

A Comparative Survey of Phonological Interventions

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Speech Therapy Approaches

- **Phonetic vs. Phonological Intervention**
 - **Phonetic**
 - | focuses on the motoric/articulatory aspects of speech production
 - | error tendency
 - individual phonemes
 - non-stimulable
 - in all situations

Speech Therapy Approaches

- Phonological
 - | focuses on the mental rules governing a child's speech
 - | error tendency
 - multiple phonemes
 - stimutable
 - occur in specific situations

Speech Therapy Approaches

- Phonetic & Phonological Errors are treated differently
 - | Phonetic
 - treat one phoneme to mastery by changing the oral-motor movements
 - | Phonological
 - treat multiple sounds by changing the child's mental representations
- We choose between these approaches based on the child's abilities and errors

Matching Approach to the Child

- There are many different types of phonological interventions
 - Distinctive Feature Therapy
 - Minimal Opposition Therapy
 - Phonological Process Therapy
 - Cycles Training
 - Maximal Opposition Therapy
 - Metaphone Therapy
 - Multiple Opposition Therapy

Matching Approach to the Child

- How do we select which phonological intervention to use?
 - | What we were taught
 - | What we've done before
 - | What our fellow clinicians have tried
 - | Evidence based practice
 - | What we like

- What approach best matches the child

Matching Approach to the Child

- | Children with phonological errors are a diverse group
 - | They have different
 - types of errors
 - severity of errors
 - knowledge of the linguistic system
 - | We shouldn't expect that one approach can handle all of this variability
 - There is no BEST phonological approach
 - There are better approaches for individual children

Matching Approach to the Child

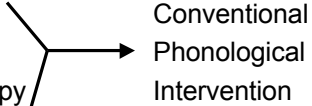
“..., virtually everything works (including maturation). The critical concern pertains to the overall expenditure of time, along with the potential impact of disordered phonologies on academic achievement.”

- B. Hodson (1992)

The goal is effective and efficient treatment.

Preview

1. Review phonological intervention approaches

- Distinctive Feature Therapy
 - Minimal Opposition Therapy
 - Phonological Process Therapy
 - Cycles Training
 - Maximal Opposition Therapy
 - Metaphone Therapy
 - Multiple Opposition Therapy
- 
- Conventional
Phonological
Intervention

Preview

1. Review phonological intervention approaches

- ### 2. Review clinical cases & determine the best approach for each child

Conventional Phonological Tx

- Contrasts phonemes outside of the child's system to phonemes they use
 - target phonemes vs. errors produced
- Steps
 - 1) Determine the phonological rules the child is using
 - target(s) become something else in a specific context

Conventional Phonological Tx

- 2) Isolate what changes between the target and the error
 - Distinctive feature + strident - strident
 - Phoneme / s, z / / t, d /
 - Phonological Process fronting
- 3) Select the rules and phonemes to target
 - begin with stimuable, early developing rules and phonemes

Conventional Phonological Tx

- 4) Use minimal pair words to train
 - auditory discrimination
 - whole word production
 - 5) Child should generalize learning to other phonemes within the rule
- The other approaches follow this model but with significant individual differences

Cycles Training

- Developed by B. Hodson & E. Paden
- For highly unintelligible children
- Focuses on
 - Change through listening
 - Gradual phonological change
 - Child as actively involved in change

Cycles Training

- Targets are addressed for a set amount of time (not accuracy)
 1. Rules are placed in developmental order
 - early developing & stimulable first
 2. Each rule is targeted for 2-6 hours
 3. When time is up, the next rule is targeted
 - regardless of accuracy on the first rule
 4. When all rules have been targeted, the cycle begins again with the first rule

Cycles Training

- Cycling through the rules allows
 - the clinicians to impact a number of rules in a short amount of time
 - the child's brain to continue working on earlier rules in the background
 - “The movie in the shower experience”

Cycles Training

- Evidence
 - University clinic data (Hodson, 1992)
 - | > 200 highly unintelligible children seen
 - | “most” dismissed as intelligible within a year
 - longest reported was 18 months
 - | compare to 6 year average for phoneme by phoneme approaches

Maximal Opposition

- Developed by J. Gierut
- For highly unintelligible children
- Focuses on
 - Changing the child’s entire phonological system
 - | not just specific rules
 - the greatest amount of generalization in the shortest amount of time

Maximal Opposition

- Selection of targets based on complexity
 - Acquisition of more complex phonemes results in the greatest change
 - More complex phonemes are
 - later acquired
 - erred in more contexts
 - less stimuable
 - Comparisons are made between phonemes outside of the child's system
 - target vs. target (not target vs. error)

Maximal Opposition

- Evidence
 - In direct comparisons, greater change seen when targeting (e.g., Gierut, 2001)
 - later acquired phonemes
 - less stimuable phonemes
 - two unknown phonemes
 - change seen both within and beyond targeted rules
 - comparative treatment showed little change outside of targeted rules

Metaphone Therapy

- Developed by J. Howell & E. Dean
- For mild to moderate unintelligibility
- Focuses on
 - Metaphonological awareness
 - | developing the child's awareness of phonological structure
 - Teaches the concepts behind sound errors
 - | overt knowledge of sound differences

Metaphone Therapy

- Phases
 1. Properties of sounds
 - identification and listening
 - concept long vs. short objects
 - non-speech sound wind vs. crash
 - phoneme / s / vs. / t /
 - word sew vs. toe
 2. Sound production

Metaphone Therapy

- Evidence
 - Limited number of clinical case examples
(Howell & Dean, 1994)
 - Referenced in many articles

Multiple Opposition Therapy

- Developed by L. Williams
- For moderate to profound unintelligibility
- Focuses on
 - system wide change
 - addressing the child's error rule as a whole unit

Multiple Opposition Therapy

- For children who are collapsing phonemes

/l, w, j, s, ʃ/ → /l/ / word final position

- | target multiple substitutions at the same time
 - do not need to do all
 - child should generalize
- | target maximally opposing phonemes within the rule

Multiple Opposition Therapy

- Evidence
 - Case study data from 10 children (Williams, 2000)
 - | average of 3.4 semesters to dismissal
 - longest time was 5 semesters

Case Studies

■ 7 year, 0 month old girl

■ BBTOP Standard Scores all <65

/ t, k / → / d, g / at the start of words

/ k / → / d / in __ V $\left(\begin{array}{l} + \text{anterior} \\ + \text{voiced} \end{array} \right)$

/ h / → ∅ at the start of words

C₁C₂ → C₁ at the start of words

Case Studies

cat	gæt
gate	get
cup	dʌp
candy	dæni
coat	gok
wagon	wægən
cake	gek
knife	naɪf
hat	æt
clown	laʊn
sled	lɛd
snake	nek

Case Studies

- 3 year, 10 month old boy
 - BBTOP Standard Scores all <65
 - voiceless obstruents → ∅ at the end of words
 - /k/ → /t/ at the start of words
 - /l/ → /w/ at the start of words
- fronting assimilation and cluster reduction

Case Studies

boat	bo
goat	do
gun	nʌn
cow	taʊ
crab	plæg
coat	to
wagon	wæən
cake	te
knife	naɪ
hat	hæ
lamp	wæmp
lion	waɪən

Conclusions

- There are many different approaches to phonological intervention
- No single approach is correct for all children
- We must choose the right approach based on the child's individual profile