

T

he evidence supports the effectiveness of **occupational therapy** in the school setting on goal attainment and skill development in areas underlying and supporting school performance. Reframing the views and expectations of the student by the adults in the environment is another positive outcome. Collaborative consultation with parents and teachers appears to be an essential component in maximizing effectiveness of service delivery and satisfaction. These findings come from **studies** of school-based occupational **therapy** with students with a variety of underlying problems, including physical disabilities, developmental coordination disorder, fine motor difficulties, developmental delays and learning disabilities.

School performance in the areas of reading, writing, mathematics, manipulation of tools, performance in physical education, independence with self-care tasks and social integration are dependent on gross motor and fine motor abilities, visual-motor integration, and visual-perceptual skills.

• Palisano (1989) concluded that six- to nine-year-old children with learning disabilities improved in their gross motor and fine motor abilities, visual-motor integration and visual-perceptual skills with **occupational therapy** intervention.

more >

How **occupational therapy** makes a difference in the school system: A summary of the literature

WHAT IS **OCCUPATIONAL THERAPY**?

Occupational therapy is a health care profession concerned with a person's ability to perform daily occupations, including self-care, productive and leisure activities.

Occupational therapists are trained to assess and treat **occupational** performance problems in the environments where these occupations are being done.

Occupational performance is a determinant of health,

well-being and helps give meaning to life.

GOAL OF OCCUPATIONAL THERAPY IN THE SCHOOL SYSTEM:

Maximizing the occupational performance of the student with special needs

A child's occupational performance may be impaired by physical, developmental, sensory, attentional and/or learning challenges. The goal of occupational therapy is to improve the student's performance of tasks and activities important for successful school functioning. The occupational therapist is concerned with ensuring an understanding of, and match between the student's skills and abilities and the expectations placed on him/her in the school setting.

Recommendations of task adaptations, task modifications and assistive devices (e.g. mechanical lift, writing aid) may be necessary to optimize the child's performance in the school setting. Direct intervention to improve, restore, maintain or prevent deterioration in the skills required for functioning in the school environment is often necessary; for example, therapy to develop the motor coordination, visual-motor coordination and/or visual perceptual skills supporting school performance.

Occupational Therapy: Skills for the Job of Living

16

© CAOT PUBLICATIONS ACE • OTNOW • MAY/JUNE 2002

Greater interaction between the teacher and the therapist leads to enhanced effectiveness of occupational therapy.

Dunn (1990) found that both direct occupational therapy intervention and collaborative consultation between the occupational therapist and teacher were effective in assisting students with developmental challenges attain their goals as identified on their Individualized Education Plan. Teachers saw collaborative consultation as impacting more on the occupational therapy contribution to goal attainment than direct intervention alone.

Occupational therapy intervention, together with high levels of collaboration with teachers, resulted in improved handwriting legibility in a group of students with poor handwriting legibility (Case-Smith, 2002).

Occupational therapists enable a more positive view of the student and provide a basis for developing new and more effective teaching and/or parenting strategies.

Niehues et al. (1991) discovered that occupational therapists play a role in reframing the views of parents and teachers concerning the discrepancies between student performance and the expectations held for them.

The rate of change in school productivity for children receiving occupational therapy exceeds that expected due to maturation.

King et al. (1999) reported that direct therapy, monitoring and collaborative consultation between therapists, teachers and parents resulted in clinically significant gains in school productivity goals. Educationally relevant

productivity goals included copying from the board, correctly holding a pencil, keyboarding, cutting, colouring, use of a computer mouse, organizing a desk and focusing on a task.

Occupational therapy programs enhance the student's ability to learn, and occupational therapists eliminate problems that interfere with a child's ability to profit from instruction. Occupational therapists provide medical, physical and developmental information in educationally relevant terms.

• Fairbairn and Davidson (1993) found that southern Ontario teachers value the work of occupational therapists in the schools.

How occupational therapy is effective, continued...

Occupational Therapy: Skills for the Job of Living

Developmental Coordination Disorder (DCD)

DCD affects six per cent of the population. Children with DCD lack the motor coordination to perform daily self-care and productive and/or leisure tasks. They experience frequent failure and lower self-confidence, which affects social, academic and physical performance. DCD commonly coexists with learning disabilities and/or attention deficit disorder (from findings of a literature review by Fox & Lent, 1996).

• There is early promising evidence that "top-down" approaches used by occupational therapists are effective in improving the functional performance of children with DCD (Polatajko et al., 2001).

• One such approach, the Cognitive Orientation to Daily Occupational Performance (CO-OP), is effective in skill acquisition and there is emerging evidence that CO-OP also results in generalization and transfer of skills (Polatajko et al., 2001).

Early identification and intervention may have a positive impact on the life of a child with DCD. Occupational therapists can quantify the disability, advocate for modifications including changed expectations, assist in providing information to parents, teachers and children and offer intervention techniques related to schoolwork, leisure and activities of daily living.

Written productivity

Children with delays in writing readiness benefit from early intervention by occupational therapy.

• Oliver (1990) found that five and six year olds with a gap between performance and verbal intelligence improved their writing readiness by 17 months over a school year with weekly occupational therapy intervention and regular client practice.

Teachers reported that intervention had a positive effect on self-confidence in written output, and on the maturity of written expression (Lockhart & Law, 1994).

• Lockhart and Law (1994) determined that nine- to 11-year-old students with a learning disability and sensorimotor difficulties improved cursive writing skills following participation in a multisensory occupational therapy

writing program.

• Case-Smith (2002) concluded that seven- to 10-year-old students with poor **handwriting** legibility showed significant increases in in-hand manipulation, position in space and **handwriting** legibility following about 16 sessions of **occupational therapy**, when compared with students who did not receive services.

continued on next page

17

OTNOW • MAY/JUNE 2002 • © CAOT PUBLICATIONS ACE

How children with specific conditions benefit from **occupational therapy**

THERE IS EVIDENCE TO SUPPORT THE EFFECTIVENESS OF OCCUPATIONAL THERAPY IN THE SCHOOL ENVIRONMENT. Students with a variety of special needs benefit from the intervention of an occupational therapist to assist them with performance in school.

COLLABORATIVE CONSULTATION between the occupational therapist and teacher appears to be **CRITICAL** to the effectiveness of the intervention.

EARLY INTERVENTION IS IMPORTANT to minimize the secondary behavioural, emotional, physical and psychiatric problems that can result from students experiencing challenges with their daily occupations.

OCCUPATIONAL THERAPY intervention in the school environment assists in **REDUCING FUTURE COSTS TO THE HEALTH CARE AND SOCIAL SERVICE SYSTEMS.**

IN SUMMARY

Occupational Therapy: Skills for the Job of Living

References

- Case-Smith, J. (2002). Effectiveness of school-based occupational **therapy** intervention on **handwriting**. *The American Journal of Occupational Therapy*, 56, 17-25.
- Dunn, W. (1990). A Comparison of service provision models in school based **occupational therapy** services. A pilot study. *The Occupational Therapy Journal of Research*, 10, 300-320.
- Fairbairn, M. L. & Davidson, I. F. W. K. (1993). Teachers' perceptions of the role and effectiveness of **occupational therapists** in schools. *Canadian Journal of Occupational Therapy*, 60, 185-191.
- Fox, A. M. & Lent, M. A. (1996). Clumsy children. Primer on developmental coordination disorder. *Canadian Family Physician*, 42, 1965-1971.
- King, G., McDougall, J., Tucker, M. A., Gritzan, J., Malloy-Miller, T., Alambets, P., Cuning, D., Thomas, K., & Gregory, K. (1999). An evaluation of functional, school-based **therapy** services for children with special needs. *Physical and Occupational Therapy in Pediatrics*, 19, 5-29.
- Lockhart, J., & Law, M. (1994). The effectiveness of a multi-sensory writing program for improving cursive writing ability in children with sensorimotor difficulties.

Canadian Journal of Occupational Therapy, 61, 206-214.

Niehues, A. N., Bundy, A. C., Mattingly, C. F., & Lawlor, M. C. (1991). Making a difference: **Occupational therapy** in the public schools. *The Occupational Therapy Journal of Research*, 11, 195-212.

Oliver, C. E. (1990). A sensorimotor program for improving writing readiness skills in elementary-age children. *The American Journal of Occupational Therapy*, 44, 111-116.

Palisano, R. J. (1989). Comparison of two methods of service delivery for students with learning disabilities. *Physical and Occupational Therapy in Pediatrics*, 9, 79-100.

Polatajko, H. J., Mandich, A. D., Miller, L. T. & Macnab, J. J. (2001). Cognitive orientation to daily **occupational** performance (CO-OP): Part II- The evidence. *Physical and Occupational Therapy in Pediatrics*, 20, 83-106.

Additional readings in the original literature search

Dewey, D. & Wilson, B. N. (2001). Developmental coordination disorder: What is it? *Physical and Occupational Therapy in Pediatrics*, 20, 5-27.

Law, M., Steinwender, S., & Leclair, L. (1998). Occupation, health and well-being. *Canadian Journal of Occupational Therapy*, 65, 81-91.

Missuina, C. (1999). *Keeping current in... Children with fine motor difficulties*. CanChild Centre for Childhood Disability Research, KC #99-3.

Missuina, C. (1996). *Keeping current in... Developmental coordination disorder*. Neurodevelopmental Clinical Research Unit, KC #96-3.

18

© CAOT PUBLICATIONS ACE • OTNOW • MAY/JUNE 2002

Occupational Therapy: Skills for the Job of Living

This information was compiled and written by Sandra Sahagian Whalen, a paediatric **occupational** therapist who works with Community Rehab as the Professional Practice Leader for Paediatric **Occupational Therapy** in the Peel Region, Ontario. Sandra acknowledges the support of Nancy Pollock and Mary Law of the CanChild Centre for Disability Research in Hamilton, Ontario.

This information appeared in the May/June, 2002 issue of *Occupational Therapy Now* magazine published by the Canadian Association of **Occupational** Therapists.

For further information regarding the full literature report, visit the CanChild web site, click on Keeping Current at www.fhs.mcmaster.ca/canchild.

For more information about occupational therapy, visit www.otworks.ca photographs compliments of Northwest Rehabilitation, Vancouver, B.C.