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CREATING NEW VISIONS IN INSTITUTIONS OF HIGHER EDUCATION

Interdisciplinary Approaches to Personnel Preparation in Early Intervention

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Adequately prepared personnel are central to the successful implementation of the Infant and Toddler Program (Part H) of the Individuals with Disabilities Education Act (IDEA). As the field of early intervention has evolved, however, personnel preparation is an area in which limited progress has been made. There is general agreement among those engaged in personnel preparation that institutions of higher education (IHEs) are not adequately meeting the personnel needs in early intervention (Winton, 1996). Furthermore, there is growing consensus that major reform is needed in IHEs, with the recommendation that traditional unidisciplinary instructional approaches be replaced with innovative interdisciplinary models to meet the demand for adequately prepared personnel across disciplines.

This chapter describes new visions and strategies for changes in higher education with the promise of better preparing professionals to fill interdisciplinary roles in early intervention. The term *interdisciplinary* is used throughout this chapter to refer to personnel preparation that incorporates two or more disciplines, including early childhood special education, general early childhood education, occupational therapy, physical therapy, social work, speech-language pathology, psychology, nursing, and others. The term *higher education interdisciplinary programs* is used to refer to those programs that provide coursework, practical, or other preservice credit experiences to students from more than one professional discipline.

Higher education interdisciplinary programs are most likely to occur in one of the following settings: 1) community colleges, 2) comprehensive colleges and universities (i.e., institutions that include 4-year undergraduate-, graduate-, and/or doctoral-level preparation), or 3) university affiliated programs (UAPs). Community colleges serve the community in which they are located and provide career instruction, occupational retraining, freshman- and sophomore-level coursework for students who will transfer to 4-year colleges and universities, continuing education programs, and other educational offerings for special populations. Comprehensive IHEs focus on the areas of teaching, scholarship, and service. Within the area of teaching, the emphasis is typically on unidisciplinary preservice

preparation programs that comprise hierarchical ordering of coursework from the introductory to advanced content, leading to a degree in a single discipline (or area). Related content (e.g., education specialties) usually is grouped within a specific school or college. Most faculty are assigned to a particular program or area of expertise and have primary responsibility for students enrolled in that program. UAPs, mandated in the 1960s by the Administration on Developmental Disabilities, are university organizational units that are well suited for early intervention personnel preparation. UAPs focus on developmental disabilities and emphasize an interdisciplinary approach to instruction for professionals and paraprofessionals, technical assistance, exemplary service programs, research, and information dissemination. Thus, UAPs provide resources that cross many disciplines, types of disabilities, and age groups of consumers; moreover, many activities provided by UAPs are directly related to the implementation of Part H of IDEA.

In this chapter, the role of various higher education settings in the provision of early intervention instruction, the rationale for interdisciplinary instruction, potential issues and challenges, various models of and approaches to instruction, and strategies for moving forward are discussed. Examples of early intervention instructional programs that have been developed throughout the United States are highlighted and future challenges delineated.

THE ROLE OF HIGHER EDUCATION IN EARLY INTERVENTION INSTRUCTION

Early intervention efforts are taking place in various forms in IHEs throughout the United States. However, many IHEs have been reluctant to begin new programs in early intervention or expand existing programs as a result of the overall climate of retrenchment (Bailey, 1989; Gallagher & Staples, 1990; Rooney, 1995). Due to budget reductions and scarce resources in higher education, many departments have been forced to emphasize cost-effectiveness over the provision of quality programs and recommended instructional practices. Thus, new, innovative ideas are necessary for achieving collaboration across departments and disciplines in order to provide quality instructional programs in early intervention.

Traditionally, community colleges have not been part of the mainstream of early intervention instruction. The reasons often cited for this lack of involvement include the insufficient linkages between 4-year institutions and community colleges; limited resources; inadequately prepared faculty; lack of knowledge of personnel needs and trends in early intervention; and problems with student recruitment, support, and retention. Beginning in the 1980s, however, instructional programs have been developed, often with federal support, to provide innovative instructional opportunities focused on early intervention through the community college system. It is anticipated that community colleges will play an increasingly important role in early intervention instruction. In comprehensive IHEs, there has been a shift toward offering more specialized early intervention instruction at the preservice level. These programs have tended to be unidisciplinary (Bailey, Palsha, & Huntington, 1990), even though interdisciplinary instruction has been supported by a number of professional organizations, including occupational therapy (American Occupational Therapy Association, 1989), speech-language pathology (American Speech-Language-Hearing Association, 1989), physical therapy (American Physical Therapy Association, 1990), and early childhood special education (Odom, McLean, Johnson, & LaMontagne, 1995). Some comprehensive colleges and universities have instituted interdisciplinary early intervention instructional programs; however, many of these programs

have had external funding to support their efforts and have experienced difficulty in continuing implementation after the funding ended (Rooney, 1995).

UAPs or similar interdisciplinary structures are considered by many to be ideal mechanisms for facilitating interdisciplinary instruction because they are organizational units with a precedent for interdisciplinary activities. However, UAPs have a life-span focus, and some UAPs may not focus as strongly as others on early intervention. Another factor is that some UAPs place greater emphasis on inservice rather than on preservice instruction for a variety of reasons (e.g., needs of currently employed personnel working in the field of developmental disabilities). There have been suggestions that UAPs are unrealistic as models of interdisciplinary personnel preparation and may even be partly responsible for maintaining the status quo in interdisciplinary instruction in early intervention and other areas (e.g., the preparation of personnel to serve preschool- and school-age children with disabilities). Nonetheless, UAPs have the infrastructure to support interdisciplinary instruction and create models for other IHEs to follow.

RATIONALE FOR AN INTERDISCIPLINARY APPROACH TO HIGHER EDUCATION INSTRUCTION

The delivery of effective early intervention necessitates an approach in which professionals collaborate with a child's family and with other professionals and agencies that also provide services to the family. As illustrated by the story of Janet (see Chapter 1), early intervention, by definition, is comprehensive and multidisciplinary. A lack of collaboration can result in children and their families being served by a multitude of professionals with differing philosophies of intervention and differing treatment goals (Bruder, 1994).

Although other models are being used in some IHEs, interdisciplinary instruction represents the most appropriate type for early intervention professionals. There are many reasons to provide interdisciplinary instructional experiences to individuals pursuing careers in early intervention. The first reason stems from legislative mandates. The Education of the Handicapped Act Amendments of 1986, PL 99-457, established statewide systems of early intervention services for eligible infants and toddlers and their families. There are a number of requirements in this legislation that include the use of more than one professional discipline, including the following:

- *The development of interagency and multidisciplinary models of service delivery for eligible infants and toddlers and their families as specified in the individualized family service plan (IFSP), which is directed by the family.* "Multidisciplinary" has been further defined by the U.S. Department of Education to mean efforts involving people representing at least two disciplines.
- *The appointment of a service coordinator to facilitate and ensure the implementation of the IFSP.* The service coordinator is responsible for the implementation of the IFSP and for ongoing coordination with other agencies and individuals to ensure the timely and effective delivery of services.

Thus, through interdisciplinary instruction, interventionists should be prepared for working with other professionals. A second reason to provide interdisciplinary instruction is in response to the new interdisciplinary job categories created to alleviate personnel shortages. A number of states have created new occupational categories for personnel who deliver early intervention. These occupational categories (e.g., infant specialists, early

intervention generalists) represent a cross-disciplinary focus and are used to create a work force within states that is responsive to the integrated needs of infants and toddlers and their families.

A third reason is the need to decrease the number of interventionists interacting with infants and toddlers and their families at any one time. Many families have expressed concern about receiving different messages about differing priorities from the various discipline-specific interventionists. This makes early intervention unnecessarily fragmented and ineffective for a family trying to adapt to the multiple needs of their child. In 1978, the United Cerebral Palsy National Collaborative Infant Project (Hutchinson, 1978) developed an intervention model specifically to meet the needs of infants with disabilities and their families. Termed the transdisciplinary model, it comprised a primary interventionist with responsibility for coordinating input from all other relevant professionals and delivering intervention using a cohesive and holistic approach (see Chapter 14). Two fundamental assumptions of this model are that children's development must be viewed as integrated and interactive and that children must be served within the context of the family (McGonigel, Woodruff, & Roszmann-Millican, 1994). The concept of primary interventionist has been reinforced by the Head Start Advisory Committee on Services for Families with Infants and Toddlers. In particular, a number of principles for programming were identified, including a principle for positive relationships and continuity:

Programs will support and enhance strong, caring, continuous relationships among the child, parents, family, and caregiving staff. Programs will support the mother-child/father-child bond by recognizing each parent as his or her child's first and primary source of love, nurturance and guidance. Programs will ensure that relationships between caregiving staff and young children support infant and toddler attachment to a limited number of skilled and caring individuals, thus maintaining relationships with caregivers over time and avoiding the trauma of loss experienced with frequent turnover of key people in the child's life. (*Federal Register*, 1995, p. 14550)

Finally, personnel who graduate from unidisciplinary preservice instructional programs are at a disadvantage in early intervention. A single-discipline focus, for example, can mask the interrelationship of development of and subsequent interventions with children, which can result in an inefficient and narrow application of early intervention. Furthermore, a single-discipline background can preclude any opportunity for students to have dialogue about, negotiate, and jointly develop an intervention plan with personnel from other disciplines as part of a structured supervised experience, resulting in an absence of cross-disciplinary team competence.

If supported at all levels, interdisciplinary instructional programs can provide critical opportunities to improve the content, processes, and experiences of early intervention instruction. Within IHEs, programs, faculty, and students can benefit from an interdisciplinary approach to instruction, as can the agencies that employ the graduates of an interdisciplinary early intervention program. Perhaps the greatest benefit of a genuine commitment in higher education to interdisciplinary personnel preparation will be substantive long-term reform in early intervention services for infants and toddlers and their families. The potential benefits of interdisciplinary instruction are summarized in Table 4.1.

CHALLENGES TO INTERDISCIPLINARY EARLY INTERVENTION INSTRUCTION

Historically, there have been few programs of study throughout the United States to prepare personnel in education, related services, and health professions to work with young

TABLE 4.1. Benefits of an interdisciplinary approach to personnel preparation

Training programs

- Draws on the expertise of faculty from various disciplines across the college or university
- Develops interdisciplinary content, processes, and experiences
- Infuses early intervention content into existing courses across departments
- Provides for continuity in instructional content and procedures across departments
- Assists in collaboratively meeting statewide personnel needs and shortages
- Helps in modifying and meeting certification and licensure requirements across disciplines
- Provides or increases visibility and impact within the community, college or university, and state
- Enhances probability of obtaining external funding

Faculty

- Provides access to instructional resources across disciplines
- Encourages the exchange of information across disciplines (e.g., state and federal initiatives, personnel shortages, recommended practices)
- Builds interdisciplinary alliances to promote and achieve mutual objectives
- Provides a forum for issues and ideas among professional peers with similar interests
- Facilitates collegial support among faculty members across disciplines
- Generates interdisciplinary opportunities (e.g., research, instruction, publication, presentations)
- Promotes team collaboration with colleagues
- Reduces potentially negative turf issues and unproductive competitiveness among faculty members

Students

- Expands students' knowledge of early intervention activities within the university (e.g., research projects, grants) and the community
- Enhances access to professionals across disciplines who are active in the field of early intervention
- If external funding received, provides opportunities for tuition support
- Provides formal and informal network of contacts that is likely to provide leads for employment opportunities upon graduation
- Affords opportunities for students to observe team collaboration modeled by faculty members across disciplines
- Provides opportunities for students to have a dialogue, negotiate, and learn with students from other disciplines

Administration

- Promotes awareness of and a commitment to the interdisciplinary mission and goals associated with early intervention instruction
 - Builds on the strengths of faculty members from a variety of disciplines
 - Establishes linkages and collaborative activities across departments
 - Maximizes the use of resources across departments and programs
 - Results in the provision of high-quality instructional programs and recommended practices
 - Provides cost-effective strategies for addressing personnel needs
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children with disabilities and their families (Smith, 1988; Styles, Abernathy, Pettibone, & Wachtel, 1984). If the rationale for interdisciplinary instruction in early intervention is so strong, the benefits so numerous, and the need for adequately prepared early intervention personnel so great, then what factors have contributed to the slow progress in this area? Traditional structures and processes within colleges and universities do not lend themselves to collaboration across divisions, departments, or disciplines. The next section discusses a number of institutional issues and challenges associated with interdisciplinary instruction in early intervention, including structural and organizational issues, administrative issues, faculty issues, curricular issues, and student-related issues (see Table 4.2).

Structural and Organizational Issues

Interdisciplinary instructional programs that prepare professionals to deliver interdisciplinary early intervention services are not facilitated by existing higher education structures. Departmental or divisional structures actually tend to discourage collaborative activities. A major problem is that interdisciplinary collaboration is hindered by the lack of organizational mechanisms or formats for interdisciplinary communication and information exchange across departments and divisions. Interdisciplinary meetings, seminars, and instructional activities are rare and tend to be given lower priority than discipline-specific or departmental activities. The overall effect is that faculty members frequently do not know or collaborate with faculty from other disciplines. This is particularly unfortunate when faculty members across disciplines share interests and engage in similar activities related to early intervention. For example, at one university there were three faculty members from different disciplines (i.e., nursing, psychology, early childhood special education) who shared many areas of interest and expertise. All three faculty members had research and direct experience with premature infants in the neonatal intensive care unit (NICU). In this example, these faculty members were conducting research in the same area, delivering similar course content, and placing students in the NICU for their clinical experiences. Although each of these professionals had been at the same university for more than 10 years, they had never engaged in collaborative activities with one another. Similar situations are common in colleges and universities throughout the United States.

The problem of limited opportunities for collaboration across disciplines is compounded when departments are not in physical proximity to one another. In some instances, disciplines with strong potential for collaboration may not even have programs at the same institution/site; therefore, geographic isolation may inhibit collaboration. As many IHEs have become more committed to providing interdisciplinary early intervention personnel preparation, however, a number of the structural or organizational barriers have been circumvented, as is demonstrated in this chapter.

Administrative Issues

For interdisciplinary early intervention efforts to flourish, faculty members need administrative support. However, faculty members often report that insufficient administrative support exists for interdisciplinary early intervention teaching and other activities. For example, in a study conducted with 249 deans of colleges of education (Gallagher & Staples, 1990), 162 reportedly had no plans to institute interdisciplinary early intervention programs.

Faculty members also report that the lack of advocacy by administrators tends to prohibit interdisciplinary faculty-related activities (e.g., the arrangement of faculty schedules for interdisciplinary meetings, time allotted for program planning and implementation, flexible scheduling of course and practicum assignments to accommodate the schedules

TABLE 4.2. Issues in planning, implementing, and maintaining an interdisciplinary effort**Structural and organizational issues**

- Departmental/divisional organization
- Organizational mechanisms for interdisciplinary communication/interaction
- Geographic isolation (e.g., medical and academic campuses, departments located great distances from one another)

Administrative issues

- Mission that values interdisciplinary endeavors
- Budget reductions and scarce resources
- Support and encouragement from deans and administrators
- Administrative reward for interdisciplinary efforts
- Administrative advocacy for interdisciplinary efforts
- Flexibility in course offerings and scheduling
- Financial resources for faculty (e.g., faculty load release time)

Faculty issues

- Commitment of additional time and effort
- Faculty driven by promotion and tenure requirements that do not emphasize interdisciplinary efforts
- Teaming without "turf" or "territorial" issues
- Faculty personality and style (e.g., flexibility, communication, team player)
- Terminology and philosophy differences
- Scheduling and logistics of meetings (e.g., times, location, parking)
- Limited expertise in infant, family, and interdisciplinary content and processes

Curricular issues

- Accreditation and licensure standards of each discipline
- Inclusion of discipline-specific and interdisciplinary competencies within a reasonable program sequence
- Scheduling and logistics of training (e.g., courses, seminars)
- Clinical experiences (e.g., scheduling, supervision, availability of appropriate sites)
- Interdisciplinary course offerings (e.g., cross-listing of courses)

Student-related issues

- Recruitment and selection criteria
- Equity across disciplines
- Students from some disciplines are recruited to work in other settings or with other age ranges
- Involvement of students across disciplines (e.g., flexibility, creativity, individualization)
- Development of positive support system

of faculty and students from across disciplines). Innovation in interdisciplinary instruction requires administrative support for flexible financial arrangements across departments. When planning interdisciplinary coursework, simple issues tend to create barriers such as which department will receive credit for a team-taught course or which department will pay for photocopying. The extra effort in developing interdisciplinary early intervention instruction may be seen as an unnecessary commitment of time and resources. However, as interdisciplinary institutional programs have evolved, it seems that interdisciplinary

instruction is being used as a way to consolidate resources and avoid duplication in some IHEs.

Faculty Issues

There are many challenges in implementing interdisciplinary instructional efforts that are related to faculty members' association with a specific discipline. Faculty members across disciplines have been socialized in discipline-specific ways that affect how they process information and address problems. For instance, each discipline develops its own language, concepts, and practices; these may be difficult to understand unless trained in that particular discipline. Discipline-specific philosophy and terminology make communication and instruction across disciplines difficult. Faculty members may be uncomfortable providing instruction that incorporates concepts or methods traditionally associated with another discipline. A related challenge is the difficulty that some professionals have with sharing their content and practices with professionals from other disciplines. This has been referred to as a "turf issue" in which professionals from a particular discipline guard the content and practices associated with their particular field. However, many faculty members need to learn not only how to teach interdisciplinary content but also how to model interdisciplinary practices in their teaching.

Another factor is that few faculty members across disciplines have been instructed or are skilled in delivering interdisciplinary early intervention content (Winton, 1996). Because early intervention is a relatively new and rapidly changing field, faculty members may be uncomfortable with the content, particularly if they have had limited experience applying the practices they are expected to teach. Many faculty members must retrain or retool to better prepare themselves to meet the preservice and inservice instructional needs in the field of early intervention.

A frequently cited barrier to interdisciplinary instruction is that many faculty members have limited awareness of and access to the resources necessary to support them in implementing innovative interdisciplinary approaches to early intervention instruction. Many of the already available early intervention curricula and instructional materials have not been readily accessible to faculty members. The human resources in the broader community (e.g., service providers, family members) who might collaborate in instructional programs may be unknown or underused by faculty. Furthermore, faculty members may have had limited exposure to instructional resources available in other departments, institutions, agencies, or the broader community; and, as a result, coordinated utilization has been unrealized (Winton, 1996).

Perhaps most important, there have been few rewards from the administration for faculty who engage in interdisciplinary efforts. Procedures governing promotion and academic advancement typically do not highly value interdisciplinary efforts. Research and publication outside a professional discipline has not been evaluated as highly as discipline-specific scholarly endeavors. With the need to meet the basic expectations for career advancement, such as scholarly activities and departmental or discipline-specific responsibilities, faculty often find that there is limited time for interdisciplinary collaboration. Concerted efforts are necessary to help administrators and other faculty members understand the need for and value of interdisciplinary early intervention activities. As administrators learn more about the field of early intervention and its recommended practices, it is anticipated that there will be increased support for interdisciplinary instruction in this area.

Curricular Issues

A major issue related to curriculum is the status of state personnel standards for instructing and licensing professionals within a single disciplinary area without regard to the inherent overlap of a child's needs across areas. For example, a physical therapist is instructed and licensed to provide interventions that affect motor development; a speech-language pathologist is instructed and licensed to provide interventions that affect communication. Yet when both of these professionals are hired to provide early intervention, they will be required to provide these services in compliance with legislation and recommended practices that demand an integrated, family-centered, interdisciplinary approach.

A constraint on interdisciplinary instruction is the intensity of the basic curriculum and sequence of instructional activities within each discipline. The curriculum within specific disciplines is often quite rigid, allowing minimal flexibility. Furthermore, discipline-specific instructional programs are tied to the certification, accreditation, and licensing demands of their discipline and must adhere to a number of program standards. Because of the volume of information that must be covered to prepare students within a particular discipline, cross-disciplinary competencies are not always included in lists of standards and competencies or in certification and licensing requirements of each discipline. As a result, faculty members across disciplines have focused on those skills associated with the outcomes for which their students are preparing. However, an interdisciplinary focus on early intervention does not require instructional programs within IHEs to minimize or deemphasize the discipline-specific content. Instead, the cross-disciplinary focus can augment and extend the discipline-specific knowledge and skills. Rooney (1995) recommended that the time has come for instructional programs to move away from "categorical, discipline-specific, competency and certification driven" (p. 1) approaches toward models of collaboration across disciplines.

Student-Related Issues

There also are challenges associated with the recruitment and retention of students across disciplines to participate in early intervention courses, practica, or programs. One contributing factor is that discipline-specific program requirements may be so extensive that there is a natural disinclination for students to expend additional energy or prolong their instruction to meet early intervention requirements. Another factor is that many disciplines find it difficult to recruit to early intervention. The incentives often are greater for professionals from some disciplines to work in fields other than early intervention and with other populations. For example, physical therapists often are recruited to fields such as sports medicine or rehabilitation. Similarly, many professionals across disciplines (e.g., physical therapists, occupational therapists, speech-language pathologists) are employed through contractual agreements to work with multiple populations. Often, the greatest incentive for professionals to pursue options other than early intervention is the salary differentiation between early intervention and other fields.

The backgrounds, experiences, and needs of students enrolled in early intervention personnel preparation can vary tremendously. To address these needs and concerns, individualization and flexibility are critical. Students may even be intimidated when they are evaluated by a faculty member from another discipline. Certain instructional methods, reflecting principles of adult learning, have been described as being effective in accommodating the student diversity associated with interdisciplinary instruction (Winton, 1991; see also Chapter 5).

APPROACHES TO INTERDISCIPLINARY INSTRUCTION

This section focuses on interdisciplinary approaches to instruction. The following strategies for program development are included: 1) developing interdisciplinary competencies, 2) creating interdisciplinary courses, 3) infusing interdisciplinary content, 4) requiring applied interdisciplinary field experiences, and 5) using interdisciplinary teaching processes. In addition, organizational frameworks for interdisciplinary programs are discussed.

Strategies for Program Development

Based on their research, Bailey, Simeonsson, Yoder, and Huntington (1990) generated the following recommendations for preservice programs that want to add an interdisciplinary early intervention focus:

- Students should be provided with content related to legislative mandates that affect young children and their families, as well as an overview of available early intervention programs and services.
- Students should have applied experiences through which they are exposed to programs and services for young children and their families through field experiences.
- The content and training related to working with families should be expanded.
- The amount of emphasis within programs on the process of working in teams with professionals from other disciplines should be increased.

Developing Interdisciplinary Competencies Personnel preparation programs for the professional disciplines involved in providing early intervention should include both discipline-specific competencies in infant and family development and a knowledge base built on a framework of concepts common to all disciplines working with infants and toddlers with disabilities and their families. Thorp and McCollum (1994) identified four areas of competence that are common across disciplines:

1. Infant related (e.g., understanding typical and atypical development, interaction patterns, and the application of age-appropriate and individually appropriate interventions)
2. Family related (e.g., understanding family systems, family support, and diversity; developing and implementing IFSPs)
3. Team related (e.g., knowledge of team processes, team models of service delivery)
4. Interagency advocacy related (e.g., knowledge of federal and state legislation, coordination of IFSPs across agencies, development of coordination across agencies)

These content areas have been addressed within early intervention instructional programs in a variety of ways (Davis, Thurman, & Mauro, 1995; cf. McCollum & Thorp, 1988; Winton, 1990). At the University of Illinois, for example, the total array of competencies includes both cross-disciplinary areas and within-discipline areas.

Cross-discipline competencies also have been developed for early childhood education and early childhood special education. Three professional organizations, the Division for Early Childhood of the Council for Exceptional Children, the National Association for the Education of Young Children, and the Association of Teacher Educators, have collaborated in developing competencies for working with young children that bridge the traditional special education and general education division. These inclusionary competencies have been widely disseminated by the professional organizations. Certain states also have

initiated the development of interdisciplinary competencies. For example, in North Carolina, the development of an inclusionary birth-through-kindergarten license was the catalyst for the formation of a Higher Education Consortium, consisting of community college and university faculty and administrators, parents, and state agency representatives, who developed competencies to accompany the license (Miller, 1993). These competencies provide guidelines for preservice instructional programs seeking approval from the Department of Public Instruction to grant licenses to graduating students.

Creating Interdisciplinary Courses To address interdisciplinary content, faculty members across disciplines have developed special interdisciplinary courses, modules within existing courses, or seminars. At some colleges and universities, for example, students from several disciplines take interdisciplinary early intervention courses in such content areas as interdisciplinary teamwork, interdisciplinary intervention, and family-centered practices. These courses may be augmented with interdisciplinary field experiences and practicum seminars.

Perhaps the most important considerations are those of a practical nature. Due to various disciplines and departments being involved, course scheduling must be coordinated across departments, and courses must be convenient for faculty and students. Courses can be assigned interdisciplinary course numbers and cross-listed in various departments using interdisciplinary prefixes (e.g., IDS 600 Interdisciplinary Teaming). In this way, courses can be offered at the same time by different departments with the departments receiving credit for the students who enroll in the courses from their department. The following examples illustrate some ways in which IHEs have developed interdisciplinary courses.

At Virginia Commonwealth University (VCU) in Richmond, Virginia, an interdisciplinary specialty sequence of coursework and practica for students from six professional disciplines has been operating since 1985. Offered as the first sponsored program of the Virginia Institute for Developmental Disabilities (a UAP), the program was designed to unite the multiple professional instructional programs at VCU and better prepare those students focusing on early intervention. The sequence is offered as part of a post-bachelor's or post-master's certification program, and faculty from six disciplines participate in teaching seminars and coursework and in supervising practica. These interdisciplinary efforts have been perpetuated through a variety of funding sources, including university funding for the pilot project, federal funding from the U.S. Department of Education and the Administration on Developmental Disabilities, and state funding. (Readers may contact the first author of this chapter for more information.)

Another example is the interdisciplinary master's degree program in early intervention that is offered at New York Medical College. The program consisted of 36 credit hours of coursework, practica, thesis, and competency-based tasks and was directed toward students who had already attained their professional certification or license. Students from any discipline involved in early intervention were accepted. The faculty also represented multiple disciplines, including two parents of children with disabilities, and all courses were team taught. Coursework included assessment, intervention, team process, families, service delivery design, medical issues, assistive technology, research methods, and statistics. Students completing the program represented the disciplines of education, occupational therapy, physical therapy, nursing, and speech-language pathology.

Another type of interdisciplinary program was established at the University of Connecticut and provided a multi-institutional, interdisciplinary certificate program for post-bachelor's or post-master's degree students (depending on the discipline). Students attended an intensive summer institute of 6 weeks and received follow-up support for 1 year. The students could be enrolled in any of Connecticut's colleges and universities and

had to be nominated for attendance by their faculty advisers. Each institute enrolled approximately 15 students who participated in coursework, practica, research seminars, and the completion of competency-based tasks. Interdisciplinary faculty from Connecticut colleges and universities participated as guest faculty during the summer and co-supervised their students with the institute faculty team during the follow-up year. Faculty also served on a statewide higher education council in early intervention. Case study methodology was used throughout the instruction to teach content related to families, medical issues, physical management, educational issues, teams, and service delivery in community environments. Family members also co-taught the program's coursework. During the program's operation, 46 students completed the certificate, the majority being special educators ($n = 20$), followed by occupational therapists ($n = 8$), physical therapists ($n = 6$), speech-language pathologists ($n = 6$), psychologists ($n = 3$), and nurses ($n = 3$). (For more information on the programs at New York Medical College or the University of Connecticut, readers may contact the second author of this chapter.)

Infusing Interdisciplinary Content Rather than creating new interdisciplinary programs or courses, an alternative approach is to embed or infuse interdisciplinary perspectives into existing courses and instructional experiences. This infusion approach does not require significant alteration of the curricula but instead relies on creative ways of integrating the interdisciplinary perspective. Examples of content that could be infused are the ideas and concepts associated with interdisciplinary teamwork. Courses such as assessment and intervention would address within each content area the information on interdisciplinary teamwork and the implications for practice across disciplines. The importance of multidisciplinary perspectives would be emphasized throughout the instructional experiences.

An infusion model for integrating interdisciplinary family-centered content has been developed through the Carolina Institute for Research on Infant Personnel Preparation (Winton, 1990). Initially, faculty and graduate students from 10 disciplines participated together in a semester-long course on family-centered early intervention. After participating in this interdisciplinary experience, faculty and their associates in speech-language pathology (Crais, 1992), physical therapy (Sparling, 1992), and occupational therapy (Hanft, Burke, Cahill, Swenson-Miller, & Humphrey, 1992) developed discipline-specific curricula on family-centered practices in early intervention. (These curricula were disseminated to faculty in their respective disciplines.)

Requiring Applied Interdisciplinary Field Experiences Interdisciplinary field-based experiences are essential to successful interdisciplinary instruction. Students must have the opportunity to directly observe and interact with young children and their families, as well as students and practicing professionals across disciplines. Through practica that are coordinated across disciplines, students can observe, model, and apply the interdisciplinary content gleaned through their coursework (McCollum & Stayton, 1996; also see Chapter 18).

Faculty members often report that arranging interdisciplinary field experiences for students can be labor intensive because of the limited number of early intervention sites that employ professionals from all of the disciplines and the lack of sites that demonstrate exemplary interdisciplinary practices. If interdisciplinary sites are unavailable, faculty members can work over time with professionals within available sites to establish the kinds of instructional opportunities that the students need. Community-based sites can provide learning experiences that range from brief observations to site-based seminars to supervised practica. When faculty members successfully collaborate with professionals across disciplines within community sites, the end result can be the establishment and

maintenance of collegial support, both within and across disciplines, from which students can benefit greatly. Alternatively, faculty may choose to develop new instructional sites (McCollum & Stayton, 1996). In all settings individualized supervision related to teaming and family-centered practice is essential to enable students to reflect on their experiences.

Greater use of nontraditional practicum locations also can extend the discipline-specific learning that occurs in more traditional practicum sites. Such nontraditional practicum sites can include policy-making or applied research settings, community-based/inclusive settings, family-centered settings (e.g., family support or advocacy programs), and settings in which the student's discipline has not been prominent. In such settings, there needs to be an emphasis on developing skills that transcend single disciplines such as those in the areas of teaming and family-centered practices. Negotiations can be undertaken with more traditional practicum sites about the advisability and potential for blending such characteristics into their ongoing expectations for students.

Using Interdisciplinary Teaching Processes Faculty commitment to interdisciplinary instruction is critical to the success of any interdisciplinary program. When faculty members decide to provide interdisciplinary early intervention instruction, they make a commitment to recognize the strengths that each discipline contributes to the growth and development of preservice students across disciplines. The primary goal should be a joint effort to implement the most effective knowledge and abilities in early intervention.

To enhance interdisciplinary skills, it is recommended that students be exposed to a broad range of perspectives and experiences that influence the lives of young children, including the perspectives of professionals from other disciplines, family members, students from other disciplines, and community-based professionals. Many innovative teaching techniques have been developed that support interdisciplinary instruction. These instructional methodologies include a case study approach, role play, simulation, problem-focused learning, and other activities in which students apply their knowledge and skills to individual cases of infants and toddlers with varying abilities and needs and their families. Team teaching of courses by faculty across disciplines is suggested for courses to be truly interdisciplinary. Joint planning and teaching allows faculty and students across disciplines to interact in all aspects of the learning process. Students can learn from the combined perspectives of faculty members. As discussed in Chapter 17, another recommendation is that family members serve as co-instructors with faculty members. Families add content and expertise that only they are capable of providing.

The commitment to interdisciplinary personnel preparation should not be approached with the goal of changing everything at once but rather should address specific goals. The commitment may begin with the involvement of only two or three disciplines that want to focus on early intervention instruction, and gradually faculty members and students may be recruited from other disciplines. Or it may start with one interdisciplinary course and gradually add others, or address interdisciplinary coursework first and then move to interdisciplinary practicum experiences. Development of an interdisciplinary program takes time and is best built on a small, but firm, foundation.

Organizational Frameworks

Campbell and Leifield (1995) surveyed 100 federally funded personnel preparation programs for early interventionists. A total of 82 of the programs, representing six disciplines, reported having an interdisciplinary focus. However, a range of experiences was used to define the interdisciplinary aspect of the program. Thirty-nine programs offered interdisciplinary seminars taught by two or more faculty from different disciplines, and 53 programs reported offering an interdisciplinary seminar taught by one person with guest

speakers from a variety of disciplines. Sixty-three programs allowed students to take coursework in more than one department, and 46 programs offered interdisciplinary practicum experiences to students.

Overall, 21 respondents identified the interdisciplinary focus as an area of program strength. Because establishing an interdisciplinary instructional approach often requires changes in the traditional organizational structures and processes of personnel preparation systems (Meisels, 1992; Rooney, 1995), a detailed review of early intervention personnel preparation instructional programs with an interdisciplinary focus was conducted by Rooney (1995) to identify supports and barriers to this process. This qualitative study examined 10 federally funded preservice personnel preparation programs. Five programs were operated by UAPs, and 2 of the 10 had multicampus involvement. Seven programs offered a master's degree, two an add-on specialization to a master's program, and one a bachelor's degree. All programs had faculty representing at least two disciplines (one always being education) and students from at least two disciplines. Based on this study, Rooney (1995) identified a number of factors that appear to support the expansion and institutionalization of early intervention interdisciplinary personnel preparation models. One factor is the presence of faculty with special interest in early childhood and collaborative team models. Another factor is that faculty model collaboration in their teaching and in their work. The teaching also might be shared with a professional from the service delivery community or with parents. Table 4.3 contains a list of recommendations for interdisciplinary personnel preparation programs as detailed by Rooney (1995).

Some of the most immediate steps to be taken within IHEs to effectively implement an interdisciplinary instructional approach include the following, each of which is discussed in more detail here:

- Creating institutional structures, organizations, and processes that facilitate interdisciplinary efforts
- Developing institutional missions and standards of excellence that recognize and maintain the interdependence of various disciplines and departments
- Providing support systems for faculty in their interdisciplinary roles
- Establishing linkages and support, both internally and externally

TABLE 4.3. Policy implications for interdisciplinary personnel preparation program implementation

Structure	<ul style="list-style-type: none"> • House program in organizational unit where precedent has been established for interdisciplinary instruction. • Establish interdepartmental structure.
Operations	<ul style="list-style-type: none"> • Collaboratively create guidelines and agreements that outline expectations for program participants.
People	<ul style="list-style-type: none"> • Individualize programs to meet needs of students.
Context	<ul style="list-style-type: none"> • Establish and maintain mechanisms for collaborative interactions with academic and service delivery communities. • Funding agencies should secure a commitment from the universities for partial financial support to continue interdisciplinary efforts at the conclusion of federal funding. • Explore funding options in the environment of the organization to diversify financial support for the programs.

Source: Rooney (1995, May).

Structures and Processes Interdisciplinary instruction places a premium on flexibility in academic and administrative matters. Rooney (1995) recommended that one mechanism for overcoming many of the potential barriers associated with interdisciplinary instruction is to house the programs, when possible, within existing interdisciplinary structures. Interdisciplinary programs are frequently affiliated with or supported by UAPs, many of which have extensive experience establishing linkages across departments and agencies, as well as experience in nontraditional programming. In many instances, UAPs have existing mechanisms for circumventing the problems associated with interdisciplinary instruction and activities (e.g., interdisciplinary course offerings, preservice instructional directors to coordinate efforts). When interdisciplinary structures are not already available within institutions, then some form of interdisciplinary organizational structure or mechanism that is flexible and suitable to interdisciplinary efforts must be created. Within IHEs, bridges must be built among departments and divisions to support interdisciplinary efforts and to facilitate communication, information exchange, and joint instructional activities. Centers established at various IHEs, with both internal and external funding, have played a major role in establishing linkages across departments and divisions to support collaborative activities (e.g., the Frank Porter Graham Child Development Center at the University of North Carolina at Chapel Hill, the Kennedy Center at Peabody University in Nashville, the Center for Early Education and Development at the University of Minnesota).

In an effort to support interdisciplinary efforts, the Maternal and Child Health Bureau, the American Academy of Pediatrics, and the American Association of Colleges for Teacher Education have sponsored the National Commission on Leadership in Interprofessional Education. Three specific projects (funded by the Maternal and Child Health Bureau) are focusing on improving opportunities for interprofessional education. The first project, the Health and Education Collaborative Project in Hawaii, is developing a collaborative service delivery model of health, education, and social services. A personnel preparation model for professional instruction is being developed to provide family-centered, community-based, coordinated care. The preservice model will jointly offer instructional opportunities for pediatric and OB/GYN residents and graduate students in education and social service. The second project, the Partnership for Change Project at the University of Vermont, is focusing on improving service delivery to children with special health care needs and their families by compiling, evaluating, and disseminating exemplary models of community-based services; and by compiling, evaluating, and disseminating exemplary models of interprofessional education. This second project is directly related to the third project in Oregon, the Higher Education Service Integration Curricula Project. This project is funded to assist selected colleges and universities to develop educational offerings that will cross-instruct students in the various disciplines so that they can affect integrated services at the local level.

Missions and Standards of Excellence Interdisciplinary efforts must be considered high-priority activities within IHEs. Although UAPs enjoy an interdisciplinary mission, many IHEs are burdened with institutional or departmental missions that do not emphasize interdisciplinary endeavors. IHEs, as well as the various divisions and departments, should include interdisciplinary instructions and activities as part of their overall mission, which will increase the likelihood of their occurrence.

Institutional commitment to the interdisciplinary perspective is essential to providing quality instructional programs in early intervention. Thus, those in positions to influence policy within institutions must understand that interdisciplinary personnel preparation represents recommended practice in early intervention. Faculty commitment is also critical

to the success of the program. When faculty members decide to provide interdisciplinary early intervention instruction, they make a commitment to recognize the strengths that each discipline contributes to the growth and development of preservice students across disciplines. The primary goal should be a joint effort to implement the most effective knowledge and skills in early intervention.

Support Systems for Faculty Interdisciplinary efforts are likely to be enhanced by strong leadership and commitment from individual faculty members with support provided by other faculty members and the administration. Faculty from various disciplines across departments often provide mutual support as they engage in collaborative endeavors. Therefore, faculty members across disciplines must work out the particulars of program changes (e.g., competencies, curriculum, practicum, evaluation) and provide support to one another as interdisciplinary efforts evolve. According to data collected through the Southeastern Institute for Faculty Training (SIFT), one of the four regional faculty training institutes funded by the Early Education Program for Children with Disabilities of the U.S. Department of Education from 1992 to 1995, faculty indicated that the support of colleagues was integral to their individual success in making positive changes in their early intervention training (Winton, 1996).

Similarly, administrative commitment and support are of critical importance. Ideally, procedures governing promotion and academic advancement also will enhance the value placed on this area by specifically recognizing skills in interdisciplinary early intervention practices. When interdisciplinary programs are implemented successfully, faculty members should be rewarded for the extensive amount of effort required.

Because of the evolving nature of early intervention and the complex processes involved in interdisciplinary training, the skills are never fully learned; therefore, it has been recommended that professional development opportunities be provided for faculty to encourage and enable them to develop interdisciplinary instructional programs (e.g., coursework, practica) in early intervention (Gallagher & Staples, 1990). One federally funded project that succeeded in facilitating the development of interdisciplinary early intervention programs among college and university faculty was described by Bruder, Lippman, and Bologna (1994). Funded to increase the capacity of IHEs to provide early intervention instruction, the program provided instruction and support to 38 faculty representing 12 professional disciplines at 15 universities and colleges. The faculty who participated attended a week-long seminar in a cross-disciplinary, cross-university group. The seminar was facilitated by two faculty of different disciplines and a parent of a child with disabilities. Upon conclusion of the seminar, participants received up to 1 year of individualized technical assistance and support by a project faculty. The participants all made significant changes in their own programs. Thirty-one infused new interdisciplinary early intervention information into existing coursework; 5 designed new courses; 3 designed an early intervention sequence within their disciplinary program; 15 designed a cross-disciplinary specialty sequence across disciplines; and 24 instituted interdisciplinary practicum experiences within their programs.

Four regional faculty training institutes were funded from 1992 to 1995 through the U.S. Department of Education to enhance the capacity of higher education to adequately prepare early intervention personnel. Each of the four institutes was interdisciplinary and focused on linkages between higher education and statewide service delivery systems, but each of the institutes approached the task differently. In the SIFT, for example, the following outcomes were achieved: 1) collaboration was increased among state agencies, families, IHEs, and other institutions with training dollars, responsibilities, and authority for personnel preparation in early intervention; 2) knowledge and skill levels of the pro-

professionals who provided the training within those contexts were increased; and 3) participants were assisted in applying what they learned through the institute to the training they provided to others (Winton, 1996).

Linkages and Support External to IHEs Actually implementing a coherent interdisciplinary instructional program in early intervention depends on the efforts of all those currently and potentially affected by the instruction. Linkages among faculty within and across IHEs, administrators, community leaders, state agency representatives, existing and past students, family members, and service providers are critical to the success of interdisciplinary instructional efforts. In some cases, faculty members across colleges and universities and agencies have formed regional, statewide, or multistate consortia or councils to support one another in their interdisciplinary instruction efforts. In Virginia, for example, an Institutions of Higher Education Training Council has been in existence for more than 10 years. Funding for the council was initially provided by a U.S. Department of Education personnel preparation project at VCU in conjunction with funding through Part B of the Virginia Department of Education. Eventually, Part H funds were used to provide additional support for council activities. In Georgia, Part H funds have been used to establish the higher education consortia. Louisiana is another state that has blended resources to support a higher education council. These linkages between state agencies and IHEs have been very successful in supporting faculty engaged in early intervention instruction and facilitating the institutionalization of instructional procedures into existing program frameworks. Another positive outcome of the higher education councils has been the increased efforts to provide inservice programming that appeals to and includes higher education personnel as presenters and participants. The success of higher education consortia and councils may be a spillover from the regional faculty institutes that targeted increased collaboration across state agencies and IHEs in the area of early intervention.

In addition to external linkages, external funding from a variety of sources (e.g., state, federal) can be instrumental in establishing interdisciplinary instructional programs. In 1985, federal funding was made available through the Division of Personnel Preparation of the U.S. Office of Special Education Programs for IHEs preparing personnel to work with children with disabilities ages birth to 3 and their families. Programs that received these grants have used the funds to develop their instructional programs and to offset tuition costs for students enrolled in an early intervention program. In some states federal early intervention and/or preschool funds have been used to support early intervention instructional efforts. For example, in Virginia, these funds have been used to support existing employed early intervention personnel who enroll in coursework related to early intervention.

A special population that community colleges have targeted is paraprofessionals, who are needed to serve young children and their families in community-based programs. The preparation of qualified paraprofessionals has helped to meet the employment needs of their communities, provide community-based programs with paraprofessionals who represent the community being served, and create career paths for individuals who might otherwise not be employed in early intervention. In addition, instructional programs have focused on the preparation of physical therapy assistants and occupational therapy assistants. The disciplines of physical therapy and occupational therapy are experiencing critical personnel shortages (Hebbeler, 1994), with one solution being the preparation of assistants who can help to fill critical needs in these areas. Still another group of professionals that has received instruction in technical and community colleges is child care providers. Appropriately prepared child care providers are central to successful inclusion of young children with disabilities and their families. There are increasing examples of

efforts in states to promote articulation agreements between community colleges and IHEs. One example is New Mexico's Higher Education Early Childhood Articulation Task Force, which was established to facilitate collaborative activities between community colleges and comprehensive IHEs with the goal of preparing personnel across disciplines to provide early intervention services. (Contact the third editor of this book for additional information.)

CONCLUSION

IHEs have a tremendous role to play in helping early intervention services to move forward. Early intervention services are directly influenced by the personnel who provide them; therefore, graduates must be prepared for interdisciplinary roles and responsibilities in early intervention.

The reasons stated in this chapter in support of interdisciplinary instruction have not resulted in an abundance of available interdisciplinary programs. Most colleges and universities provide unidisciplinary programs. Those that have developed interdisciplinary models usually have done so with the assistance of external funding. However, to guarantee that the model is institutionalized beyond the period of external funding, attention must be given to those variables that represent a true adoption of the model. This necessitates a system change perspective to college and university planning. Rooney (1995) conducted a follow-up study of 10 federally funded preservice personnel preparation programs in early intervention with findings indicating that the interdisciplinary focus of the majority of the programs had dissipated after the grant ended. Programs had returned to a traditional unidisciplinary focus for reasons such as budget cuts and scarce resources, lack of fit between the interdisciplinary programs and the university settings, and insufficient integration within the community.

There are three interrelated areas that contribute to the institutionalization of interdisciplinary programs. The first is organizational. There are a variety of structures that can accommodate interdisciplinary instructional efforts, most of which consist of unidisciplinary support (e.g., college of education, college of nursing) through which the interdisciplinary instruction occurs. Another structure is interdisciplinary, that is, an independent entity provides the support for the interdisciplinary instruction. Usually these are UAPs, although a number of non-UAP interdisciplinary structures are beginning to be facilitated by colleges and universities. Of primary importance to the institutionalization process is the permanency of the structural supports in place to maintain the instructional model. These supports can be as formal as the designation of an institutional unit within the college or university or as informal as allowing students from different disciplines to enroll in a discipline-specific course in early intervention. What is most important about the structure is that it maintains the opportunity for interdisciplinary instruction to occur over time.

A second key to institutional commitment is a funding base to support the interdisciplinary unit. Although external funding can provide the incentive for a college or university to initiate an interdisciplinary structure, only units such as UAPs can depend on such a funding base for long-term support. Another mechanism that can be used is an internal commitment by the college or university to continue to fund the interdisciplinary program because it facilitates the mission of the IHE. This allows general funds to be used to support the program. Another related strategy is the development of internal funding mechanisms for long-term program support. This may include the establishment of policies and procedures for student tuition to support interdisciplinary credit hours or the faculty of a particular course that enrolls students from different disciplines. An ad-

ditional mechanism is the allocation of indirect costs (i.e., from any external source) to support the interdisciplinary effort of faculty.

A third important key to the institutionalization process is the commitment of qualified faculty to maintain the interdisciplinary program. Faculty are crucial to continuation of such instructional efforts. Once an interdisciplinary structure has been initiated, the involved faculty usually have a difficult time returning to a unidisciplinary model of instruction. However, their commitment must be supported and reinforced to ensure continuity with the program. As with the first two areas, faculty commitment contributes to the institutionalization of an interdisciplinary program. All these areas, however, must be addressed equally to institutionalize an interdisciplinary instructional model.

There are a number of levels of impact to consider when evaluating the effects of any instructional program. The first level should be the consumer of the instruction, that is, the student who receives the instruction. A second level should be the consumer of the intervention, that is, the families and children receiving early intervention; progress and satisfaction with the student should be assessed by the family. A third level should include the college or university faculty and administration, covering student perceptions of the effectiveness of the teaching and supervision, as well as self-assessments conducted by the faculty themselves.

Evaluation also should include the early intervention system. Measures of performance and satisfaction should be completed by early intervention programs and by administrators who supervise students or hire graduates of the programs. It is critical that the interdisciplinary competencies or performance standards of the early intervention students be considered at all levels of the evaluation. Thus, the instructional program must be clear about its mission and the outcomes expected of its students, and this must be communicated to all involved.

Linkage between the state's system of early intervention and higher education is critical, as discussed in Chapter 2. Administrators from both programs must educate each other about the requirements of each system. If college and university administrators are able to reconceptualize their instructional programs to meet early intervention requirements, then interdisciplinary models should result. Likewise, the state system must understand the many constraints and priorities facing higher education so that it may effectively facilitate and reward interdisciplinary efforts. Interdisciplinary instructional models must be expanded. Despite its many challenges, early intervention practice demands that unidisciplinary options be replaced by a more effective, holistic approach to preservice personnel preparation.

RESOURCES

Crais, E. (1992). *A practical guide to embedding family-centered content into existing speech-language pathology coursework*. Chapel Hill: University of North Carolina at Chapel Hill, Frank Porter Graham Child Development Center. Cost: \$10. (919) 966-4221.

Four modules, each designed for presentation within a 1½-hour class, introduce students to issues, beliefs, and practices related to using a family-centered approach to working with families of clients with special needs. Modules include student objectives, course outlines, suggested in- and out-of-class activities, recommended readings for instructors and students, materials for producing handouts and transparencies, and alternative activities and readings.

Hanft, B., Burke, J., Cahill, M., Swenson-Miller, K., & Humphrey, R. (1992). *Working with families: A curriculum guide for pediatric occupational therapists*. Chapel Hill: University of North Carolina at Chapel Hill, Frank Porter Graham Child Development Center. Cost: \$10. (919) 966-4221.

Nine-module curriculum addressing issues that therapists need to know to work effectively with families who have children with special needs. Each unit contains learning objectives, discussion points including implications for practice, teaching activities, recommended readings, and teaching resources.

Sparling, J. (1992). *A guide for embedding family information in an entry-level physical therapy curriculum*. Chapel Hill: University of North Carolina at Chapel Hill, Frank Porter Graham Child Development Center. Cost: \$15. (919) 966-4221.

Spiral-bound compilation that includes goals, objectives, and strategies (with readings and overhead materials) for embedding family-centered content in four courses ("Human Growth and Development," "Clinical Education I," "Pediatrics," and "Psychiatry and Mental Health").

Winton, P. (1991). *Working with families in early intervention: An interdisciplinary preservice curriculum*. Chapel Hill: University of North Carolina at Chapel Hill, Frank Porter Graham Child Development Center. Cost: \$15. (919) 966-4221.

A preservice curriculum for graduate students consisting of eleven 3-hour modules or a semester-long course. Module topics focus on aspects of family-centered practice (e.g., "Communication Strategies for Assessment and Goal-Setting"), and each module includes teaching objectives, suggested student activities, references, and resources.

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