**ABSTRACT**

This case study describes a vowel intervention for a school-age child using the multiple oppositions approach. Treatment outcomes were significant as measured by percentage of vowels correct (PVC). Clinical implications are discussed with regard to identification of vowel error patterns and general principles of vowel intervention.

**INTRODUCTION**

The incidence of vowel errors is high in the speech of children with CAS and children with moderate and severe phonological disorders (Flipsen, 2009). Studies have reported that as many as 50% of children with these diagnoses have at least some vowel errors (Pollock & Berni, 2003). Vowel errors are significant because they are considered to be a potential diagnostic marker for CAS (Davis, Jakielek & Marquardt, 1998). Further, vowel errors significantly impact speech intelligibility. Yet, the incidence and significance of vowel errors are in stark contrast to the literature available about intervention approaches. Speech-language pathologists tend to focus primarily on identifying and treating consonant errors rather than vowels in working with children with speech sound disorders (SSD). In fact, a commonly held view by many speech-language pathologists is that if you work on the consonants, the vowels will take care of themselves. There is available evidence, however, that does not support this belief (Gibbon, 2009; Hall, Jordan, & Robin, 1993). The purpose of this case study is to describe an intervention program that targeted vowels using a multiple oppositions approach.

**PROCEDURE**

A generalization probe of 10 untrained words that contained each of the targeted vowels was administered prior to intervention as a baseline measure and then after every fourth intervention session.

### Phase 1 - Familiarization

- **met ~ mitt**, *matt*, *matt*
- **den ~ din**, *Dane*, *done*
- **when ~ win**, *wane*, *won*
- **miss ~ mace**, *muss*
- **tech ~ tick**, *tack*, *tuck*

A treatment paradigm (Williams, 2000; Williams, 2003; Williams, 2010) was followed for implementing the multiple oppositions approach. The treatment phases are illustrated below followed by a brief description:

- **Phase 1** involves familiarization of the rule, sounds, and vocabulary of the treatment exemplars and lasts for one session.
- **Phases 2 and 3** are data-based with specified criteria for matriculation from treatment exemplars and lasts for one session.
- **Phase 4** addresses production during conversational recast activities if the treatment criteria for Phase 3 is achieved, but the generalization criteria has not been achieved. Based on this one-to-many correspondence in her vowel repertoire, a multiple oppositions approach was designed to induce a phonemic split for these three target vowels.

**DISCLOSURE**

Marie Johnson has no relevant financial or non-financial relationships to disclose. Andrea Jarrett has no relevant financial or non-financial relationships to disclose. Lynn Williams developed the SCIP software program and receives royalty payments.

**RESULTS**

EB reached Phase 3 spontaneous production on all three targeted vowels and met the generalization criterion to discontinue intervention on /ɪ/ after 12 sessions.

**CLINICAL IMPLICATIONS**

Clinical implications from this case study include:

1. The need to assess vowel production in children, especially those with moderate to severe phonological disorders or CAS for vowel errors.
   - Requires whole-word transcription
2. Importance of incorporating a pattern analysis of vowel errors, such as phonological processes (i.e., lowering/raising, fronting/backing, tensing/laxing) or in terms of phoneme collapses in identifying vowel error patterns and for designing intervention
3. Specific measures of vowel accuracy, such as PVC, to determine vowel accuracy
4. Construct a vowel inventory

**REFERENCES**


