

The Effects of Masking on Accent Modification

Sierra Havrilla, B.S.Ed.
Advisor: Matthew D. Carter, Ph.D.,
CCC-SLP
Valdosta State University

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Introduction Proprioception

- In the field of communication sciences and disorders, articulation relies heavily on proprioception for the proper movement of the speech structures.
- Proprioception is the speaker's ability to recognize the type of sounds being produced by correct tongue placement and the sensation of the vibration of the contact made by the articulators' airstream (Dale & Hayden, 2013).
- Prompts for restructuring oral muscular phonetic targets, PROMPT, is a type of proprioceptive approach for articulation-based accent modification therapy, integrating the movements of motor control through auditory and tactile input.

Introduction Accent Modification

- Accent modification is often carried out through two primary approaches, the segmental approach and the contrastive approach (Lee & Sancibrian, 2013).
- The segmental approach to accent modification emphasizes correct placement of the articulators. It is modeled after the traditional articulation approach, since it supports the need for auditory feedback to be present during accent modification treatment (Lee & Sancibrian, 2013).
- The contrastive approach follows a phonological approach instead of an articulation approach. It focuses on the combinations of sounds to produce words and understanding those words' meanings, instead of correct placement of the articulators during accent modification therapy.

Introduction Delayed Auditory Feedback

- Auditory feedback refers to what is heard after speech production including the internal feedback the speaker has (Van Riper, 1971).
- Delayed auditory feedback, DAF, is that pause between speech output and the auditory feedback normally associated with it. There are different DAF techniques such as distorted sidetone, synchronous speech feedback, and the technique used in this study, masking.
- Masking is an artificial deafening that temporarily eliminates the sound of speech through white noise, pure tones, and the use of headphones placed over the client's ears. Headphones permit the speaker to vocalize freely without any internal or external auditory distraction (Van Riper, 1971).

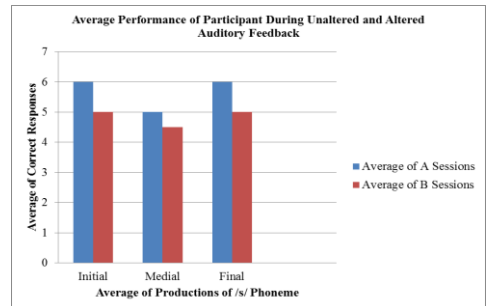
Purpose

- The purpose of this study was to examine if a native Mexican Spanish speaker would improve production of the /s/ phoneme in all positions of words if auditory feedback was removed, through the implementation of masking, during accent modification therapy.

Methods

- Participant
 - One 6 year old female of Hispanic heritage, who was a second-language learner of standard American English, and a client at the Valdosta Speech and Hearing Clinic.
 - Speech characterized by the Mexican Spanish pronunciation of the /s/ phoneme as voiceless “th” or /θ/.

Results



Methods Experimental Procedure

- The experimental condition consisted of masking; this required placing headphones over the participant’s ears to remove auditory feedback.
- The client was shown pictures representing words that target the /s/ phoneme in the initial, medial, and final position of words.
- There were a total of eighteen picture cards targeting the /s/ phoneme presented in each session, six for the initial, six for the medial, and six for the final positions of words.

Methods Experimental Procedure

- The first session involved baseline data collection without the implementation of the experimental condition.
- During the second and third sessions the experimental condition was implemented and data was collected separately during each session.
- The fourth session of the experiment returned to the baseline condition with data collected again.
- After the last session the implementation of the experiment concluded with data ceasing to be collected.

Methods Data Analysis

- The study was implemented using an ABBA design with four therapy sessions and two fifty minute sessions per week.
- After data was collected on all four sessions the results from the two A sessions were averaged and the results from the two B sessions were averaged.
- The average from the two A sessions was then compared to the average of the two B sessions.

Results

- There was a difference when comparing the average productions of baseline data to the average productions produced during the implementation of the experimental condition.
- The data collected in this study displayed a higher number of correct productions during unaltered feedback sessions and a lower number of correct productions during altered feedback sessions.

Discussion

- The implementation of the experimental condition displayed a decline in correct productions of the /s/ phoneme when auditory feedback was removed.
- When auditory feedback was present, the participant produced a higher number of correct productions.
- This study found the productions of the non-native speaker of English to be correct when normal auditory feedback was present more often than when experiencing masking.

Implications

- The results of this study support that auditory feedback plays a vital role in the treatment of accent modification.
- The auditory awareness can aid in preventing the mistake from happening again, possibly expediting accent modification therapy.
- Information from this study would aid Speech-Language Pathologists working with Spanish speakers of English as a second language, particularly those with the Mexican Spanish dialect.

Limitations

- The small number of trials and single participant design created a limitation on how much data to interpret.
- The Mexican Spanish language was a limitation since speakers of Spanish with different dialects could result in variations due to differences in their pronunciations of the /s/ phoneme.
- The one speech sound was a limitation as there was not any comparison of results for the productions of different phonemes.

Conclusion

- The results of this study on the effects of masking on accent modification found that the presence of auditory feedback may be necessary for correct productions to occur.
- The findings of this study suggest that an interference in auditory feedback plays an impact on articulation, but how strong the influence is still unclear.
- It is recommended further research be conducted in this area of accent modification therapy.

References

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