

Evidence-Based Practices for the Treatment of Children with Phonological Disorders

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Zipoli and Kennedy (2005) report that the attitudes of speech-language pathologists (S-LPs) to evidence-based practice (EBP) are excellent, indeed more positive than are seen for many other health care professionals. Nonetheless, several barriers exist that limit the use of EBP by S-LPs in their practice settings. First, their study found that S-LPs were more likely to use EBP if they had been exposed to research during their pre-professional practice and their first year of professional practice. Second, S-LPs reported that they had little time to search the literature for solutions to clinical problems and remained reliant on colleagues for advice despite positive attitudes toward the value of research evidence. Third, clinical studies are not always directly relevant to the patients and service delivery environments that the S-LP is working with, and thus application of research to practice presents as a significant challenge.

In this article we briefly describe a research project, the *Essai Clinique Randomisé sur les Interventions Phonologiques*, that has been designed to address these barriers. Although the project is being implemented as a well-controlled randomized trial of two approaches to phonology intervention, the project also serves as a practicum placement for 12 McGill students per year who implement the interventions in accordance with the project practice guidelines. Other students are also involved in the collection and processing of outcome data as research assistants. It is hoped that these students are learning to evaluate intervention outcomes as well as gaining valuable clinical skills that can be carried forward to their professional practice. It is further expected that the project will lead to a structured and evidenced-based treatment program that can be confidently implemented by S-LPs working with francophone children. Finally, the research program has been designed to assess the efficacy of the experimental intervention within a specific local context – the treatment of francophone children in Quebec, a province that severely rations the amount of intervention that children can receive each year in the public system.

The experimental intervention that is being assessed in the context of this trial is designed to address preschool-aged children's phonological processing difficulties in the domains of speech perception skills, speech production accuracy and phonological awareness. The tripartite focus of the program is based on a growing body of research evidence which shows that children with poor speech production accuracy have significant difficulties with speech perception and phonological awareness that place them at

risk for delayed acquisition of literacy skills when they enter school (Edwards, Fox & Rogers, 2002; Larrivee & Catts, 1999; Raitano, Pennington, Tunick, Boada & Shriberg, 2004; Rvachew, 2007). Each of the procedures that are employed as part of the intervention have been shown to be effective with anglophone children in previous studies, including computer-implemented speech perception training (Rvachew, 1994; Rvachew & Brosseau-Lapré, in press; Rvachew, Nowak & Cloutier, 2004), focused stimulation (Girolametto, Pearce & Weitzman, 1997), minimal pairs production practice (Weiner, 1981) and small group phonological awareness intervention (Byrne & Fielding-Barnsley, 1991; Byrne, Fielding-Barnsley & Ashley, 2000; Ehri et al., 2001; Gillon, 2000; Hesketh, Dima & Nelson, 2007). Despite the strong evidence base for the

individual procedures that make up the program, further research to establish the efficacy of the program as a whole is necessary for three reasons, chief among them being that these intervention procedures have not yet been shown to be effective with francophone children with phonological disorders. This particular combination of procedures has not been compared in a controlled trial to a traditional approach to articulation therapy. Finally, it is not clear that any intervention for children with phonological disorders can be effective with only six weeks of individual treatment, an amount that is typical in Quebec. Therefore, the intervention has been augmented with the addition of weekly homework, a structured

6-week parent education program targeting either home-based articulation therapy or interactive reading, and small group phonological awareness instruction. So far our experience with the program and the children reveals that it is important to assess the efficacy of treatment programs developed for one language group when they are generalized to another language group. The nature of the phonological errors that we observe in the francophone children are different from those observed in anglophone children, being heavily influenced by the syllable structure of the word and inconsistent at the segmental level. It will be another year before we can say which treatment approach was most effective in the treatment of the children's phonological difficulties.

Speech-language pathologists need research information that helps them make decisions in their day-to-day practice. They also benefit from exposure to research as students and early in their careers. This project is designed to meet both needs in the context of a well-controlled study that will also contribute to our understanding of the underlying nature of phonological disorders.

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Francoise Brosseau-Lapre (right) in a supervisory meeting at the Montreal Children's Hospital with two students (who have now graduated): Annie Ladouceur (center) and Marianne Paul (left). These students provided treatment as student clinicians to children enrolled in the ECRIP project.



FOCUS ON CURRENT ISSUES AND DIRECTIONS IN ADULT AUDIOLOGIC REHABILITATION

The Late Deafened Support Group of the MAB-Mackay Rehabilitation Centre deals an ACE to its participants

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The MAB-Mackay Rehabilitation Centre created the Late Deafened Support Group to address the devastating psychosocial issues experienced by people who have a sudden loss in hearing or who may have been coping well with a long-standing hearing loss but who experience a sudden loss in speech understanding. We recognized that traditional aural rehabilitation programs were not adequately supporting clients during these periods of change, loss and stress.

Traditional aural rehabilitation (AR) programs have typically followed a medical model in which the focus is on hearing impairment. Aside from the focus of traditional AR programs, a didactic approach is often used to relay information. In programs such as these, the audiologist, like a teacher, stands up in front of a “class” and lectures about a variety of topics such as the ear and hearing, types of hearing loss, the audiogram, types of hearing aids, care and maintenance of hearing aids and communication strategies. Research has demonstrated that programs which rely on this lecture-style of information giving are not effective (Norman, George, & McCarthy, 1994; Norman, George, Downie, & Milligan, 1995; Wilson, Hickson, & Worrall, 1998). Furthermore, very little attention is typically given to the psychosocial issues that affect communication and daily living activities.

Dealing with psychosocial issues is key to managing hearing impairment. Individuals that are successful in implementing communication strategies are those who have accepted their hearing loss and are ready to ask others to treat them differently by speaking to them differently (Wilson, Hickson, & Worrall, 1998; Worrall & Hickson, 2003). Many individuals experiencing a sudden change in their communication abilities are unable to implement communication strategies in their daily lives even though they may be well aware of what strategies they could use. They know what to do but they can't seem to do it. The disconnect between knowledge and action has to do with perceived self-efficacy. According to Albert Bandura, a social psychologist, one of the main ideas of self-efficacy is that “what people think, believe and feel affects how they behave” (Bandura, 1986). As a result, we felt that one of the goals of our aural rehabilitation should be to help individuals recognize that they have the capability and responsibility to advocate for themselves in their communication situations.

To help our participants increase their self-confidence and develop their perceived self-efficacy we use a team approach to facilitate our Late Deafened Support Group. Our team includes an audiologist, a deaf counselor and at times a social worker. In this way issues related to hearing, adjustment, coping and psychosocial issues can be discussed with the relevant professionals. Our deaf counselor, who is comfortable in both the signing and hearing worlds, helps build the participants'

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