Phonological Treatment for School-aged Children: A Consideration For the Effectiveness of Maximal and Multiple Opposition Approaches

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Introduction

- School-aged children with phonological disorders are sometimes not understood at school when asking questions and sharing ideas with teachers and peers.
- Children with these disorders are typically seen by a speech-language pathologist to work on their specific phoneme error patterns.
- Therapeutic approaches to phonological disorders such as Maximal Opposition, Minimal Opposition, and Multiple Opposition Approaches have been used in speech-language therapy and have been found to improve phonological disorders in school-aged children.
- Implementing the most effective techniques and approaches during intervention is most beneficial for the client and clinician.
- In order to achieve the maximum benefit from phonological therapy, external evidence was compiled and analyzed to determine which of the oppositional approaches mentioned above can be expected to result in the greatest amount of change.

PICO Question

Are the error patterns produced by school-aged children with phonological disorders (P) significantly reduced or eliminated (O) when presented with therapy targeted by a Maximal Opposition approach (I), as compared with the improvements made by implementing other intervention approaches for phonological disorders (C) (i.e., Multiple Opposition and Minimal Opposition approaches)?

Case Scenario

Brittany is a graduate student clinician who anticipates working with school-aged children with phonological language disorders. In a search for the best approaches to phonological therapy, she read multiple articles and spoke with multiple colleagues, and found three therapeutic approaches she might consider for her practice, all of which were found to be highly effective for future clients. As a new SLP looking for the best approach to therapy for her clients, Brittany chose to continue her review of these three types phonological therapy: Maximal, Minimal, and Multiple Opposition approaches.

<table>
<thead>
<tr>
<th>Study Authors</th>
<th>Type of Research</th>
<th>Participants, Ages, Diagnoses</th>
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| Pagliarin, K. C., & Keske-Soares (2013) | Advances in the treatment of children with phonological disorders | N=32; 32 females; 62 males; 3/9-8.5 years | The purpose of this study was to compare the efficacy of three therapeutic approaches (phonetic inventory, phonological system, and distinctive features) for children with phonological disorders. | Phonetic inventory; Phonological system; Altered distinctive features | Phonetic inventory: No statistical difference between three models (p = .89).
Phonological system: No statistical difference between three models (p = .70).
Altered distinctive features: Statistical difference (p = .01) found between Maximal Opposition Model (M = 4.88) and other models.
| Ceron, Keske-Soares, & Gubiani (2010) | Case Series Study | N=21; 10 females; 11 males; 5-5.7 years | The purpose of this study was to examine the different degrees of severity of phonological disorders. | Severity levels; Percentage of Correct-Modified (CM-R) | Severity levels: Statistical significance (p = .03) found between the groups of individuals with severe to moderate-severe phonological disorders and those with mild or no phonological disorders receiving ABAB-Withdrawal and Multiple Probes Model (p = .04). Modified Cycles Model (p = .48).
| Pagliarin, Mota, & Keske-Soares (2009) | Multiple Baseline Case Study | N=9; 4 females; 5 males; 4.2-6.8 years | The purpose of this study was to compare the efficacy of three therapeutic approaches for treatment of phonological disorders. | Phonetic inventory; Phonological system; Altered distinctive features | Phonetic inventory: No statistical difference reported between three models.
Phonological system: No statistical difference reported between three models.
Altered distinctive features: Statistical difference reported between three models.
| Pagliarin, Keske-Soares, & Mota (2011) | Phonological disorders | N=2; 6 females; 6.0 years | The purpose of this study was to examine the different degrees of severity of phonological disorders. | Unknown, but treated sounds: Change observed.
Comparison sounds: Change observed.
Generalization of the treated sounds to other word positions & change in unknown but untreated sounds. | Unknown but treated sounds: Change observed.
Comparison sounds: Change observed.
Generalization of the treated sounds to other word positions & change in unknown but untreated sounds.
| Keske-Soares, Mota, & Keske-Soares (2009) | Single Subject Alternating Treatment Design | N=3; 3 females; 6.0 years | The purpose of this study was to examine the different degrees of severity of phonological disorders. | Unknown, but treated sounds; Comparison sounds | Unknown but treated sounds: Change observed.
Comparison sounds: Change observed.
| Pagliarin, Keske-Soares, & Mota (2011) | Structural generalization after treatment based on different oppositions approaches. | N=94; 62 males; 3;9-8;5 years | The purpose of this study was to examine the different degrees of severity of phonological disorders. | Phonetic inventory; Phonological system; Altered distinctive features | Phonetic inventory: No statistical difference between three models (p = .89).
Phonological system: No statistical difference between three models (p = .70).
Altered distinctive features: Statistical difference (p = .01) found between Maximal Opposition Model (M = 4.88) and other models.
| Pagliarin, Keske-Soares, & Mota (2011) | Alternating sound selection strategies as taken from the Maximal and Minimal Oppositions therapy approaches, with regard to the impact they have on the same skills in young children with phonological disorders. | N=2; 6 females; 6.0 years | The purpose of this study was to examine the different degrees of severity of phonological disorders. | Unknown, but treated sounds; Comparison sounds | Unknown but treated sounds: Change observed.
Comparison sounds: Change observed.
Generalization of the treated sounds to other word positions & change in unknown but untreated sounds.

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References


Methods

A comprehensive search of scientific research was conducted for the purpose of locating relevant and reliable external evidence on the efficacy of specific phonological disorder therapy approaches. The articles presented in this review were provided by the electronic databases ERIC, DOAJ, and Informa Healthcare and were located by entering search terms, such as “Multiple Opposition Approach”, “Maximal Opposition Approach”, and “comparison of phonological treatment approaches”.

These searches provided ten articles that were appraised and evaluated for validity and reliability. An inter-rater reliability of at least 80% was achieved. Out of the ten initial articles, five were chosen based on the level of research and importance to this review. The scores given to each article are illustrated in the table below.

From these databases, ten articles topic-related articles were located. After the individual appraisal and evaluation of each article, four were chosen based on the highest appraisal points. These studies are listed in the table.

Discussion

External Evidence: Scientifically based research indicated that each of the therapeutic approaches for the intervention of phonological disorders in children are effective for various types of therapy. However, specific levels of efficacy were not indicated for any one approach.

Internal evidence to clinical practice: Each of the therapeutic approaches addressed in these studies were found to be clinically effective for improving phonologically disordered language in school-aged children.

Clinical Decision: Additional research findings are needed to determine which of these phonological therapeutic approaches is most effective for school-age children. In the meantime, clinicians can be given information on each of these effective treatment approaches in order to make an educated decision on which approach might best suit him or her.