Identifying Best Practice in the Occupational Therapy Assistive Technology Evaluation: An Analysis of Three Focus Groups

Jennifer Angelo, Mary Ellen Buning, Mark Schmeler, Stephanie Doster

Key Words: professional practice • self-help devices

A ssistive technology is permeating the practice of occupational therapy as evidenced by articles in the various occupational therapy publications, including OT Week (e.g., Haug, 1993; Joe, 1994, 1996), OT Practice (e.g., Struck, 1996; Swinth, 1996), and The American Journal of Occupational Therapy (AJOT) (e.g., Angelo, 1992; Anson, 1991, 1994; Baily & DeFelice, 1991; Bay, 1991; Buning & Hanzlik, 1993; Lau & O'Leary, 1993; Mann, Hurren, & Tomita, 1993; McPherson et al., 1991; O'Leary, Mann, & Perkash, 1991; Parker & Thorslund, 1991; Swinth, Anson, & Deitz, 1993). In addition, special issues of AJOT have been devoted to assistive technology (Post [Guest Editor], 1993; Trefler [Guest Editor], 1987).

Guidelines of increasing use of assistive technology in practice also can be found within the American Occupational Therapy Association's (AOTA's) Essentials under B. Content Requirements (d) Occupational Therapy Process (3) Implementation (f) Application of Therapeutic Adaptation for Accomplishment of Purposeful Activities (occupation) (AOTA, 1991). This indicates that to be accredited, occupational therapy schools must incorporate assistive technology into their curriculums along with other methods of improving occupational performance.

The National Board for Certification in Occupational Therapy (NBCOT) is also interested in the use of assistive technology in occupational therapy practice but from the viewpoint of consumer protection. The NBCOT recently conducted a focus group of nine occupational therapists with expertise in assistive technology to discuss and define core concepts and the knowledge base needed to practice in the area of assistive technology. The board also surveyed 7,000 registered occupational therapists and certified occupational therapy assistants about all areas of practice at the entry level. If the analysis of the results indicates that assistive technology is used in practice at the entry level, it may become a part of the national certification examination (M. O'Connor, personal communication, August 6, 1996). The NBCOT's activities indicate an interest in knowing what is considered best practice by occupational therapists who are knowledgeable in the area of assistive technology.

These activities, publications, inclusion in the Essentials, and a possibility of assistive technology being included in the registration examination indicate that the occupational therapy community is interested in this area of practice. These activities also indicate that identifying best practice in the area of assistive technology would be of interest and use to the field.

We undertook such a study with focus groups con-
sisting of occupational therapists experienced in the use of assistive technology. We focused specifically on factors considered to be best practice for assistive technology evaluation because the evaluation is the foundation for device procurement. The difference between an appropriate and adequate evaluation and one that is incomplete can mean the difference between a device that enables the consumer to be more independent and one that ends up in the closet.

Method

Participants

Participants were 25 registered occupational therapists who were known for their publications and presentations on assistive technology. Their experience as an occupational therapist ranged from 3 years to 30 years ($M = 15$ years, median = 17 years). The length of time spent working in the area of assistive technology ranged from 1 year to 17 years ($M = 8.4$ years, median = 8 years). All participants had a minimum of a bachelor's degree; 20 had master's degrees; and 2 had doctoral degrees. The participants represented 12 states, including California, Colorado, Kansas, Illinois, Indiana, Louisiana, Maryland, North Carolina, New York, Pennsylvania, Washington, and Wisconsin.

Procedure

Three focus groups were held in three different geographic locations, each coinciding with a national conference. The conferences and locations were Closing the Gap in Minneapolis, Minnesota; the AOTA Annual Conference and Exposition in Chicago; and RESNA (Rehabilitation and Assistive Technology Association of North America) in Salt Lake City, Utah. All were annual meetings.

Participants were invited 3 weeks before the conference to participate in the focus group meeting. There were 12 participants in Group 1, 7 in Group 2, and 6 in Group 3. All meetings took place in the evening in a private dining room at a local restaurant. Each meeting lasted 3 hours.

Each focus group was conducted using the Nominal Group Technique (Delbecq, Van de Ven, & Gustafson, 1986) as follows:

1. Participants were told that they were to generate as many ideas as possible on the topic of what factors are important when performing an assistive technology evaluation. They were to write down their ideas silently and independently.
2. Each participant provided one idea in a round-robin fashion until all ideas had been presented. All ideas were written on pages of newsprint and displayed on the walls around the room to allow all the ideas to be displayed at once.
3. Each idea was discussed separately. Any participant could provide comment or clarification to each particular idea.
4. Each participant was asked to select from the newsprint list the eight ideas with the highest priority in assistive technology evaluation and to write each idea on a separate card.
5. Each participant then ranked the ideas on the cards, from 8, the most important item, to 1, the least important item. Typically, group members can select five to nine items with some reliability of judgment (Delbecq et al., 1986).
6. The ranking scores for each idea were tallied, and the eight with the highest number of points were presented to the group.

Results

Table 1 shows the final outcomes for the eight items ranked as the most important in an assistive technology occupational therapy evaluation. Some items received nearly equal numbers of points, indicating that they were about equally important to participants. Participants in Group 3 used the Uniform Terminology (AOTA, 1994) as a guide during the focus group activity, referring to their memories of the document.

Discussion

When items from the three focus groups were grouped together, four categories for best practice were identified:

- **Client-centered approach**: Best practice for an assistive technology evaluation is to keep the sessions focused on the client's goals. This includes considering the client's lifestyle, health status, age, and physical environment as well as social, psychological, and cultural factors. The client and caregiver's acceptance level of technology also should be considered. Finally, the type of technical support and backup system needed must be addressed.
- **The occupational therapists' responsibilities**: The occupational therapist must conduct a comprehensive evaluation. This includes the areas traditionally evaluated by occupational therapists, such as cognition, visual perception, proprioception, kinesthesia, and motor function as well as assistive technology needs. Occupational therapists must also stay current with changes in technology so that they can accurately match the client's needs with the appropriate technology. The evaluation should include clinical trials and simulations and be based on functional outcomes.
- **Use of teams**: An assistive technology evaluation
### Table 1
**Final Outcomes for the Eight Items Ranked as the Most Important in an Assistive Technology Occupational Therapy Evaluation**

<table>
<thead>
<tr>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Evaluation must be comprehensive (30%)</strong></td>
<td>1. Know the consumer’s present and future goals (27%)</td>
<td>1. Performance and environmental contexts (19%)</td>
</tr>
<tr>
<td>• Evaluation of consumer’s skills (cognition, visual perception, proprioception, kinesesthesia, motor functioning)</td>
<td>• Physical, psychological, and cognitive status (17%)</td>
<td>• Chronological and developmental ages</td>
</tr>
<tr>
<td>• Consideration of all environments that the consumer operates within and evaluation of his or her needs separately from any device</td>
<td>• Typical occupational therapy evaluation</td>
<td>• Health status</td>
</tr>
<tr>
<td>• Therapists’ behavior (keen listening skills, use of a holistic view when evaluating consumer’s needs and abilities)</td>
<td>• Acceptance of the disability</td>
<td>• Sociocultural influences</td>
</tr>
<tr>
<td>• Follow-up</td>
<td>• Cadger tolerance</td>
<td>• Acceptance of devices by significant others</td>
</tr>
<tr>
<td>• Support venues for the family member or caregiver</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2. Commitment to stay current (17%)</strong></td>
<td>2. Performance components (16%)</td>
<td>2. Evaluation must be consumer driven (19%)</td>
</tr>
<tr>
<td></td>
<td>• Sensory</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Perception</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Neuromusculoskeletal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Motor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Cognitive integration</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Psychosocial status</td>
<td></td>
</tr>
<tr>
<td><strong>3. Consumer-centered decision process (14%)</strong></td>
<td>3. Performance occupational history evaluation (16%)</td>
<td>3. Performance components (16%)</td>
</tr>
<tr>
<td></td>
<td>• Daily routine</td>
<td>• Sensory</td>
</tr>
<tr>
<td></td>
<td>• Motivation</td>
<td>• Perception</td>
</tr>
<tr>
<td></td>
<td>• Values</td>
<td>• Neuromusculoskeletal</td>
</tr>
<tr>
<td></td>
<td>• Functional status</td>
<td>• Motor</td>
</tr>
<tr>
<td></td>
<td>• Support systems</td>
<td>• Cognitive integration</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Psychosocial status</td>
</tr>
<tr>
<td><strong>4. Look at consumer’s tasks and outcomes (10%)</strong></td>
<td>4. Know family member or caregiver’s interests (12%)</td>
<td>4. Consumer, activity, and assistive technology must match (15%)</td>
</tr>
<tr>
<td>• Analysis of tasks and problems consumer is trying to solve through assistive technology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Outcome must be functional</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>5. Evaluation is a process, not an event (9%)</strong></td>
<td>5. Perform clinical trials and simulations (8%)</td>
<td>5. The consumer’s goals—long term and short term—must be addressed (9%)</td>
</tr>
<tr>
<td><strong>6. Work in teams as appropriate (8%)</strong></td>
<td>6. Up-to-date knowledge of devices and equipment (8%)</td>
<td>6. Must be based on functional outcomes (8%)</td>
</tr>
<tr>
<td><strong>7. Network with other professionals and community (6%)</strong></td>
<td>7. Equipment features needed (8%)</td>
<td></td>
</tr>
<tr>
<td><strong>8. Funding (5%)</strong></td>
<td>8. Funding (4%)</td>
<td></td>
</tr>
</tbody>
</table>

*Note: Numbers in parentheses represent the percentage of points the item received.*

should to be team based. The client, family members, and caregivers should be considered team members. The occupational therapist should maintain a network with other professionals as well as work with the client's support persons within the community.

- **Funding:** Although funding is very important, the results of the assistive technology evaluation should first focus on the client's needs and second on funding. Occupational therapists need to be aware of various funding sources available to their clients.

Variations among the groups' final lists existed for two items. Group 2 omitted an item reflecting that a team approach should be used in the evaluation but included knowing the family members or caregiver's interest in their final list. Even though the procedural instructions were identical for each group, Group 2 may have interpreted the instructions to mean that they were to focus only on the occupational therapist's roles and responsibilities directly without relating them to other professionals.

Group 3 did not specify funding in their final list of priorities, although it was in their initial list. Participants in this group decided that other issues were more important. One participant commented that if an error was made in the equipment selection process, it was unlikely due to a funding error, but rather to the therapist's miscalculation of an interaction between a particular environment and the use of the assistive technology device. Therefore, funding was omitted from the final list of priorities.

Except for these two items, team approach and funding, consistency was found among the three groups in the items that comprised the final list of best practice for assistive technology evaluations. This consistency can be
confirmed by comparing the results of a national task force that developed competencies for occupational therapists practicing in assistive technology (Hammel & Angelo, 1996). The second was a book that described principles and current practice for assistive technology providers (Cook & Hussey, 1995).

The client-centered approach is found under “Evaluation” (p. 37) and “Intervention” (p. 39) in Hammel and Angelo (1996) as well as in Chapter 1 of Cook and Hussey (1995). The occupational therapists’ responsibilities for the evaluation were described under “Evaluation” in Hammel and Angelo, and many of the items were in various sections of Cook and Hussey. However, Cook and Hussey gave no indication that these tasks should be performed by occupational therapists. The team approach was described under “Resource Coordination” (p. 41) in Hammel and Angelo as working as a team leader, participating on a team, and community involvement. Cook and Hussey described how assistive technology providers should work on transdisciplinary teams that involved the crossing over of professional boundaries and sharing of roles and functions (p. 34). The team approach was also seen in case vignettes (Cook & Hussey) of persons being evaluated for assistive technology devices. Funding was described under “Resource Coordination” in Hammel and Angelo and in Chapter 4 of Cook and Hussey.

Thus, all items considered to comprise best practice in the current article were also considered important by other authors. The similarities with the article and textbook help to confirm that the factors found in the focus groups are the factors that occupational therapists should use as a model for practice.

Conclusion
Identifying best practice is important for a number of reasons. Occupational therapy educational programs strive to provide the best possible education. By including the factors considered to be best practice in the assistive technology evaluation, occupational therapy faculty members can feel confident that they are providing a curriculum that is based on the current state of the art of practice. Continuing education programs can use information about best practice as they develop courses that focus on assistive technology. Practicing therapists can compare the way they typically conduct evaluations against the factors we identified here, asking themselves whether they incorporate all or some of the best practice components outlined. New occupational therapy graduates can use this information about best practice to guide their work in the assistive technology area. Therapists who want to change areas of practice or enhance their current skills may also find this information valuable.

Moreover, identifying best practice provides justification for why assistive technology evaluations are conducted in a certain manner. To funding agencies, identifying best practice provides a rationale for the reasons evaluations can sometimes be time consuming and costly. Administrators can use the rationale in their quality assurance programs. Administrators will want to know whether the evaluations are appropriate and acceptable and if they are not, what areas need improvement. Lastly, in the changing health care arena, this information on best practice can be used to educate consumers and consumer advocacy groups in identifying services that are of high quality.

References


