Speech Characteristics of French-Speaking Children with Dysarthria: Pilot Study

MacLeod, A.A.N., Maillard, C., Ancelle, J., Hetrick, B., Moya-Galé, G., & Levy, E.

Overview of Study

Research Questions
(1) What are the language-specific and universal speech characteristics of children with dysarthria due to CP?
(2) What are the effect of prompting children to use a “big mouth” and “strong voice” in improving the intelligibility of children with dysarthria who speak French?
(3) What is the treatment outcome and maintenance of SSI? Among English, French and bilingual children?

Participants

<table>
<thead>
<tr>
<th>12 native Belgian French-speaking children with CP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age range: 5.6-17.0 years (mean=10.2)</td>
</tr>
<tr>
<td>9 w. spastic dysarthria (mild to moderate-severe)</td>
</tr>
<tr>
<td>3 w. dyskinetic dysarthria (mild to moderate-severe)</td>
</tr>
</tbody>
</table>

Measures (Pre-/Post-Intervention)

- Non-Speech Tasks
  - Categorization of syllables
  - Oral mechanism exam

- Phonological Tasks
  - Speech sound accuracy at word and sentence levels
  - Error patterns at word and sentence levels

- Experimental Tasks
  - Minimal pairs task to explore specific phonemes
  - Words embedded in sentence to explore specific phonemes

Treatment Study Design

Pre-Intervention

- Children were asked to repeat what they heard

Intervention

- “Habitual” Condition
  - Children were asked to speak with a big mouth
  - Duration: from habitual mean of 6.5dB SPL to 8 dB SPL

- “Grande bouche” Condition
  - Children were asked to speak with a big mouth
  - Duration: from habitual mean of 6.5dB SPL to 8 dB SPL

- “Grosse voix” Condition
  - Children were stimulated with the prompts of “grand bouche” and “grosse voix.” Greater change was observed in both SPL and duration for “grosse voix.”

Post-Intervention

- Children were reassessed post intervention
- Children were asked to reproduce what they heard

Future Directions

- Within-subject and between group comparisons of acoustic analysis (e.g., vowel contrasts); perceptual analysis; and articulation assessments.
- Examine children’s results on present post-phonological tasks to identify particular phonemes that are in error to suggest potential clinical implications.
- In addition, similarities and differences from research on English-speaking children will be examined.
- Continue the treatment “camp” in Summer 2016.

Clearly, in languages such as French, efficacy of intervention could be assessed only with further understanding of this population’s speech characteristics.

References


