Pursuing Prosodic Interventions: Past, Present, and Future

Patricia M. Hargrove, Ph.D., CCC-SLP
Professor Emeritus; Minnesota State University, Mankato

Introduction

• Opening comments
• Theme
• Exclusions
  – No participants with hearing impairment
  – No pharmacological interventions
  – No interventions without evidence
  – No typical learners

ORGANIZATION

• Present
• Past
• Future

Prosody in the Present

• Some interesting approaches
• Clinical implications from this workshop

Rosenbek’s 6 Step Interventions

SOURCES:
• Jones, Plowman-Prine, Rosenbek, Shrivastay, & Wu (2009)
• Leon, Rosenbek, Crucian, Hieber, Holiway, Rodriguez, Keterson, Ciampitti, Freshwater, Heilman, & Gonzalez-Rothi (2005)
• Rosenbek, Crucian, Leon, Hieber, Rodriguez, Holiway, Keterson, Ciampitti, Heilman, & Gonzalez-Rothi (2004)
• Rosenbek, Rodriguez, Hieber, Leon, Crucian, Keterson, Ciampitti, Singletary, Heilman, & Gonzalez-Rothi (2006)
• Russell, Laures-Gore, & Patel (2010)

• CLINICAL POPULATION: expressive apropodia
• QUALITY OF SUPPORT: moderately strong
• DOSAGE: 20 one-hour sessions administered over a month
• ASPECT(S) OF PROSODY TARGETED: expressive affective prosody
• MAJOR COMPONENTS:
  – Imitative vs Cognitive-Linguistic
  – Both begin with maximal cueing that is gradually faded.

• SOURCES:

6 Steps of the Imitative Approach to Treating Expressive Aprosodia

STEP 1
• C identifies P’s task.
• C models a neutral sentence with targeted emotional prosody.
• C and P produce targeted sentence and emotional prosody in unison.
• P produces targeted sentence and emotional prosody 3 times consecutively.

STEP 2
• C models sentence with target facial expression and prosody.
• P attempts to imitate sentence using target prosody.

STEP 3
• C models sentence with target prosody obscuring his/her face.
• C produces the target sentence with target prosody.

STEP 4
• C produces a target sentence with a neutral prosody.
• C directs P to say the sentence with a target prosody.

STEP 5
• C asks a question eliciting the targeted sentence and prosody.

STEP 6
• C directs a role playing task in which the P shares information (targeted sentence) using a targeted affective/emotional state with a family member.
6 Steps of the Cognitive-Linguistic Approach to Treating Expressive Aprosodia

- **STEP 1**
  - C reads a written description of the prosody associated with a specific emotional state BUT the card does not identify the emotional state.

- **STEP 2**
  - C presents P with cards with the names of different emotions. (Continue.)

• P matches the previously described prosodic characteristics with the appropriate emotional name.
• C presents P with cards with facial expressions depicting different emotions.
• C arranges table with all the card (facial expression, prosodic description, and label) depicting the target emotion.
• P describes in his own words how to convey the emotion using prosody.

- **STEP 3**
  - C places a card with a neutral sentence on the table with the cards from the end of the previous step.
  - P produces the sentence with the targeted emotional prosody.

- **STEP 4**
  - C removes the description card.
  - P produces the sentence with the targeted emotion.

• C retains only the facial expression card and the sentence.
• P produces the sentence with the appropriate emotional prosody.

- **STEP 5**
  - C removes facial expression card and directs P to produce the sentence with the targeted emotion.

Samuelsson’s Explicit Intervention

• **SOURCE:**
  - Samuelsson (2011)

• **CLINICAL POPULATION:** child (4-06 years); prosody problems (word, phrase, discourse levels)
• **QUALITY OF SUPPORT:** promising
• **DOSAGE:** 6 weeks; 6 sessions, 60-minutes a session
• **ASPECT(S) OF PROSODY TARGETED:** vowel length/duration, word accent/stress, word stress placement (early vs. late), phrasal stress and intonation
Major Components:
- Stimuli: auditory and visual
- Techniques: imitation, modeling, discrimination, real and nonsense words, minimal pairs, responding to questions; homework

Word Prosody
- C models Swedish words
- P imitates with acceptable rhythm and intonation
- P produces minimal pairs with words that differ only in prosodic pattern.

Phrasal Prosody
- P imitates C’s production of nonsense phrases.
- P judges the accuracy of his productions.
- Example (stressed syllable is in bold):
  - sodotomo • sodotomo
  - sodotomo • sodotomo

Lee Silverman Voice Treatment
- C asks questions to elicit the practiced sentences.
- P judges the accuracy of his productions.
- Examples:
  - Question: Whose book did you find?
  - Answer: I found your book in the box.
  - Question: You found something of mine?
  - Answer: I found your book in the box.

Sources:
- Ramig, Countryman, Thompson, & Horii (1995)
- Ramig, Sapir, Fox, & Countryman (2001)
- Wenke, Theodoros, & Cornwall (2011)
CLINICAL POPULATION: dysarthria associated with Parkinson’s disease; nonprogressive dysarthria
QUALITY OF SUPPORT: moderately strong
DOSAGE: 16 sessions in 4 weeks; 1 hour each session; 5-10 minutes of homework per day
ASPECT(S) OF PROSODY TARGETED: loudness

MAJOR COMPONENTS:
- Administrators should be certified users of LSVT.
- Target behavior is loud, clear/healthy voice quality
- C elicits increased vocal fold adduction in high effort speaking and in reading tasks.
- C provides visual and auditory feedback

Ballard: Targeting Lexical Stress

SOURCES:
- Ballard, Robin, McCabe, & McDonald (2010)
- Van Rees, Ballard, McCabe, MacDonald-D’Silva, & Arciuli (2012)

CLINICAL POPULATION: childhood apraxia of speech (school age 7-10 yrs)
QUALITY OF SUPPORT: limited
DOSAGE: 60 minutes, 4 times a week for 3 weeks
ASPECT(S) OF PROSODY TARGETED: Emphasis (lexical stress), fluency (rate), loudness

MAJOR COMPONENTS
- Prepractice—
  - C & P discuss each treatment stimulus before attempting production.
    - P identifies stressed syllable
    - C and P describe the difference between stressed and unstressed syllables. (Continue.)
- P reads aloud target. (One approach had C modeling other did not.)
- C provides detailed feedback (KP).

Practice (after each prepractice)
- 100-120 practice words/sentences per session
- C provides feedback
- C encourages P to self-monitor
Clinical Implications from the Workshop

- Typical Populations
- Acquired Populations
- Autism Spectrum Disorder
- Broca’s Aphasias
- Congenital Amusica

- Down Syndrome
- Dysarthria
- Impaired Speech and Language
- Landau-Kleffner
- Specific Language Impairment
- Williams Syndrome

Prosody in the Past:
Some Preliminary Answers

1. What type of evidence exists supporting the effectiveness of prosodic intervention?
2. What aspects of prosody are amenable to therapeutic intervention?
   - stress
   - overall measures
   - affective prosody
   - pitch
   - duration
   - receptive prosody
   - loudness
   - tempo
3. How long should it take before I see a patient improve?
4. Do patients maintain change?
5. Does intervention have to be discrete/explicit or can it be naturalistic/holistic?
6. Can multiple outcomes be targeted simultaneously?

Prosody in the Future:
Questions/Concerns and Research Needs

1. We need comprehensive descriptions of procedures
2. We need more EBP measures as evidence.
3. When should I start prosodic intervention?
4. What are the most appropriate outcome measures?
5. What about treatment fidelity?

Clinical Prosody Blog

- Purpose
- Overview
- Collaboration
References


Contact information

- Email: patricia.hargrove@mnsu.edu
- Blog: Clinical Prosody at