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ICPLA Abstract

Type of presentation: oral

Title of Paper/poster: Interactions between phonological and motor learning: Insights from an intervention study

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Abstract (300 words based on research that is completed or clearly in progress)

Background: Interventions for phonological impairment, such as minimal pairs and multiple oppositions, focus on children learning the contrastive function of phonemes. Although phonological teaching procedures are typified by requests for clarification (e.g., “do you mean key or tea?”), production practice remains integral to intervention success. However, relatively little is known about optimal conditions of practice (e.g., amount, distribution, schedule) for children with phonological impairment.

Purpose: To explore how the principles of motor learning might guide our understanding and application of conditions of practice for children with phonological impairment characterized by collapses of phonemic contrast.

Method: Using retrospective data from five children (aged 3;3 to 5;11) involved in an 8-week intervention study of the multiple oppositions approach, four conditions of practice (practice amount, distribution, schedule, and variability) were compared with each child’s response to intervention as measured by change in percent consonants correct (PCC), generalisation to non-treatment words and phonemes, and size of phonemic collapses pre- and one-month post-intervention.

Results: Two of the five children had an impressive response to intervention, with widespread generalisation and increases in PCC of more than 20% post-intervention. The remaining three children showed varied responses to intervention, with increases in PCC of less than 5%, although all added at least one or more phones to their phonetic inventory. Post-hoc analyses revealed an interaction between conditions of practice—particularly practice amount and distribution of practice—and intervention outcomes.

Conclusions: Principles of motor learning, including conditions of practice, would seem to be an important consideration in intervention for phonological impairment in children. Further research is needed to better understand how the principles of motor learning might be used to understand children’s responses to intervention, and how phonological interventions might be tailored to meet individual children’s needs.