The changing health care environment has led to an expansion of pediatric health care services toward more community-based, family-centered, team-based, and culturally relevant early intervention and school-based programs (Schaaf, Miller, & Burke, 1995). More than one third of all occupational therapists practice in pediatric occupational therapy, and 18.7% of occupational therapists provide services in school settings, which is the largest employer of occupational therapy practitioners in pediatrics (Hanft, Burke, Cahill, Swenson-Miller, & Humphrey, 1992; Rourke, 1996). The need for occupational therapists in school-based and early intervention settings is expected to increase by 78% within the next 5 years (Whitworth, 1994).

For pediatric personnel to be adequately trained, academic preparation of occupational therapists must be responsive to the changes in pediatric health care service delivery. Pediatric occupational therapists need to learn how to collaborate not only with families, as mandated by the Individuals With Disabilities Education Act of 1990 (Public Law 101–476), but also with team members because the interdisciplinary team approach has been found to be most effective (American Occupational Therapy Association [AOTA], 1997; Olson, Murphy, & Olson, 1998; Wesley, 1995). Unfortunately, opportunities for interdisciplinary collaboration often are not available in academic programs (Hinojosa, Moore, Sabari, & Doctor, 1994; Humphry & Link, 1990) or may vary from curriculum to curriculum (AOTA, 1988).

In a survey of 142 pediatric occupational therapy practitioners, Case-Smith (1994) identified the following six areas as important to pediatric practitioners:

1. Skills in communication and consultation with team and family members
2. Developmentally oriented fieldworks for child evaluation and assessment skills
3. Interpersonal skills for interactions with family members
4. Understanding of service delivery systems within early intervention
5. Use of assistive technology
6. Knowledge of feeding and oral-motor skills

Again, academic programs often may not emphasize these areas or incorporate them into student fieldwork experience.

This article describes a program designed to provide occupational therapy students with a focused early intervention experience as part of a learning module within an advanced clinical seminar. This program, The Early Intervention Interdisciplinary Field Experience (EIIFE), was developed in response to a state initiative to support interdisciplinary collaboration and to augment an entry-level curriculum to prepare future professionals to assess...
and plan programs for young children with developmental disabilities. The EIIFE involved the collaborative efforts of faculty members and students from the field of occupational therapy, nursing, and special education and focused on the knowledge and skills required to function as a team member in an early intervention setting.

Program Participants and Procedure
Twenty (10 per academic year) entry-level, postprofessional graduate occupational therapy students from Duquesne University in Pittsburgh, Pennsylvania, participated in the program, along with 10 students each year from the special education program and 10 students each year from the nursing program. All students agreed to participate in the 8-week program. The ages of the occupational therapy students ranged from 22 years to 41 years.

Before entering the program, all participants completed a seven-statement attitudes and knowledge survey about the interdisciplinary team approach to addressing the legal basis, role concepts, assessment, collaboration, and skills necessary for an early intervention setting (see Table 1). They rated their agreement with each statement on a Likert scale from 1 (strongly disagree) to 5 (strongly agree).

After the surveys were completed, a 3-hr session was presented on the interdisciplinary team approach, collaborative skills, conflict resolution, team assessment, and various team models. Each student was assigned to a field placement in one of three integrated early childhood educational sites within the Pittsburgh area and to a team composed of the occupational therapy student, a nursing student, and a special education student.

Each three-member team participated in two observational sessions focusing on one child for up to 3 hr per session. The parents of children being observed as part of the evaluation signed an informed consent for the child to participate in this study. After each observation, individual team members completed and scored the System to Plan Early Childhood Services (SPECS), a convergent team assessment and decision-making battery composed of the Developmental Specs (D-Specs), the Team Specs (T-Specs), and the Program Specs (P-Specs) (Bagnato & Neisworth, 1990). The D-Specs allows individual team members to rate and profile a child's functional capability in six domains on a 5-point rating scale. The T-Specs summarizes D-Specs ratings and reflects the team's consensus on the child's functional capability in the six domains. The P-Specs is a collaborative 45-item questionnaire that enables the team to specify a child's needs for different early intervention services (Bagnato & Neisworth, 1990). Each student therefore rated a child on the six developmental domains of the D-Specs (i.e., communication, physical, sensorimotor, self-regulation, cognition, self/social). The team members then completed a consensual T-Specs, which collectively reflected the three members’ agreed-on rating of the developmental domains. Lastly, the team members collaborated on constructing a P-Specs that recommended the frequency and duration of services to be provided across several disciplines.

Two weeks after completing the interdisciplinary field experience, the attitudes and knowledge survey was re-administered to the students as well as a team process evaluation. The purpose of administering the survey after the experience was to recognize any changes in the students’ attitudes and knowledge toward early intervention, whereas the team process evaluation allowed for subjective written feedback from each participant about the overall team process that occurred within each three-member team.

Data from the surveys for each year were analyzed for frequency and range of responses, using SPSS Version 7.5 for Windows\(^1\) software. The Wilcoxon signed rank test, which examines the direction and amount of difference between the pretest and posttest scores, was used to perform a nonparametric analysis of variance. A .05 level of significance between the paired sample of correlated items (repeated measures) was established.

\(^1\)SPSS Inc., 444 N. Michigan Avenue, Chicago, Illinois 60611.

<table>
<thead>
<tr>
<th>Survey Statement</th>
<th>Range of Responses</th>
<th>Pretest</th>
<th>Posttest</th>
<th>Two-Tailed (p)</th>
<th>(Z)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I clearly understand the legal basis for the provision of early intervention services.</td>
<td>3–4</td>
<td>4–5</td>
<td>.045*</td>
<td>-2.00</td>
<td></td>
</tr>
<tr>
<td>2. I clearly understand the three models for team approaches for providing early intervention services.</td>
<td>3–5</td>
<td>4–5</td>
<td>.023*</td>
<td>-2.27</td>
<td></td>
</tr>
<tr>
<td>3. I clearly understand the roles of each team member in the provision of early intervention services.</td>
<td>3–4</td>
<td>3–5</td>
<td>.008**</td>
<td>-2.64</td>
<td></td>
</tr>
<tr>
<td>4. I clearly understand the process of conducting a team-based assessment of a child with developmental disabilities.</td>
<td>2–4</td>
<td>4–5</td>
<td>.015*</td>
<td>-2.43</td>
<td></td>
</tr>
<tr>
<td>5. I clearly believe that a team approach is the most effective way to provide early intervention services.</td>
<td>3–5</td>
<td>4–5</td>
<td>.033*</td>
<td>-2.12</td>
<td></td>
</tr>
<tr>
<td>6. I clearly understand the skills necessary to be a productive member in a collaborative effort.</td>
<td>3–5</td>
<td>4–5</td>
<td>.102</td>
<td>-1.63</td>
<td></td>
</tr>
<tr>
<td>7. I clearly believe that I have sufficient experience with young children with developmental disabilities to carry out my future roles and responsibilities.</td>
<td>2–5</td>
<td>3–5</td>
<td>.024*</td>
<td>-2.25</td>
<td></td>
</tr>
</tbody>
</table>

\(^*p \leq .05, **p \leq .01.\)
understanding of the interdisciplinary approach to treatment in a continuously changing health care environment of the team approach and of the skills needed to be a team member and understanding of interdisciplinary practice in early childhood development and disabilities and their acknowledgement of a "greater understanding of children from an experience that was relatively narrow. Additionally, the consensus group work was based on the limited data obtained in the observation. Nonetheless, we believe that this pilot project is worthy of replication because it served as a preservice model to foster student learning, experience, and understanding of interdisciplinary practice in early intervention.

Discussion

To meet the challenge of adequately training professionals in a continuously changing health care environment (O’Neil, 1993), instructors can enhance conventional educational strategies by supplanting them with innovative interdisciplinary models. The simple interdisciplinary field experience that we incorporated into our academic program was designed to provide occupational therapy students with a brief, focused, early intervention experience to enhance their skills, knowledge, and attitudes toward interdisciplinary teams in an early intervention setting. Students gained confidence in their assessment skills, professional knowledge of early intervention, and the legal requirements mandated for the delivery of early intervention services. Before this experience, students were introduced to pediatric and early childhood development through various courses in the existing curriculum; however, unless they obtained fieldwork in pediatrics, they did not have the opportunity to work directly with children.

This pilot project was easily implemented into our current curriculum. Our experience provides evidence that the 6 hr of clinical observation required in the project, followed by consensual group work, resulted in positive outcomes. The project provided the opportunity for direct observation of a pediatric patient, and the complementary interdisciplinary consensus group allowed for interaction, discussion, and generation of a holistic treatment approach. We believe that this combined approach provided a better opportunity to understand the role of interdisciplinary team members in the evaluation of pediatric patients than clinical observation alone. Additionally, the use of the SPECS involved team members in a structured assessment to gauge their success as team members. It allowed raters to integrate their professional expertise while learning the value of being an interdisciplinary team member.

Program Evaluation

Tables 1 and 2 indicate the degree of agreement with survey statements before and after the interdisciplinary experience for each student group. A significant positive change occurred in the two groups in their understanding of the legal basis for early intervention service delivery; their understanding of different team models, team members’ roles, and the application of a team-based assessment; and their belief in having had sufficient experience with young children to carry out future responsibilities. Change also occurred with their understanding and belief of the value of the team approach and of the skills needed to be a team member; however, these changes were not consistent across the two groups.

Feedback from the team evaluation process indicated that the experience increased the participants’ knowledge about childhood development and disabilities and their skills in active listening, team collaboration, and positive problem-solving among team members. Participants also acknowledged a “greater understanding of children from differing perspectives of the three disciplines, a greater understanding of the interdisciplinary approach to treatment and the wide range of services required to meet children's needs.” Willingness to share professional knowledge with other team members also was viewed as “a positive outcome from working in teams.”

This program has some limitations. It was tried with only two groups, and its short duration could provide only an experience that was relatively narrow. Additionally, the consensus group work was based on the limited data obtained in the observation. Nonetheless, we believe that this pilot project is worthy of replication because it serves as a preservice model to foster student learning, experience, and understanding of interdisciplinary practice in early intervention.

Table 2

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<th>Z</th>
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<tr>
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<td>2–4</td>
<td>4–5</td>
<td>0.024*</td>
</tr>
<tr>
<td>2. I clearly understand the three models for team approaches for providing early intervention services.</td>
<td>2–4</td>
<td>4–5</td>
<td>0.003**</td>
</tr>
<tr>
<td>3. I clearly understand the roles of each team member in the provision of early intervention services.</td>
<td>2–4</td>
<td>3–5</td>
<td>0.007**</td>
</tr>
<tr>
<td>4. I clearly understand the process of conducting a team-based assessment of a child with developmental disabilities.</td>
<td>2–4</td>
<td>4–5</td>
<td>0.011*</td>
</tr>
<tr>
<td>5. I clearly believe that a team approach is the most effective way to provide early intervention services.</td>
<td>4–5</td>
<td>4–5</td>
<td>1.000</td>
</tr>
<tr>
<td>6. I clearly understand the skills necessary to be a productive member in a collaborative team effort.</td>
<td>2–5</td>
<td>4–5</td>
<td>0.014*</td>
</tr>
<tr>
<td>7. I clearly believe that I have sufficient experience with young children with developmental disabilities to carry out my future professional roles and responsibilities.</td>
<td>1–5</td>
<td>3–5</td>
<td>0.011*</td>
</tr>
</tbody>
</table>

*p ≤ .05  **p ≤ .01.
Arizona. This study was conducted in partial fulfillment of the second author’s requirements for a master’s degree in occupational therapy from Duquesne University.

References


