SCH #3

Direct service and collaborative consultation with classroom teacher are beneficial in delivering occupational therapy services in schools

Dunn, W. (1990). A comparison of service provision models in school-based occupational therapy services: A pilot study. *Occupational Therapy Journal of Research*, 10, 300–320.

Level: IIB2b

Nonrandomized controlled trial, 2 groups, fewer than 20 participants per condition, moderate internal validity, moderate external validity

Why research this topic?

Occupational therapists use various models to deliver services to children, among them direct service and collaborative consultation with the teacher. However, few researchers have studied the relative effects of the models.

What did the researcher do?

Dunn (1990), of the University of Kansas Medical Center (Kansas City), decided to compare two models, direct service and consultation, to determine their outcomes for children and their effects on adults' attitudes.

The children participating in the study were 12 preschoolers and 2 kindergartners who attended special education programs in their communities. Eight were boys, and 6 were girls. They ranged in age from 2.9 years to 6.6 years (average age not reported). To be eligible, they had to display at least a 1-year delay in two or more areas of development, one of which had to be gross motor, fine motor, or self-help skills. Further, the educational teams working with them had to have recommended occupational therapy as part of their educationally related services at the school. Deaf and blind children were excluded, as were children who were not able to walk or required assistance in walking.

Occupational therapists and teachers also participated in the study. Originally there were eight therapists, but one dropped out. Eleven teachers were involved. Seven served in the consultation condition, six in the direct service condition, and two in both. The latter were excluded from all analyses related to teacher attitudes.

The researcher randomly assigned the children to a direct service group or a consultation group. Direct service involved 60 minutes of service per week for an entire school year, provided to each child outside the classroom by an occupational therapist. The therapist addressed gross motor, fine motor, or self-care needs as related to the goals of the child's Individualized Education Program.

Consultation involved 60 minutes of consultation with the teacher per week per child by an occupational therapist for an entire school year. The occupational therapist and teacher discussed the child's needs, observed related behaviors, and planned for the next time period. During the consultations the therapists demonstrated techniques and used predominantly oral and written instructions.

The researcher was interested in *achievement of education goals* (as measured by an Individualized Education Program Goals Checklist) and *professional attitudes* (as measured by the Teacher/Therapist Rating Form, which

inquires about degree of agreement with statements about school-related issues). Measurements on the first area were taken at the end of the study; on the second area, at the beginning and the end of the study.

What did the researcher find?

The teachers in the direct service and consultation groups showed very small differences in their responses to the first two questions on the Individualized Education Program Goals Checklist: (a) "Did the child meet the goal?" (73% and 71%, respectively, answering yes), and (b) "Have you observed this behavior/skill?" (81% and 80%, respectively, answering yes). The difference was larger on the third question, "Did the occupational therapist contribute to goal attainment?" Proportionately more teachers in the consultation group (60%) reported contributions from the occupational therapist than teachers in the direct service group (36%).

The children in both conditions achieved nearly three-fourths of their Individualized Education Program goals. The children in the direct service group attained proportionately more fine motor and language goals, whereas the children in the consultation group attained proportionately more gross motor and cognitive goals.

The therapists and the direct service teachers showed a similar amount of change in attitudes. The consultation teachers showed considerably more.

What do the findings mean?

For therapists and other providers, the findings suggest that similar levels of goal attainment can be achieved in direct service and consultation and both may be equally viable alternatives for service provision. Teachers in the consultation group acknowledged a greater contribution from the therapists and that therapist/teacher teams addressed a wider range of goals. The added value of this relationship "may lead to a more positive overall view of the learning environment and the contribution of occupational therapy to that environment." Further, "therapists should consider the potentially broader impact of their services...The effects of occupational therapy expertise on the environment, including the people within that environment, may be an equally **significant** (see *Glossary*) consideration in designing service provision" (p. 317).

The level of interaction between therapist and teacher resulting in a positive outcome (the teacher feeling that occupational therapy contributed to the achievement of goals) was intense (60 minutes per week).

What are the study's limitations?

This pilot study has several limitations. First, the small sample size may limit the researcher's ability to detect clinically important differences between intervention groups. Furthermore, the study lacked a **control group** (see *Glossary*). The attention alone could have accounted for the outcome. It is unclear whether study participants were receiving other forms of intervention that may have also influenced the results. Finally, this study fails to provide a statistical comparison of groups, so it is uncertain whether group differences were statistically significant.

Glossary

control group—A group that received special attention similar to that which the treatment group received, but did not receive the treatment.

significance (or significant)—A statistical term, this refers to the probability that the results obtained in the study are not due to chance, but to some other factor (such as the treatment of interest). A significant result is one that is likely to be generalizable to populations outside the study.

Significance should not be confused with clinical effect. A study can be statistically significant without having a very large clinical effect on the sample. For example, a study that examines the effect of a treatment on a client's ability to walk may report that the participants in the treatment group were able to walk significantly longer distances than the control. However, if you read the study you may find that the treatment group was able to walk, on average, 6 feet, while the control group was able to walk, on average, 5 feet. Although the outcome may be statistically significant, a clinician may not feel that a 1-foot increase will make his or her client functional.

reviews were completed: Uniform Terminology for Occupational Therapy Practice—Third Edition (AOTA, 1994) and International Classification of Functioning, Disability and Health (ICIDH-2) (World Health Organization [WHO], 1999). More recently, the Uniform Terminology document was replaced by Occupational Therapy Practice Framework: Domain and Process (AOTA, 2002), and modifications to ICIDH-2 were finalized in the International Classification of Functioning, Disability and Health (WHO, 2001).
This work is based on the evidence-based literature review completed by Mary Law, PhD, OT(C); Nancy Pollock, MSc, OT(C);
Debra Stewart, BSc, MSc, OT(C); Brenda McGibbon Lammi, BPHE, BHSc (OT), MSc. For more information about the Evidence-Based Literature Review Project, contact the Practice Department at the American Occupational Therapy Association, 301-652-6611, x 2040. Copyright 2004 American Occupational Therapy Association. Inc. All rights reserved.

