VOWEL ERRORS:
THE LOST WORLD OF
SPEECH INTERVENTION

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The Journey to Vowelerria

- An adventure across familiar territory
  - child speech intervention
- leading to uncommon terrain
  - vowel errors

Preparation: Education

- The guidebook of Evidence-Based Practice
  - the research evidence
  - past clinical experiences
  - client/family preferences
- What do we do when the evidence isn’t evident?
  - the research evidence is diffuse
  - past clinical experiences are minimum
  - client/family preferences are vague

Preparation: Education

- The native population
  - Typical development (Pollock, 2013; Stoel-Gammon & Pollock, 2008)
    - 0 – 6 months: vocants
    - 6 – 12 months: CV combinations
    - ~ 24 months: all vowels producible
    - ~ 36 months: all vowels accurate
    - corner vowels before others
    - stressed syllables before unstressed
    - monophthongs before diphthongs
    - non-rhotic before rhotic

Preparation: Education

- The native population
  - Children with disorders (Jacks, Marquardt, & Davis, 2013; Pollock, 2013; Rahilly, 2013)
    - Phonological Delays
      - 10 – 30% errors on non-rhotics
      - backing, lowering, diphthong reduction
    - Childhood Apraxia of Speech
      - some consider vowel errors a marker of CAS
      - but data do not strongly support
      - consistency issues
      - > effects with length and complexity

Preparation: Education

- Deaf / Hard of Hearing
  - a common problem
  - age of loss
  - frequencies and severities
  - response to amplification
  - often clustered groups of vowels
Preparation: Education

- The native language
  - International Phonetic Alphabet
- Transcription reliability (Pollock & Berni, 2001)
  - Vowels < consonants
  - More overlap between vowels
  - More dialect variations

Voweliera: Motor Shores

- Are interventions targeting motor skills successful?
  - No intervention studies found.

Voweliera: Phonology Jungle

- Are interventions targeting linguistic knowledge successful?
  - Minimal Pairs (Stoel-Gammon & Pollock, 2008)
    - All showed improvements on target vowels
    - Inconsistent transfer to other vowels
  - Written representations of vowels (Reid, 2003)
    - The Vowel House
    - 8 – 17 11-year-olds
    - Observational report of improved vowel production
Are interventions targeting visual feedback successful?
- Electropalatography (EPG) and Ultrasound (Bernhardt, Stemberger, & Bascfalvi, 2010)
  - 2 case studies
  - Improvements reported in targeted vowels

Are interventions targeting multiple aspects of phonology successful?
- Speake, Stackhouse, and Pascoe (2012)
  - Intervention addressing
    - Discrimination / sorting
    - Rhyming
    - Articulatory drills
  - 2 10-year-olds
  - Both increased % vowels correct and word intelligibility

Are interventions targeting specific populations successful?
- CAS
  - Motor learning therapy (Edeal & Gildersleeve-Newman, 2011)
    - Integral stimulation therapy with high and low intensities
    - Vowel errors reduced from ~55% to 35%
    - 2 preschoolers

Deaf / Hard of hearing
- No intervention studies found.
Helping the children of Voweleria

- Use the evidence that is available, as well as evidence for other speech intervention (Brackenbury, 2014; Gibbon, 2013)
  1. Collect and analyze detailed data (Pollock, 2002)
     - including helpful and harmful contexts
  2. Assess and treat vowel perception, identification, and discrimination
  3. Emphasize the linguistic importance of correct production

Helping the children of Voweleria

- Emmet; 3-yr, 10-mo
  - Significant speech sound disorder
    - BBTOP standard scores all <65
  - Vowel errors
    - ~ 18% of the words
    - all vowels in his phonetic inventory
      - /ɛ, i/ [ɛ, i]
      - /a, i/ [ʊ, ɪ]
      - /ʊ, ɪ/ [ʊ, ɪ]

Helping the children of Voweleria

- What should we do?
  - Collect more data on the erred vowels
  - Assess and address perceptual issues
  - Treat within meaningful units
    - minimal pairs
    - consider Multiple Opposition approach
  - Facilitate motoric abilities
    - may not be necessary based on his phonetic inventory
  - Include visual references for the different vowels targets

Helping the children of Voweleria

- Emmet; 3-yr, 10-mo
  - What should we do?

Contact Information

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### Key References

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### Key References

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### Treatments Based on Other Speech Interventions


### Additional References


### Additional References


### Images

- Lost World of Vowelerria

- Vowelerria National Anthem
  - http://www.youtube.com/watch?v=OKEUAzzn-lg