



NSW Speech Pathology Evidence Based Practice Interest Group

Critically Appraised Topic (CAT)

CLINICAL BOTTOM LINE: In children with speech sound disorders and speech perception difficulties; the evidence suggests that speech perception training, specifically the *Speech Assessment and Interactive Learning System* (SAILS) program plus speech production training may be more effective at improving production of stimuable and non-stimuable speech sounds than speech production training alone. Note – in its current form (as of Dec 2011), SAILS is not suitable for children learning Australian-English, only speakers of Western Canadian English.

Background and Objectives: Many paediatric speech pathologists see children with speech sound disorders. All therapy approaches include speech production training but few approaches routinely incorporate speech perception training. In looking at ways to improve the effectiveness and efficiency of therapy, clinicians in the clinical group wondered whether the inclusion of speech perception training would result in better outcomes.

Clinical Question [patient/problem, intervention, (comparison), outcome]: In children with phonological impairment does the Speech Assessment and Interactive Learning System (SAILS) plus speech production training compared with speech production training alone lead to better speech production outcomes?

Search Terms/Systems:

Terms: Speech production, speech perception, phonological treatment, preschool and school age children, speech disorders, phonological disorders

Systems: CINAHL, Medline, Cochrane Library, Embase, CIAP links, Google, Psycinfo

Selection Criteria: Treatment studies in English utilising speech production training plus speech perception training in treating children with a speech sound disorder.

Results:

1. Rvachew, S., Nowak, M., & Cloutier, G. (2004). Effect of Phonemic Perception Training on the Speech Production and Phonological awareness skills of children with expressive phonological delay. *American Journal of Speech-Language Pathology*; 13 (3), pg 250.
In children with phonological impairment, speech perception + speech production + phonological awareness training leads to greater gains in speech production and speech perception than speech production training only. Both groups made improvements in their phonological awareness skills, however there were no significant differences between the two groups. Level III (I)
2. Wolfe, V. Presley, C. & Mesaris, J. (2003). The Importance of Sound Identification training in Phonological Intervention. *American Journal of Speech-Language Pathology* 12, 282-288.
In children with a phonological impairment there is emerging evidence that SAILS speech perception training combined with production training is associated with improved speech production skills, for sounds that are poorly identified (during SAILS assessment task). Sounds that are well identified prior to intervention showed improvements in both training conditions (production only vs production combined with perception training). Level III (III)
3. Rvachew S., Rafaat S. & Martin M. (1999). Stimulability, speech perception skills, and the treatment of phonological disorders. *American Journal of Speech - Language Pathology*; 8 (1), 33-43.
Children with a phonological impairment who received speech perception (SAILS) plus stimulability plus speech production training made more gains than those who received speech production training only, especially on non stimuable or poorly perceived sounds. Level IV
4. Rvachew, S. (1994) Speech Perception Training Can Facilitate Sound Production Learning. *Journal of Speech & Hearing Research*, 37 (2), 347-357.
In preschoolers with a phonological impairment, children who received speech perception training and production therapy made greater speech improvements than the production only group on non stimuable sounds. Level III (I)

Appraised By:

Clinical Group: Paediatric Speech Group

Date: December 2011

DISCLAIMER—THIS CAT WAS COMPLETED by PRACTISING SLPs. YOU ARE STRONGLY ENCOURAGE TO READ THE ARTICLES FOR YOURSELF BEFORE MAKING ANY CLINICAL DECISIONS ASSOCIATED WITH THE CLINICAL QUESTION.

ALSO—PLEASE NOTE THE DATE WHEN THIS CAT WAS COMPLETED. THE CLINICAL BOTTOMLINE MAY HAVE CHANGED IN LIGHT OF MORE RECENT RESEARCH OR IN OTHER PAPERS NOT IDENTIFIED IN THE SEARCHES.