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ABSTRACT

This final report summarizes the objectives, activities and outcomes of a federally-funded project that was designed to add an interdisciplinary specialization in multiple disabilities for infants and toddlers to an existing Early Intervention Master of Education/Early Childhood Education Certificate Program at the University of Pittsburgh. Seven modules focusing on conditions and needs of infants/toddlers with multiple disabilities were developed and delivered as one-credit courses. The modules include: (1) vision impairments; (2) hearing impairments; (3) autism; (4) medically fragile conditions; (5) oral-motor/feeding; (6) communication; and (7) positioning, handling and mobility. The grant supported a total of 24 students, 17% of whom were from underrepresented groups. Of the 19 students who finished their graduate work, 14 went on to work with students with disabilities in either early intervention or school-aged programs, and 4 went on to work with typical students in high-risk programs for preschoolers. The report includes an appendix entitled: "Conceptual Bases for the Infant/Toddler Multiple Disabilities Specialization Modules." (SG)

Final Report

Training Early Interventionists in Low Incidence Disabilities

September, 1996 – August, 2000

Grant # HO29A60085

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Table of Contents

Abstract	3
Objective 1	4
Objective 2	4
Objective 3	6
Appendix	11

Training Early Interventionists in Low Incidence Disabilities Abstract

With the shift toward more generic, broader-based certificates in education as well as the movement toward unification of Early Intervention and Early Childhood Education, there are concerns that early interventionists may not possess the expertise necessary to serve infants and toddlers with complex multiple disabilities and their families. In our area of Pennsylvania, Infant/Toddler Programs for children with disabilities are either required or prefer to hire persons with teaching certificates in Early Childhood Education or Special Education. However, persons who acquire these certificates from training programs in the State of Pennsylvania usually have not received specific training to serve infants, toddlers, and preschoolers with disabilities, much less have the expertise to assess, plan, and implement programs for infants/toddlers with complex multiple needs. Most personnel hired in early intervention programs (birth to age 3) must learn the role of the early interventionist on the job. This results in inadequate service delivery for children with multiple disabilities and their families, poor job satisfaction for personnel, and burdens on the provider agencies to provide training that goes well beyond the scope of their mission.

In order to meet these needs, this project is designed to address the following objectives:

- Objective 1. To develop an Infant/Toddler Multiple Disabilities Specialization (Birth to 3) within our current Early Intervention Master of Education (Birth to age 5) / Early Childhood Education Certificate Program (Birth to age 8).
- Objective 2. To graduate 20 personnel from the Early Intervention M.Ed. / Early Childhood Education Certificate Program with an Infant/Toddler Multiple Disabilities Specialization.
- Objective 3. To develop 7 instructional modules focusing on the conditions and needs of infants and toddlers with multiple disabilities and deliver them as 1 credit courses that include video-based evaluations of student competence.

The Early Intervention M.Ed. / Early Childhood Education Certification Core Program prepares students to teach all young children, birth through age eight, with a special emphasis on infants, toddlers, and preschoolers with disabilities. This project adds an interdisciplinary specialization in multiple disabilities for infants and toddlers that builds upon the coursework offered in the Core Program.

The courses in the Core Program focus on educational programming for all infants and toddlers; assessment and early intervention for infants and toddlers with disabilities; working with families; linking families to community resources; and the medical and physical aspects of disabilities. Through this project, seven modules focusing on conditions and needs of infants/toddlers with multiple disabilities will be developed and delivered as 1 credit courses. The modules include vision impairments; hearing impairments; autism; medically-fragile conditions; oral-motor/feeding; communication; and positioning, handling and mobility. Each module will include a video-based evaluation of student competence.

Training Early Interventionists in Low Incidence Disabilities

Objective 1. To develop an Infant/Toddler Multiple Disabilities Specialization (Birth to 3) within our current Early Intervention Master of Education (Birth to age 5) / Early Childhood Education Certificate Program (Birth to age 8).

Of the 24 students in the program, only seven were full time. When we proposed this program, we had anticipated that many more students would have attended full time. Fewer also received certification than anticipated. As a result, most of the students completed our proposed curriculum over the course of a 2.5 year period. The only difference in coursework from our originally proposed curriculum was the lack of availability of the UCLID seminar. We also made some minor adjustments to a few courses (e.g., our methods courses were changed from being age related (i.e., infant/toddler and preschool) to being role related (i.e., assessment and programming). Table 1 depicts the typical part-time sequence of courses.

Objective 2. To graduate 20 personnel from the Early Intervention M.Ed. / Early Childhood Education Certificate Program with an Infant/Toddler Multiple Disabilities Specialization.

The grant supported a total of 24 students, 17% of whom were from underrepresented groups. One student received a M.Ed. in Early Intervention and a certificate in Early Childhood Education, one student received a M.Ed. in Early Intervention and a certificate in Special Education, seventeen students received a M.Ed. in Early Intervention only, and 5 students did not finish the program. The five who did not finish described various personal circumstances that made it difficult for them to finish (e.g., moving out of state, changes in personal priorities, son with a disability requiring additional support). Of the 19 students who completed their graduate work, 14 were working with students with disabilities in either early intervention (10 graduates) or school-aged programs (4 graduates) after they graduated. Four students were working with typical students in high-risk programs for preschoolers including Head Start (3 graduates) and school-

aged children (1 graduate). We did not hear from 1 student who moved out of state after graduating. Of the 18 graduates whom we have heard from, 7 found new positions and 11 remained in current positions.

Table 1
Sample Plan of Study
Early Intervention M.Ed.
with Infant/Toddler Multiple Disabilities Specialization
(47 Credits)

First Fall (6 cr)		
I&L 2560	Early Education Children with Disabilities	3 cr
I&L 2515	Medical & Physical Aspects of Disability	3 cr
First Spring (5 cr)		
I&L 2905	Teaching Infants/Toddlers	2 cr
I&L 2582	Parent-Professional Partnerships	3 cr
First Summer (10 cr)		
Module	Oral-Motor / Feeding Strategies Module	1 cr
Module	Alternative Communication Strategies Module	1 cr
Module	Positioning, Handling, Mobility Module	1 cr
Educ 2100	Education and Society	3 cr
Educ 2200	Research Methods	3 cr
I&L 2852	Multiple Disabilities Infant /Toddler Practicum with Seminar	1 cr
Second Fall (6 cr)		
I&L 2904	Teaching Preschoolers	3 cr
I&L 2562	Assessment of Young Children with Disabilities	3 cr
Second Spring (5 cr)		
I&L 2561	Programming in Early Intervention	3 cr
I&L 2563	Simulation Seminar: Inclusion in Early Childhood	2 cr
Second Summer (9 cr)		
Module	Autism Module	1 cr
Module	Hearing Impairments Module	1 cr
Module	Vision Impairments Module	1 cr
Module	Medically Fragile Module	1 cr
Educ 2000	Psych of Learning and Development	3 cr
I&L 2852	Multiple Disabilities Infant /Toddler Practicum with Seminar	1 cr
Third Fall (3 cr)		
I&L 2906	Seminar: Resources Young Children & Families	2 cr
I&L 2850	Preschool Practicum with Seminar	1 cr
Third Spring (4 cr)		
I&L 3509	Adv Seminar Early Intervention: Low Incidence Emphasis	3 cr
I&L 2852	Infant /Toddler Practicum with Seminar	1 cr

Objective 3. To develop 7 instructional modules focusing on the conditions and needs of infants and toddlers with multiple disabilities and deliver them as 1 credit courses that include video-based evaluations of student competence.

In our original proposal we identified 8 modules. However, we discussed the need to reduce the number of modules to 7 in one of annual reports, because we were unable to find a qualified person to teach the Deaf-Blind Module. The original faculty member identified for that content left the state to take another position. The content for the seven modules appears in Table 2.

In the development of the modules, the module instructors with the Research Associate and Project Director formed a committee to develop the modules. The module instructors were drawn from a variety of disciplines including physical therapy, occupational therapy, education of the deaf and hearing-impaired, speech-language pathology, and education of the visually impaired. The Committee initially met 3 times. In our first meeting, we introduced the Early Intervention Program and the Multiple Disabilities Specialization; the tasks and functions of the Committee; the content of the modules, including the video-based assessments; and an overview the *Medical and Physical Aspects of Disabilities* course. In our second meeting, as a committee, we developed our ideas about the three themes common to each module, namely family-centered intervention, transdisciplinary team functioning, and natural environments and reviewed outlines of 2 modules developed by members of the committee (See Appendix). The brainstorming on the three themes led to the development of a philosophical statement that formed the foundation for each module. In the third meeting, we reviewed the 3 modules to be offered during the initial summer, including the 3 video-based performance assessments. The development of the remaining four modules and collection and editing of video samples was completed in time for them to be offered during the second summer of the grant. Subsequently, the committee met annually to discuss issues relating to the development of the modules.

Three modules were offered the first summer, seven were offered the second summer, and six were offered the third summer. In addition to our early intervention students, the modules

became popular courses for students in nursing and communication disorders. Because of grant support, we also were able to offer the modules at reduced cost to community service providers who were not enrolled in the program and took the modules without credit.

Table 2. Module Content

Module	Previous Core Coursework	Focus of Module
Vision Impairments	anatomy/physiology of the eye; high incidence visual impairments; assessment and intervention strategies	highest probability conditions in infants/toddlers with multiple disabilities, i.e., cortical visual impairment, retinopathy of prematurity; assessment of functional vision; intervention strategies, including task adaptations, maximizing residual vision, and the use of assistive technology
Hearing Impairments	anatomy/physiology of the ear; types of hearing loss; basic assessment / intervention strategies	interface between hearing impairments and other disabilities; evaluation of functional hearing; intervention strategies, including task adaptations, maximizing residual hearing, assistive technology, and facilitating communication skills
Autism	definition, characteristics, etiology and effects on development	relationship between autism and other disabilities; identification, assessment, and intervention strategies, including Lovaas, sensory-integration, auditory training, and facilitated communication
Medically-Fragile Conditions	specific conditions (e.g., seizures, IVH, RDS, AIDs, herpes) & educational implications	care and development of infants who are technology dependent (e.g., respirators, monitors, and nutritional support); integration of health care and educational programming; prevention and treatment of health-related emergencies; infant CPR
Oral-Motor / Feeding	basic information and skills about feeding and nutrition	normal oral-motor patterns; possible problems (e.g., abnormal muscle tone, abnormal/dysfunctional reflexes, structural abnormalities), assessment / intervention strategies (e.g., positioning; modifying/adapting food, utensils, feeding schedules, food presentation; the social/communicative environment during mealtimes; oral-facial stimulation); nutrition
Communication	knowledge about the form, function, and meaning of language; basic assessment and intervention strategies	more indepth coverage of strategies for establishing basic pragmatic skills (e.g., choice-making; contingent responsiveness; requesting attention, assistance, objects; protesting/rejection); the use of augmentative / alternative communication strategies, including transdisciplinary assessment and decision-making in determining modes, symbol systems, and selection strategies; the use of assistive technology in supporting early communication skills
Positioning, Handling, & Mobility	Establishing stable positions, use of some adaptive equipment; inhibiting primitive reflexes;	use of adaptive equipment in positioning and mobility, facilitating movement patterns (e.g., sit to stand), and developing mobility skills, including the use and management of prostheses and orthotics

In the final year of the project, we brought together a group of professionals who were not involved in module development. We identified one specialized and one general early interventionist for each module and asked them to take the competency evaluation using the videotape. In a subsequent focus group, we met with the group to discuss their opinions and ideas about the module evaluations. The information we gleaned from this exercise provided us with valuable input for further modifying the modules in subsequent years. The group generally confirmed that the content we were covering was important to the delivery of early intervention services and that the use of videotapes was helpful in creating more authentic classroom assignments. They recommended getting younger infants in many of the video-based assignments and improving the quality of the video for some of the assignments.

Results of the modules evaluations appear in Tables 3 and 4.

Table 3
Video – Based Assignment Evaluation Results
N = 132

The first 8 items were rated on the following scale:

- 5 - Much more than most traditional course assignments.
- 4 - More than most traditional course assignments.
- 3 - About the same as most traditional course assignments.
- 2 - Less than most traditional course assignments.
- 1 - Much less than most traditional course assignments.

	Mean (Standard Deviation)	
1. The overall effectiveness of the video-based assignments as an <i>instructional</i> tool was...	3.74 (0.91)	
2. The overall effectiveness of the video-based assignment as an <i>evaluation</i> tool was...	3.73 (0.97)	
3. The overall difficulty level of the video-based assignment was...	3.72 (0.85)	
4. The amount of time I needed to complete the video-based assignments was...	3.76 (0.92)	
5. The video-based assignment contributed to my understanding of the course content...	3.84 (0.89)	
6. The video-based assignments will contribute to my ability to apply the course content...	3.81 (0.99)	
7. The authenticity of the video-based assignments was...	3.99 (0.95)	
8. The clarity of the questions and the expectations regarding video-based assignments were...	3.60 (1.04)	
On the remaining 4 items students were asked to agree or disagree:		
	Agree	Disagree
9. The technical quality of the videotapes was adequate to complete the assignment.	92%	8%
10. The segments selected for the assignments adequately represented the questions that were asked.	95%	5%
11. The video-based assignments contributed to my confidence as an early intervention practitioner.	86%	14%
12. I would like video-based assignments to be used or incorporated into other courses.	86%	14%

Table 4
Supplementary Evaluation Results

Respondents were asked to respond to the following Likert Scale:

	1 Strongly Disagree (SD)	2 Disagree (D)	3 Agree (A)	4 Strongly Agree (SA)		
					N	Mean (Standard Deviation)
1.						
Four classes per module followed by a video-based take-home assignment/evaluation was an effective format.					98	2.92 (0.95)
2.						
Non-video related written assignments should be added to the reading and video-based assignments.					98	2.03 (0.96)
3.						
The content presented in the module was practical.					124	3.38 (0.73)
4.						
The content presented was relevant to my current or possible future needs as an early interventionist.					124	3.44 (0.80)
5.						
The module used a family-centered approach to content.					124	3.35 (0.74)
6.						
The module was approached from a transdisciplinary perspective.					124	3.07 (0.85)
7.						
The module focused on techniques that can be applied to natural environments.					124	3.45 (0.91)
8.						
The amount of content covered was about right for four class sessions.					124	3.01 (0.85)
9.						
The video-based assignments were congruent with the module objectives.					124	3.21 (0.81)
10.						
The video-based assignments were congruent with the content covered in class.					124	3.14 (0.88)

Appendix

Conceptual Bases for the Infant/Toddler Multiple Disabilities Specialization Modules

The modules for the Infant/Toddler Multiple Disabilities Specialization were developed by a team of professionals from a variety of disciplinary backgrounds, including occupational therapy, physical therapy, speech-language pathology, psychology, vision, hearing, and special education. The content of each module is designed to promote critical knowledge and skills needed by developmental specialists who work with infants and toddlers with multiple disabilities. Although each module will cover different material and be presented in the style that best suits the individual instructor, all modules incorporate the group's understanding and definition of three core concepts that are essential to providing exemplary early intervention services to children with disabilities and their families.

Family-Centeredness

Family-centeredness is defined as: asking about, listening to, and respecting families' feelings, cultural traditions and practices, and preferences and choices for their children, goals, and levels of participation in early intervention. It is also the awareness that these may change for families as the families themselves change over time. For example, choices and preferences may be different for an infant who has just been diagnosed than for a preschooler who has been receiving services for several years. Being family-centered recognizes that every family defines its own membership and structure. Sharing information is a critical aspect of family-centered intervention. This includes giving families information about our roles as professionals and "owning" our professional opinions without presenting them as the only way or the best way. Sharing information in this way assists families to become informed decision-makers for their children, empowers them to "own" their opinions as well, and fosters family-professional relationships that are based on mutual respect. Building such partnerships can take time and may be difficult but in time the end result is usually beneficial and satisfying for families and professionals alike

Transdisciplinary Teaming

Transdisciplinary teaming, involves professionals from a variety of disciplines working together in ways that *transcend* traditional disciplinary roles. Transdisciplinary teaming allows members of one discipline to assume some aspects of the roles of other disciplines in the delivery of services. This creates an atmosphere of teaching and learning among team members. Like family-professional partnerships, however, transdisciplinary teaming takes time and often presents many challenges, especially if a number of different agencies are involved. When done well, the benefits outweigh the demands for both families and professionals. Many find the experience almost addictive, i.e., once you have had a successful transdisciplinary team experience, it is difficult to accept a working environment that is anything less. For transdisciplinary teaming to be successful, the team should be established first. Members must understand each others roles, ask questions, be accountable for their actions and keep their focus family-centered.

Natural Environments

Natural environments can be as diverse as families themselves. Culture, religion, social, economic, community and individual family factors may all play a role in determining what is *natural* for each child and family. Families of children with disabilities should have the same range of choices as families whose children do not have disabilities. Early intervention services should focus on and be delivered in natural environments but this emphasis does not prohibit services in other settings if that seems the best course of action for a particular child and family.



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