INTRODUCTION

The Individuals with Disabilities Education Act [IDEA] requires schools and early intervention programs to use appropriately qualified personnel to provide special education, related services, and early intervention services. These services are designed to help meet the academic, developmental, and functional needs of eligible children with disabilities. We reviewed the research to identify evidence-based and effective practices for school-based occupational therapy [OT] to provide an overview of current research and evidence that supports OT practices in schools, specifically children serviced under Part B of IDEA.

BACKGROUND

The present report was prepared to advance evidence-based OT practice in schools and to facilitate OT accountability for targeted student outcomes. More specifically, this report describes OT and then begins to identify effective OT practices and interventions.

OCCUPATIONAL THERAPY

OT practice within educational settings enables students with disabilities or those at risk for disability to engage in their everyday school occupations—many overlapping and interrelated activities, including academic, social, extracurricular, and self-care tasks. In collaboration with other members of the education team, occupational therapists [OTs] engage in evaluation, intervention, and outcome processes when serving children and youth. As needed, OTs may work to enhance student performance skills, performance patterns, educational context, student-activity match, and individual student factors as delineated by the Occupational Therapy Practice Framework developed by the American Occupational Therapy Association [AOTA].

Evaluation

To achieve targeted performance outcomes and to design needed services, OTs start with an evaluation. Subsequent OT intervention uses evaluation findings to help a student achieve educational goals (academic and non-academic) that have been established by the entire team, including family members.

Intervention

Working in educational settings with children from birth to age 21, OTs use their professional judgment, research, student evaluation processes, and team input to select an OT intervention model and approach, i.e., how the services will be provided. The AOTA framework distinguishes approaches (e.g., promoting health; remediation/restoration; maintaining or preserving current performance; compensation/adaptation, or disability prevention) and interventions (e.g., therapeutic use of self; therapeutic use of occupations and activities; consultations with the student, teachers, family members, or others; education of others who can facilitate student performance and participation).

The majority of OTs who work with children provide their services under the auspices of the IDEA in schools and early intervention programs (parts B and C of IDEA) and with family members, teachers and other school personnel, school administrators, and community healthcare providers.

Outcomes

OT intervention must ultimately enable individuals, groups, or populations to engage in needed and valued occupations to facilitate participation in a variety of real-life contexts as in the AOTA framework.

SCHOOL-BASED OCCUPATIONAL THERAPY

Meaningful student participation within the educational context represents the desired outcome of OT services in a school setting.   By collaborating with general and special education teachers and participating as a member of the IEP team, OTs can help students access and engage in available educational activities.

PERSPECTIVES ON STUDENT OUTCOMES: RESEARCH

The Individuals with Disabilities Education Improvement Act of 2004 (IDEA, PL 108-446) and earlier versions of the law dating back to 1975 established clear outcome targets for children and youth with disabilities receiving special education and related services in public schools. Amendments to the long-standing Elementary and Secondary Education Act, now entitled the "No Child Left Behind Act of 2001" (NCLB, P.L. 107-110), specifies important educational outcome targets for all students, including students who have disabilities. IDEA and NCLB laws and regulations are essential reading for all school-based OT practitioners.

According to IDEA 2004, effective education for students with disabilities is based on high expectations, participation, and progress in the general education curriculum alongside peers without disabilities to the maximum extent possible. The law also expects students with disabilities to ultimately exit school ready to assume productive and independent adult living roles (§601(c)(5)(A)).

The importance of post-school outcomes as a measure of education effectiveness cannot be overstated. After students with disabilities have received up to 19 years of publicly supported instruction (general education, special education and related services), it is reasonable for family members, general taxpayers, and policy makers to expect the vast majority of these students to be prepared to assume productive and positive adult roles in their communities. NCLB further reinforces IDEA's focus on student performance outcomes, calling for accountability in educational achievement, greater freedom for states and communities, a focus on using proven educational methods, and more choices for parents.

Educators and related services professionals are by now familiar with their own state's education accountability system of written education standards and statewide testing of student achievement. While controversial, accountability provisions in NCLB must be understood by all personnel who work with students. OTs and other related service personnel share responsibility with other members of the education team for student academic performance in addition to developmental and life skill performances.

The present report uses the term *evidence-based practice* [EBP] to mean practices that are well supported by high-quality research. AOTA has made EBP a high priority within their national agenda in the Evidence-Based Literature Review Project.

This report reviewed and compiled information from many research studies, and research quality was examined using well-accepted levels of evidence (Levels I-V). Randomized control trials are the "gold standard" at Level I of the hierarchy. Expert opinion about intervention methods and associated outcomes, e.g., an opinion presented at a workshop, is ranked as the lowest, Level V. Extensive evidence for OT in the schools is presented in tabular form under the headings: OT practice questions, type of evidence, evidence summary, and reference. Research databases (OTSeeker, ERIC, Ebsco, EBP, OTSearch, library.ups.edu/simon/summit, CINAHL, Medline, and PubMed) were searched for a defined list of primary and secondary search terms. The research is organized according to the main steps in the OT intervention process (evaluation, intervention, and outcomes) as identified by the Occupational Therapy Framework.

Research evaluating the impact of OT services on student outcomes (Levels I or II evidence) and good examples of OT unique practices, skills, and expertise were a special focus of the database search. The limited number of Levels I and II studies found included systematic reviews completed as part of AOTA's EBP project. A growing body of Levels III, IV, and V qualitative studies and some Levels I and II reviews from other practice areas were also useful and relevant to OT school services.

This evidence review revealed a lack of high-level research-based evidence for OT school services. Thus, currently, OTs must rely more on Level III-V studies, effective or promising practices, clinical expertise, and client values as well as systematically collected data when delivering optimal services.

In spite of support for EBP by the OT profession, it is clear that school-based OT practices are, at times, based more on policy than on research. However, the expectation remains for OTs to use effectively the best available research combined with their professional expertise and an understanding of client values.

OTs should think like researchers and collect answers to these questions:

- What was the impact of the OT intervention on the student's *performance* of educational activities?
- To what extent was the student's *participation* within the education context affected by the OT intervention?

The OT must analyze a student's needs and develop a systematic way to document the OT intervention plan, its implementation, and student performance data. With this evidence in hand, the OT is equipped to work with the team to make well-informed decisions about continuation, discontinuation, or modification of OT services.

CONCLUSIONS

This paper describes research on effective OT practice in the schools. With more than one-third of AOTA members reporting schools as their primary work setting, school-based practice needs to be an integral part of initial OT preparation programs and ongoing professional development offerings. In addition, school-based OTs must keep abreast of current evidence regarding the intervention strategies they choose.

School-based OT needs a strong research agenda to help shape future practice. This research agenda should study current practice strategies and the current assumptions of school-based OT service delivery. Also needed are high-level experimental and quasi-experimental studies addressing the effectiveness of specific OT practices on students' educational access, participation, and performance. Additional research should include:

- Further development of valid and reliable outcome measures that can be used in OT efficacy studies—which ones have promise?
- Rigorous and trustworthy qualitative studies focused on intervention impacts that identify promising practices worthy of further study
- Research that matches the OT interventions to subgroups of students (age, diagnosis, current performance levels)
- Research that helps to inform OT service delivery decisions in the schools, for example, variables influencing collaborative practices versus one-on-one "hands-on" services
- Systematic data collection on school- based OT practice based on clear, measurable goals
- Identification of preservice and ongoing professional development strategies for personnel preparation that improve evidence-based, practice-related behaviors among school-based OTs.