enhancing rural special education interventions. Through three federal personnel preparation projects the University of Montana Physical Education-Handicapped Program has established a transdisciplinary training program to increase the quality and number of qualified special physical educators available to the rural areas of Montana. Importantly this training focused on leading in the development and installation of professional competencies in special physical education that makes available interdisciplinary manpower to develop and implement educationally relevant special physical education activities. Thus, training of personnel to provide special physical education services in rural schools of Montana was largely focused around the following contextual goals. These include:

1) Interdisciplinary recruitment of training personnel,
2) Data based and metacognition methodologies for personnel training,
3) Transdisciplinary design of instructional strategies,
4) A preservice integrating inservice model, and,
5) University coursework premised on universal excellence.

As a result of the severe adverse economic conditions pervasive to rural public education in Montana, the training of personnel in special physical education necessitated significant federal financial assistance. Federal assistance also served the ancillary purpose of facilitating cooperative efforts between the University of Montana and the rural schools, professionals, and administrators which have tended to drift further and further apart since passage of PL 94-142. It is safe to say that without federal financial assistance from the U.S Department of Education, personnel training in special physical education for rural Montana would be literally non-existent.

**Interdisciplinary Recruitment and Training of Personnel**

The graduate program at the University of Montana in physical education-handicapped is a 54 quarter credit hour Master of Science degree. The degree was developed in 1983 and was fully operational by the 1984 Fall Quarter. The distribution of coursework in terms of percentages allocated to various aspects of the degree program are as follows:

A) 22% in advanced core physical education personnel preparation experiences;
B) 22% in specialized adapted physical education personnel preparation experiences;
C) 22% in advanced special education personnel preparation experiences;
D) 22% in direct applied research activities in special physical education, and,
E) 12% in highly structured and specialized practica experiences with handicapped clients providing special physical education direct services.

The program has a well balanced distribution of personnel preparation experiences both out of design and necessity. Although highly specialized experiences in special physical education may in fact be desirable, such was not feasible if the University of Montana was to be responsive to its rural constituency. The following data about graduate personnel trained in Montana indicate the need to have a well balanced personnel preparation program that interdisciplinarily appropriate to rural areas. These included, but are not limited to:

A) In the past four years (i.e., 1984-1988) the program has trained 29 graduate students. The undergraduate background of those personnel were as follows,

1. 31% special education (N = 9)
2. 28% other field (e.g., speech, psychology, physical therapy, etc.) (N = 8)
3. 28% regular physical education (N = 8)
4. 10% regular education for classroom (N = 8)
5. 3% special physical education (N = 1)

B) 89% have not had a single introductory undergraduate course in special physical education prior to undertaking graduate study in that field.

C) 89% had no prior instructional experience in even attempting to teach handicapped children in physical education;

D) There was a 100% placement rate for graduates in their desired employment settings. The breakdown of placements was as follows:

1. 41% special education teaching
2. 21% private sector/other fields
3. 14% postgraduate education
4. 10% regular physical education teaching
5. 7% regular education classroom teaching
6. 7% special physical education teaching

E) 49% of personnel did not seek or desire to live or work in rural areas. The geographic areas in which the specially trained special physical education personnel were employed was as follows:

1. 38% rural community area of more than 10,000 population outside a SMSA
2. 28% urban area
3. 21% suburban area
4. 13% remote rural area

The true irony of the University of Montana's interdisciplinarian personnel preparation in special physical education was that the field of special physical education is the educational area that was least benefitted. It was evident from the data that personnel with specialized preparation in special physical education were extremely desirable as professionals. It was unfortunate, however, that less than 10% ever went into providing the direct service of special physical education in the rural areas for which they were specifically trained. The reasons for this unfortunate situation were based upon:

A) The insulting salary level for teachers in rural schools,
B) The complete failure of the U.S. Department of Education to enforce the physical education requirements of PL 94-142 throughout the country, and,
C) The complete failure of Montana's state education agency to recognize, let alone enforce, the physical education requirements of PL 94-142

Data Based and Metacognition Methodologies for Personnel Training
The data based tasks and competencies for the University of Montana Physical Education-Handicapped program were developed and implemented according to the AAHPERD guidelines of professional preparation for personnel involved in physical education and recreation for the handicapped. Candidates were required to meet five data based tasks evidenced by competency in a minimum of 258 of 361 personnel preparation training objectives. The five tasks in which the data based competencies were evaluated were:

1. To analyze the physical and motor capabilities of a variety of handicapping conditions,
2. To plan, organize, implement, and evaluate individualized educational programs of physical education with a variety of handicapping conditions,
3. To develop a working knowledge and understanding of the interdisciplinary team approach involving both school and community agencies for the provision of programs and services to the handicapped,
4. To interactively participate in selected field experiences commensurate with specialized needs and interests; and,
5. To develop the candidate as a special physical education professional resource for cooperative curriculum development and implementation by rural local education agencies.

In addition to the data based tasks and competencies, all personnel were trained in a data based physical education curriculum for severely handicapped children. This curriculum was the basis of all direct service delivery practicum experiences in rural settings in preschool through secondary settings. The curriculum had five data based sequences which included (1) placement, (2) baseline, (3) instruction, (4) post-test, and, (5) maintenance. This was accomplished by a quarterly eight hour metacognition inservice. The purpose of the metacognition was to develop an awareness, knowledge and skill via a transdisciplinary manner for special physical education in a variety of education personnel.

The quarterly metacognition was designed as an alive, later occurring comprehensive and specialized process of awareness, judgement, products, and skills in special physical education.

The metacognition had five data based dimensions of personnel preparation. These included:

1. Purpose = "why" of content in special physical education,
2. Values = "so what" of content in special physical education,
3. Central Message = "what" of content in special physical education,
4. Validation = "support" of content in special physical education, and,
5. Application = "how" of content in special physical education.
The data based tasks and competencies as well as the transdisciplinary metacognition process were integrated into all practicum experiences. All practica settings were in rural special education programs and ranged in level from preschool through secondary. There was also a weekly on-campus special physical education teaching academy in addition to the structured off-campus settings. In all situations, training personnel were required to develop physical education data based IEPs for severely handicapped children as well as provide direct services in a rural setting to all types of handicapping conditions. During the course of the academic year, each candidate was required to spend a minimum of 432 hours in direct service delivery of special physical education in rural settings preschool through secondary levels.

Transdisciplinary Design of Instructional Strategies

Since it was widely accepted that teachers providing special physical education in rural areas would be from a multitude of educational backgrounds and abilities, the instructional strategies needed by them would have to be of a transdisciplinary design. For these purposes, transdisciplinary referred to providing non-specialized personnel specific instructional skills in special physical education. Whereas, interdisciplinary referred to the sharing of rubric non-specialized instructional physical education activities that did not require specific skill on behalf of personnel.

To facilitate the transdisciplinary skill acquisition in special physical education training personnel were intensively involved with highly specific instructional strategies based on the psychomotor development and learning of severely handicapped children. Complementing data based and metacognition training methodologies was a structured data based psychomotor learning curriculum for severely handicapped learners preschool through secondary. It was through this curriculum that trainees developed IEPs in special physical education and implemented individualized data based instruction in rural educational settings. The data based instructional curriculum contained the following elements to allow specialized physical education instructional strategies for handicapped children to be delivered in a transdisciplinary manner. These included
1. Ambulatory or wheelchair elements,
2. Preschool - Elementary - Secondary components;
3. Goal areas of:
   a. Body mechanics
   b. Body knowledge
   c. Locomotion
   c. Spatial accuracy
   d. Health & Fitness
   e. Sensorimotor control
4. Specific performance objectives within each goal area;
5. Specific instructional skill levels of each performance objective,
   a. Pre-functional skill level
   b. Functional skill level
   c. Age appropriate skill level
   d. Proficient age appropriate skill level
6. Purpose of the special physical education lesson;
   a. Placement
   b. Baseline
   c. Instruction
7. A specific teaching research instructional model,
   a. Cue
   b. Model
   c. Physical Assistance (3x)
8. Specific instructional data points for precision teaching;
   a. Simple to complex dependent upon skill level;
9. Specific verbal cue for the individual performance objective;
10. Specific materials necessary for instruction of the individual performance objective;
11. Necessary criterion for successful performance by handicapped learner;
12. Environmental cue to establish an appropriate instructional environment, and,
13. Appropriate interdisciplinary instructional activities.

A Preservice Integrating Inservice Model

As noted the needs of Montana to support the efforts of special education through special
physical education were congruent with the needs of other rural states Montana, however,
additionally represents significant characteristics of remoteness which greatly discourage special
physical education specialists from seeking employment or education there Frequently,
handicapped populations in Montana schools were too few in number to even allow the employment
of a regular physical education teacher let alone an adapted specialist Unfortunately, in those
same circumstances, educators were likely to be well intended, but lacked any guidance or
technical assistance Due to a severe lack of experience and personnel preparation at the rural
locale, teachers did not receive orientation, on-the-job training, interpersonal support, or other
means of recognition or compensation relative to special physical education Maintaining this
problem was the fact that population densities throughout Montana were inadequate to support
agencies of a sufficient size to establish effective and comprehensive special education without
significant federal fiscal support.
What then appeared to be needed was a transdisciplinary system of personnel preparation which (1) efficiently increased the quality of preservice skills in special physical education, (2) rapidly increased these competencies from preschool through secondary levels, and, (3) established highly structured preservice practice and field sites in rural schools as an interactive component of the existing local school district special education program. What was additionally a vital contributor to this model was the availability of special and regular physical education teachers who were willing to be inserviced in special physical education by preservice personnel while assisting in the delivery of such services in their respective schools. The magnanimous attitude of employed rural teachers to accept technical assistance by an ongoing daily inservice process by graduate student preservice personnel was essential to paradigmical success. Without it the preservice integrating inservice model, as well as the provision of direct special physical education services to over 300 handicapped children in rural Montana would have been unlikely. Without a doubt, practicing and employed rural special education teachers were instrumental to the preservice training of rural special physical educators. Further our evaluative data suggested that these same teachers:

1. Preferred direct special physical education services as opposed to the related services of physical and/or occupational therapy,
2. Were willing to accept technical assistance from preservice personnel,
3. Were willing to accept technical assistance from the University,
4. Were willing to actively participate in transdisciplinary inservice training,
5. Were willing to teach special physical education on an equal professional basis in their classrooms with university preservice personnel,
6. Were willing to actively participate in University service programs in special physical education, and,
7. Were willing to enter into contractual interagency agreements to assist in preservice training and competencies.

The Preservice integrating inservice model in special physical education was seen as involving activities that were implemented by interactive management decisions between rural schools and the University of Montana. The overall design of the model was based upon three components and subsequent training activities. These included:

1. Components of personnel preparation in special physical education,
   a. Teaching of graduate students
   b. Teaching of undergraduate students
   c. Training University faculty to direct practice experiences
d. Training LEA personnel to direct on-site field experiences

2. Direct service components of personnel preparation in special physical education;
   a. Training preservice personnel in specialized instructional strategies for special physical education
   b. Providing technical assistance and support for directors of on-campus practice
   c. Providing technical assistance and support for LEA personnel in on-site field sites
   d. Providing direct services via IEP to handicapped children in rural programs
   e. Continuing refinement to develop best practices

3. Operational components of personnel preparation in special physical education
   a. Ongoing and comprehensive evaluation and feedback system
   b. Responsive management systems for effectiveness and efficiency of operation

University Coursework Premised on Universal Excellence

The notion of universal excellence was the motivation driving the University of Montana Physical Education-Handicapped Program. Unfortunately, at the time this concept in rural areas was still more vision than substance. In 1985, just as the U.S. Department of Education was beginning to identify specific training needs for rural areas in special education, the University of Montana was predicting that there appeared little evidence that special physical education in rural areas would be a future reality unless rural personnel preparation programs were premised in universal excellence. Thus, the tactics and strategies for trainees in special physical education at the University of Montana were predicated upon the reserved and accepted notion of universal excellence.

The training competencies of the University of Montana Physical Education-Handicapped program were highly indicative of any quality personnel preparation graduate program in special physical education. Unquestionably it's universal excellence design was capable of developing and facilitating special physical education skills for professionals that are applicable as well as deliverable to any educational setting whether such be remote, rural, isolated, suburban, or urban. Perhaps the most significant aspect of the University of Montana's personnel preparation was it's ability to faithfully replicate training in special education based on universal excellence instead of merely training in segregated rural settings that did not have the capacity for high level transference and adaptability.

The University of Montana's Physical Education-Handicapped program also offered an immediate and more distant promise. That being, the realization of one's special education
Training potential depends upon the degree to which it can transdisciplinarily train rural special educators in the advantages of universal excellence as well as avoiding the problems of segregation from urban counterparts. The University of Montana's training competencies were oriented toward quality personnel preparation practices with rural educators standing much to gain by developing their own individual universal excellence literacy through situational analysis and adaptability to the rural environments in which they interacted. Unlike urban peers, the University of Montana did not have the luxury of falling back on significant existing resources and easily accessible training practices in special education. Rather, the University of Montana was compelled to unequivocally pursue universal excellence in training with a delicate balance of ongoing and responsive evaluation of such that was proactive to the rural constituency served.

Further, rural areas could not be viewed within a single dimension. In short, even among rural areas in the Rocky Mountains there were tremendous differences with regard to factors of affluence, distance, isolation, and social organization. The University of Montana thereby proactively trained special physical educators through the interpolation of (1) universal excellence, (2) strategies of transfer and adaptation based on individual rural situational analysis; and (3) responding by the tactic of "resident generalist" as proposed by Williams (1983). It was through this approach to training, however, that the University of Montana, exercised caution so that its efforts in rurality did not result in the loss of variables, which in general, contributed the greatest amount of variance to effective special physical education practices in any setting.

**Summary of Successful Training Strategies for Rural Areas**

As was previously noted, the great success of the University of Montana's Physical Education Handicappers program of personnel preparation was exclusively due to federal fiscal support of that endeavor. Without increased and significant funding by the U.S. Department of Education to rural colleges and universities for training of special educators, rural areas can
continue to expect tremendous difficulty in attracting, employing, and retaining personnel for special education. This is even more true for the area of special physical education.

For example, out of the estimated available $15.05 million dollars available in FY 1988 for the training of personnel for education of the handicapped, only 3.3% ($500,000) was originally allocated to the preparation of personnel to work in rural areas (CFDA 84.029J). The quality of rural special education was directly dependent upon the quality and availability of personnel. The allocation of a mere 3.3% of estimated available funds is absurd when considered in the context that approximately 25% of the nation's school districts are rural in nature. What is even worse for rural special physical education training was the fact that there are only three such programs in the country receiving specific federal fiscal assistance in this field. Those institutions (i.e., Appalachian State University, University of Montana; University of New Hampshire) are very isolated geographically so as to severely inhibit even reasonable amounts of integrative best practices in rural special physical education.

In any event, the University of Montana was and thoroughly remains extremely grateful to the U.S. Department of Education for its fiscal commitment during the past four years allowing it to be the first federally funded personnel preparation program in rural special physical education in the country. To poorly analogize Barbara Mandrell's hit country song, "the University of Montana was rural when rural wasn't cool" in training special physical educators. Strategies that were found most successful in that rural personnel preparation were

1) Recruitment of personnel through national exchanges and/or journals were very unsuccessful. The most productive procedures for personnel recruitment in order of productivity were:
   a. Local and regional newspapers
   b. On-campus advertisements in classes and on bulletin-boards
   c. The campus newsletter and/or newspaper
   d. Referrals from other University faculty
   e. Personnel meetings with potential students at scholarly meetings
   f. Flyers sent to regional Universities and Colleges

2) In establishing rural school districts as training/service practice sites school administrators need to feel comfortable and confident that University personnel are not "watchdogs and whistleblowers" for the U.S. Department of Education.

3) Rural schools need and require substantial technical assistance in the development and implementation of IEP's for special physical education. Frequently schools will not
serve as practice sites unless university trainees and personnel implement direct services to handicapped children that can be used for state compliance and monitoring purposes. The entire programs were usually developed, implemented and evaluated exclusively by university personnel which is both extremely time consuming and demanding;

4) Personnel preparation in rural special physical education cannot hope to become fully operational within the first year of a three year project. Recommendation for federal projects was as follows;
   a. Year 1 = Awareness of special physical education
   b. Year 2 = Acquisition of knowledge in special physical education
   c. Year 3 = Demonstration/implementation of special physical education

5) Rural schools will not implement appropriate physical education experiences for handicapped children merely by the threats and mandates of Public Law 94-142. Rural schools need to be convinced of its academic value and how the university and its provision of direct services can prevent law suits as well as be accomplished at no cost to the school district;

6) Travel costs in training grants cannot be negotiated on a similar basis to that calculated for suburban/urban costs. In many instances travel costs are 5-10 times that encountered in non-rural areas;

7) Rural schools need incentives to participate in training project activities other than just providing personnel assistance or direct services. Since budgets in rural schools are usually miniscule, the project must provide incentives (e.g. materials, supplies, equipment loans, etc.) to school personnel if they are to agree to serve as practice sites,

8) Training projects in rural areas must be allowed to operate on budgets that may be considered cost-ineffective in urban areas. Rural projects cannot hope to train as many personnel as its non-rural counterpart. Further, there are frequently not available an appropriate number of practice sites within a reasonable travelling distance; and,

9) Rural projects must be based on the concept of universal excellence if their graduates are going to be competitively employed, even in rural areas.
References


