Preparation of Occupational Therapists to Work in Early Intervention Programs

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Key Words: developmental therapy • education, occupational therapy • professional competence

This paper presents the results of a survey of 43 occupational therapy academic programs regarding their preparation of students to work with young children with special needs. The number of instructional hours devoted to topics related to services for infants or toddlers and their families varied greatly. Some programs plan an increase in hours but are limited by the total hours available within the curriculum.

This paper also shares the recommendations of a panel of occupational therapists with expertise in early intervention and entry-level education. The panel was concerned with the quality of preparation of therapists entering early intervention programs and encouraged the profession to review the amount of course work within each curriculum that introduces students to basic knowledge and skills related to early intervention. Some knowledge, such as the consultant's role and working with families of persons who are physically or mentally challenged, are common to other practice areas. The panel stressed that students be taught strategies for obtaining the training necessary for postgraduate entry into a specialty area such as early intervention.

The passage of the Education of the Handicapped Act Amendments of 1986 (Public Law 99–457) and the potential increase in the number of young children served under Part H of the Act amplifies the importance of the adequate preparation of occupational therapists for work in early intervention. Part H establishes opportunities for states to develop or expand services for infants or toddlers with special needs and their families (Hanft, 1989). It also identifies occupational therapists among the professionals capable of serving this population.

Occupational therapists are seen by others as having the needed skills to work in early intervention programs (Effgen, 1988), yet experienced therapists report inadequate academic preparation for working with infants and parents of children with developmental delays (American Occupational Therapy Association [AOTA], 1988; Hinojosa & Anderson, 1987; Redditi, 1983). Hanft (1989) stated that this practice area requires skills beyond entry-level preparation. We believe that entry-level academic programs must provide the general foundation of fundamental knowledge and skills for the advanced study needed by occupational therapists who enter early intervention at some point after graduation. This foundation should include exposure to general pediatric practice and topics related to early intervention.

In this study, we examined the students' current academic preparation regarding topics in early intervention. The results of a survey of entry-level programs and the recommendations of a panel of occupational therapists with expertise in early intervention are presented. A similar study for geriatrics was done by Strasburg and Gingher (1986). Such studies provide information on the state-of-the-art academic curricula, which can be used by existing academic programs for self-evaluation and future planning so as to keep pace with changes in the practice areas. Of equal importance is a continuing education plan designed to augment prior academic preparation (Hanft & Humphry, 1989). If employers or clinical supervisors understand the level of current academic preparation, in-service training sessions can match the therapist's knowledge and facilitate on-the-job acquisition of additional clinical skills.

Three levels of professional preparation for early intervention were suggested by Thorp and McCollum (in press). The first level reflects the general body of knowledge in each profession. For occupational therapy, this level involves occupational therapy philosophy and theory, professional ethics, and a general foundation in treatment strategies. The general body of knowledge includes principles of the developmental model and the introduction of neurotherapeutic techniques. The accreditation process, as set by AOTA, stipulates the basic content of occupational

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This article was accepted for publication January 30, 1990.
therapy education. Through this process, we expected that all academic programs could meet this first level of professional preparation.

The second level of preparation focuses on the knowledge and skills of each profession as they relate to services for infants and their families. These skills may be taught within a pediatric course or through a general treatment techniques class. Although AOTA's (1983) Essentials and Guidelines of an Accredited Educational Program for the Occupational Therapist gives guidelines for curriculum development, the interpretation of what to cover and the depth of exposure is left to the individual academic program.

The third level of professional preparation involves knowledge and skills common to all disciplines working in early intervention. All early intervention team members, for example, are expected to demonstrate a fundamental understanding of the family system, the ability to communicate with the child's parents, and the ability to function as part of an interdisciplinary team (Thorp & McCollum, in press).

The present study of the preparation of occupational therapy students for practice in early intervention programs is part of a larger interdisciplinary study examining the issues related to preparation of professionals who work in such programs (Bailey, Simeonsson, Yoder, & Huntington, 1989). The focus of the survey was on the knowledge and skills attained at the second and third levels of professional preparation.

Method

Sample

Occupational therapy faculty members identified as the primary instructors for pediatric-related curricula were surveyed over the telephone. This research was conducted over a 6-month period. Forty-one of the 64 academic institutions offering occupational therapy curricula were selected to represent all areas of the United States. Time and scheduling problems eventually restricted the sample size to 37 programs, 36 offering a baccalaureate degree and the remaining program offering only an entry-level master's degree. Six of the 36 baccalaureate programs also offered a professional master's degree. Separate responses were elicited concerning each type of curriculum. The final sample consisted of 43 respondents, or 54% of all baccalaureate and entry-level master's degree programs within the United States.

Procedure

The second author and an occupational therapy student conducted the telephone survey. The development and wording of the questions in the uniform survey were part of an interdisciplinary effort to collect similar information on different professions involved in early intervention (Bailey et al., 1989).

Results

Regarding the second level of professional preparation, which addresses knowledge and skills as they relate to services for infants and their families, the survey results revealed that 70% of the 43 programs offered a course in pediatrics. As shown in Table 1, all of the programs offered information on normal and abnormal infant development, infant assessment, and intervention strategies, but the number of instructional hours varied. The distribution of hours was skewed to the right, thus indicating that a few programs devoted many hours beyond the median on these topics. For example, the reported amount of time spent on normal infant development ranged from 5 hr to 90 hr, with a mean of 25.5 hr and a median of 20 hr. All but two curricula (i.e., 95%) included an opportunity for hands-on training; 59% required this experience. Some programs indicated that they would have required hands-on experience with infants but could not find enough sites in which to train their students. Student involvement varied greatly among programs, from clinical demonstration lectures or field trips to Level 1 fieldwork experiences. The opportunity to gain specialization through course work was available in 13 (30%) of the curricula, but only 3 (7%) offered course work in infancy as an elective.

Some occupational therapy educational programs stressed general data on diseases and intervention strategies rather than treatment for specific age groups (see Table 2). All 43 of the programs offered lecture hours on cerebral palsy, Down syndrome, spina bifida, and autism, but the number of hours devoted to each of these topics varied greatly. Instructional time on cerebral palsy, for example, varied from 2 hr to 30 hr.

Regarding the third level of professional preparation, that is, the amount of information a program presented that would later be expected to be the knowledge base for any member of an early intervention team (see Table 3), some respondents indicated that the opportunity to work with families during

Table 1

| Instructional Hours Devoted to Early Intervention in Entry-Level Curricula (N = 43) |
|-----------------------------------------------|---------------|----------------|----------------|
| Topic                                         | M             | SD            | Median | Range  |
| Normal infant development                      | 25.51         | 17.14         | 20     | 5-90   |
| Abnormal infant development                    | 21.86         | 15.72         | 15     | 3-80   |
| Infant assessment                              | 10.33         | 6.66          | 9      | 2-30   |
| Intervention strategies                        | 16.33         | 11.66         | 15     | 1-40   |

Note: All of the programs provided instruction time on each of these topics.
Table 2
Instructional Hours Devoted to Specific Diagnosis and Intervention Strategies (N = 43)

<table>
<thead>
<tr>
<th>Topic</th>
<th>% of Programs Providing Instructional Time</th>
<th>M</th>
<th>SD</th>
<th>Median</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cerebral palsy</td>
<td>100</td>
<td>8.75</td>
<td>6.97</td>
<td>5</td>
<td>2-30</td>
</tr>
<tr>
<td>Down syndrome</td>
<td>100</td>
<td>2.65</td>
<td>1.84</td>
<td>2</td>
<td>1-8</td>
</tr>
<tr>
<td>Failure to thrive</td>
<td>89</td>
<td>1.75</td>
<td>1.25</td>
<td>1</td>
<td>0-7</td>
</tr>
<tr>
<td>Prematurity</td>
<td>97</td>
<td>2.32</td>
<td>1.68</td>
<td>2</td>
<td>0-6</td>
</tr>
<tr>
<td>Spina bifida</td>
<td>100</td>
<td>2.11</td>
<td>1.22</td>
<td>2</td>
<td>1-5</td>
</tr>
<tr>
<td>Autism</td>
<td>100</td>
<td>2.52</td>
<td>1.45</td>
<td>2</td>
<td>1-6</td>
</tr>
</tbody>
</table>

fieldwork experiences was limited due to the unavailability of families.

One faculty person from each program was asked if his or her institution was likely to change the number of hours dedicated to early intervention. Four respondents (9%) indicated that the instructional hours had recently been increased, 54% indicated that no change was planned, and 43% anticipated an increase. The main reason given for the lack of emphasis on infancy was an already full curriculum (56%). The accreditation or certification requirements limited 39% of the programs in their ability to focus on areas related to early intervention.

A majority (79%) of the programs had at least one faculty member with expertise in infancy; however, the responses indicated that 85% of the programs needed additional training materials related to infants who are physically or mentally challenged and their families. Materials related to working with families was also seen as helpful. The most common anticipated application of additional training materials, though, was to continuing education courses (92%).

Expert Panel’s Recommendations

Nine occupational therapists were selected to serve as an expert panel on the basis of their clinical and teaching experience in early intervention (see the Acknowledgments for the names of these therapists). The panel’s task was to generate suggestions regarding the direction of entry-level education of occupational therapists and to respond to the survey results.

The panel developed the following statement regarding the primary mission of occupational therapy in early intervention:

Promotion of children’s independence, mastery, and sense of self-worth in their physical, emotional, and psychosocial development. Purposeful activity is used to expand children’s functional abilities such as self-help skills, adaptive behavior and play skills, and sensory, motor, and postural development. These services are designed to help families and other caregivers improve children’s functioning within their environments.

On the basis of this mission statement, the panel identified the following roles for an occupational therapist in early intervention:

- Work with families to assess children’s developmental level and occupational performance in activities of daily living and play. With the use of a developmental framework, the performance components may include, but are not limited to, sensory awareness and processing, neuromuscular and postural control, fine motor coordination and dexterity, oral motor control, self-expression, and self-control. (Note. We have modified these terms to conform to uniform terminology, but believe that we have preserved the panel’s intent.)
- Assess family-infant interactions and environment as they relate to the child’s development.
- With the families, develop and implement occupational therapy intervention to enhance the sensory function, motor skill, cognition, communication, psychosocial development, and adaptive and coping abilities of infants or toddlers with special needs.
- Recommend adaptations to the environment, and select, design, and fabricate assistive seating devices and orthotic devices that promote function and interaction with the environment.
- Provide services to prevent secondary sensory, motor, cognitive, and social-emotional problems.
- Work with the family and other caregivers to enhance caregiving and an understanding of how to optimize the child’s functional abilities.
- Collaborate and consult with other early intervention team members and family service providers.
- Provide care management services, including advocacy, coordination, information gathering, and linking of families with community resources and services.
- Evaluate the effectiveness of occupational therapy services and contribute to the evaluation of interdisciplinary outcomes.

Table 3
Instructional Hours Devoted to Related Information in Entry-Level Curricula (N = 43)

<table>
<thead>
<tr>
<th>Topic</th>
<th>% of Programs Providing Instructional Time</th>
<th>M</th>
<th>SD</th>
<th>Median</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family assessment</td>
<td>88</td>
<td>2.69</td>
<td>2.07</td>
<td>3</td>
<td>0-8</td>
</tr>
<tr>
<td>Family intervention</td>
<td>88</td>
<td>3.22</td>
<td>2.60</td>
<td>3</td>
<td>0-12</td>
</tr>
<tr>
<td>Interdisciplinary team</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>process</td>
<td>89</td>
<td>6.8</td>
<td>6.27</td>
<td>5</td>
<td>0-30</td>
</tr>
<tr>
<td>Case management</td>
<td>84</td>
<td>3.61</td>
<td>7.30</td>
<td>2</td>
<td>0-45</td>
</tr>
</tbody>
</table>
The stated activities of an occupational therapist reflect the family focus, which is a major part of the legislation on early intervention (Hanft, 1988).

The panel also developed and then ranked the basic competencies needed by an occupational therapist starting work in early intervention. The 10 competencies of highest priority are as follows:

1. The ability to administer standardized assessments and informal scales of infant development and function and family strengths and needs.
2. A knowledge of federal and state laws related to early intervention and special education.
3. An understanding of parental roles, caregiving, and coping skills and the effect of a child who is physically or mentally challenged on the family’s management of time and space.
4. The ability to appreciate and work within an interdisciplinary team and within an inter-agency system.
5. A knowledge of typical and atypical development and the ability to plan the correct intervention strategy based on occupational therapy theory.
6. An understanding of the key practice issues essential for work with children (including ethical issues, communication at the child’s level, and acceptance of the child).
7. The ability to communicate with and give positive support to parents or caregivers without imposing one’s own value system.
8. An understanding of the changes that occur in families, children, and disabilities through the life cycle.
9. The knowledge and skills to facilitate working with families and social groups (systems), which includes cultural sensitivity and an understanding of systems and group functioning.
10. An understanding of the major theories underlying occupational therapy intervention and the developmental process.

The results of the telephone survey generated concern among the panel members that the number of instructional hours reported was not sufficient to prepare therapists to work in early intervention programs. They recommended several curriculum changes, six of which were given highest priority:

1. A greater emphasis on the development of knowledge and skills for work within the family system and the ability to perform assessments that are family focused (e.g., an assessment of parent-child interactions within the context of activities of daily living and family needs).
2. An introduction to the theories and concepts of the interactive models of development of infants and families.
3. An understanding of the role of occupational therapy with infants and families and the ability to describe how it integrates with other disciplines on early intervention teams.
4. The provision of an opportunity to practice for the development of skills for consultation and indirect services (e.g., program development and implementation) that could be expected of a new graduate.
5. An appreciation of ethnic, cultural, and transcultural concepts and how they affect the service provision process and family compliance.
6. An understanding of the theory of play and how to incorporate family play into occupational therapy intervention strategies.

These recommendations were based on the assumption that the curriculum already offered a strong neurophysiological background and information on typical and atypical development in physical, sensory, motor, and psychosocial areas of function.

Discussion

Strasburg and Gingher (1986) believed that pediatrics has been emphasized in recent curricula expansions, whereas Henderson, Lawlor, and Pehoski (1986) believed that curricula do not cover pediatrics sufficiently. If preparation to work with children in general is questioned, the amount of academic foundation to support postgraduate specialization in an area such as early intervention is even more of a concern. Steps by which occupational therapists can obtain postgraduate training in specialty areas must be part of professional training as well. Successful implementation of Part H of Public Law 99-457 and the role of occupational therapists as primary service providers will be influenced by the availability of appropriately trained therapists. Experience with adequately trained therapists may give program administrators a negative impression of the profession (Dunn & Rask, 1989). In addition, the nature of occupational therapy services and whether the profession makes a unique contribution to early intervention will be judged by how the therapist defines his or her role and the quality of skills he or she demonstrates.

In-service training is one means by which a therapist starting to work in early intervention can develop needed skills. Few states however, have made training a priority; most plan short-term and episodic training (Campbell, Bellamy, & Bishop, 1988). States and academic programs have been challenged to
work together to enhance the skills of therapists starting to work with young children and their families (Hanft & Humphry, 1989). Nevertheless, we believe some basic skills related to specialty areas need to be introduced at the preprofessional level. We recommend that academic programs implement a self-assessment process to identify whether their students are receiving sufficient preparation to work in pediatrics and a general introduction to early intervention. Faculty in our study were concerned with the accuracy of their estimated number of instructional hours for the different topics. The greatest concern was for curricula that fell below the median in the number of hours devoted to work with infants.

Some of the topics in the survey, as well as the suggested curriculum changes, are relevant to other practice areas as well. For example, knowledge of family dynamics, the interaction of family members, and the impact of ethnic and cultural concepts on service provision are also relevant to practice in geriatrics. Knowledge of family system theory and family function under stress is valuable both to the occupational therapist working with the family of a patient with Alzheimer disease and to the therapist working with a young child with cerebral palsy. The occupational therapist’s role as a consultant also extends beyond the scope of early intervention to other areas of practice. The first step in the curriculum review may be to ensure that students are exposed to knowledge and skills that are relevant to several of the emerging specialty areas, such as home health care and early intervention (Hanft, 1989; Stoffel & Gwin, 1989).

By reviewing the course work that provides basic professional preparation, we could perhaps identify those examples or exercises that would help students apply their skills to working with infants and their families. For example, in a course on professional ethics, examples of issues regarding differences in parenting practices due to a family’s ethnic background could be discussed. At the second level of professional preparation, the use of case studies and required Level 1 fieldwork experiences will help students apply what they have learned to working with young children and their families. At the time of this writing, only a few of the programs surveyed offered elective courses, and only 3 of the 43 programs offered electives related to work with infants. More opportunities for students to pursue special interests should be available within entry-level curricula.

Several of the competencies suggested by the panel (e.g., knowledge of federal laws, ability to work as part of an interdisciplinary team) reflect professional skills that are not unique to occupational therapy. In a 1988 survey conducted by AOTA, 77% of the occupational therapists working with young children reported that they were part of a team (AOTA, 1988). Through self-assessment, academic programs may be able to identify information that could be taught in several disciplines, thus increasing the students’ exposure to other professions. By participating in joint exercises with students from different academic departments, occupational therapy students may gain additional knowledge related to early intervention and the practice of skills necessary to participate in interdisciplinary team processes. Additionally, such interaction encourages occupational therapy students to articulate their own professional contributions.

Occupational therapy practice is becoming more diverse and is thus increasing its number of specialty areas (Dunn & Rask, 1989). This survey and others (e.g., Strasburg & Gintar, 1986) highlight the fact that the profession is trying to understand the nature of entry-level preparation as it is currently provided. To expose students to different treatment areas, we must examine time allotment within the 24-week Level II fieldwork experience. Accreditation requirements do not stipulate the type of site or the length of time to be spent at that site. Although experiences in hospitals and rehabilitation centers provide knowledge in general areas of psychosocial and physical disabilities, they may not reflect occupational therapy services provided in community-based practice. Exposure to such practice settings as schools, private homes (i.e., home health care), and developmental day-care centers provide different perspectives for therapists preparing to specialize in early intervention. To provide students with broader preparation and more diverse experience without extending the duration of fieldwork, we must allow for shorter time within a setting or rotations under different clinical supervisors.

The role of continuing education as part of professionalism or continuing competence is not a new issue (McLean, 1987). Students must enter such specialty practice areas as early intervention armed with strategies to obtain new skills. Suggested strategies have been discussed previously (AOTA, 1989; Parmham, 1987). Workshops, books or journals, and graduate academic courses related to infants are three means by which to learn about treating infants with special needs. Consultation or work with an experienced therapist is another way to secure continuing education. Consultation is advantageous in that the information gained is relevant to the new therapist’s unique practice setting and caseload. By negotiating time away from the job for participation in peer support groups or by asking an experienced therapist to be a mentor, new therapists can develop skills related to intervention with infants and their families.
Conclusion

The varied number of instructional hours students receive on material related to early intervention in the 43 schools surveyed reflects the lack of specific criteria for the accreditation of academic programs and the wide range of philosophies among different programs. Self-assessment by each program and a reexamination of fieldwork experiences is necessary to reflect the changing practice areas in occupational therapy.

Self-assessment by occupational therapists beginning employment in early intervention programs also is necessary. Therapists should not assume that their entry-level academic preparation prepares them for all areas of practice in occupational therapy. The results of the therapist's self-assessment can be used to indicate needs for continuing education. Specific self-assessment tools could be developed by AOTA's Commission on Practice.

Therapists starting in a new specialty area can pursue several continuing education opportunities, some of which do not require extensive financial commitment and can be tailored to meet individual needs. The development of new specialty skills requires the occupational therapist's effort, along with the support of his or her employer (AOTA, 1989).

Acknowledgments

We would like to thank the faculty at the University of North Carolina at Chapel Hill, Division of Occupational Therapy, for their review of and comments on an earlier draft of this manuscript.

We also wish to acknowledge the outstanding contributions of the following therapists, who served as our panel of experts: Barbara Burris, MS, OTR/L, Jane Case-Smith, EdD, OTR/L, Barbara Hanft, MS, OTR, Anne Henderson, PhD, OTR, Judy Kimball, PhD, OTR, Mary Lawlor, MS, OTR, Kathy Stewart, MS, OTR, Elsie Vergara, PhD, OTR, and Pat Wilbarget, MS, OTR.

Preparation of this manuscript was supported in part by Special Education Programs, Special Education and Rehabilitation Services, U.S. Department of Education, Grant No. 088881514. The opinions expressed here do not necessarily reflect the position or policy of the U.S. Department of Education, and no official endorsement by the U.S. Department of Education should be inferred.

References


