Nonwords vs. real words in phonological intervention

Kaitlyn Jones, B.S. & Rebecca Weil, B.S., Eastern Illinois University
Jean Smitley, M.S., CCC-SLP Eastern Illinois University
Rebecca Throneburg, M.S., CCC-SLP Eastern Illinois University

Purpose of Current Study:
To evaluate if cycles approach therapy with non-words as targets be more beneficial than using real-word targets on generalizability and reduction of phonological processes.

Phonological Disorders:
Phonological disorders are a speech sound disorder that affects speech intelligibility. It is considered to be the impairment of phonological representation of speech sounds in words, affecting about 2-25% of children ages 5-7 years. This requires intervention, as it will not resolve spontaneously.

Cycles Approach:
- Designed by Barbara Hodson
- Focuses on remediating phonological process
- Hassink & Wendt (2011)
- Children made gains in decreasing phonological processes using cycles approach
- Increased ability to accurately produce probes at end of session
- Rudolph & Wendt (2014)
- 2 of 3 children could significantly improve their speech sound production after 2 cycles

Non-Words:
- First proposed for articulation therapy by George Shames in 1957
- Children with low vocabulary did not benefit from using non-word intervention
- However, children with high vocabulary benefitted from this approach

Research Design:
Single subject rapid alternating design to evaluate effects of real words or non-words on generalization of target phonological patterns.

Participant 1 - Faith:
- 3.6 female
- Therapy sessions 2x/week for 20 minutes per session
- Strengths: Participation, parental involvement
- Weaknesses: Distractible, less productions elicited per session
- PPVT scores above average
- Severe rating on IEAAP
- GFTA score 80

Participant 2 - Oscar:
- 5.3 male with family history of services
- Therapy sessions 2x/week for 25 minutes per session
- Strengths: Many productions elicited per session, cooperative, parental involvement
- Weaknesses: No carry over from previous semesters of therapy
- Phonological Processes over 40% occurrence for both participants:
  - Cluster reduction
  - Liquid deviations
  - Gliding
  - Strident deficiency
  - Velar deficiency
  - Anterior non-strident deficiency

Real Words
Utilized CCVC format
- Examples:
  - Star
  - Stop
  - Stick
  - Snake
  - Snake
  - Snort
  - Smell
  - Smack
  - Smog

Non-Words
Utilized CCVC format
- Examples:
  - Site
  - Snob
  - Stiff
  - Snoot
  - Snort
  - Smooch
  - Smog

Treatment:
- Modified Cycles Approach
- Sessions began with Auditory Bombardment
- Visual used for feature awareness
- /st/, /st/ and /nt/ were targeted for intervention
- Target words consisted of real words or non-words
- Each cluster was targeted for 2 weeks (4 sessions)
- 2 words targeted per session
- Sessions included play-based activities such as stories, scavenger hunts, or crafts
- Sessions ended with data collection for dependent variable.

Scoring of Correct Responses:

<table>
<thead>
<tr>
<th>Correct Cluster</th>
<th>2 points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incorrect Clusters</td>
<td>1 Point</td>
</tr>
<tr>
<td>No Cluster</td>
<td>0 Points</td>
</tr>
</tbody>
</table>

Possible total points: 18 Points

Dependent Variable:
- Total points for elicitation of 9 probe words
- Probe words were not targeted during intervention
- Probe words are all real words
- 2 second delay in production from the prompt from clinician
- Ex. ”Snail. What did Miss Katie say?” Client responds accordingly.
- Clinician utilizes holding up a hand to wait and pointing when it is appropriate to respond.

Current Research:
- Oscar and Faith performed better on probe words when the target words for day were non-words.
- Faith attempted to make non-words into real words throughout the session.
- Variability in score of probe words could be due to the attention of students, as some days could be impacted by attention to the activity instead of focused on repeating words.
- Completed probe word analysis at end of session – this could have affected results due to fatigue or lack of attention.
- Concluded both participants generalized some sounds using the non-word treatment.

Implications:
- New approach to phonological cycles if clients have not shown appropriate progress in generalizing strategies.
- Non-words should be used in children who are having a difficult time with generalization.
- Be sure to measure vocabulary, because if the child does not have strong vocabulary, this will be more taxing and will be less successful for the child.

Future Research:
- Continue researching non-word effects on phonological cycles approach in generalization
- Consider a longitudinal study regarding if generalization lasted post-treatment

Results cont.

Results:

Conclusions:

References: