

# Therapy Techniques, Strategies, and IEP Goals for Children with Childhood Apraxia of Speech

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Metro Speech Language Symposium  
2015

# Overview

Principles of Motor Learning

Case Examples

Sample Goals

Questions/Discussion

# Learning Objectives

- Identify key elements of motor speech treatment
- Implications for speech therapy, particularly as it relates to Childhood Apraxia of Speech
- Identify techniques and strategies composing treatment
- Write goals more relevant to Childhood Apraxia of Speech that may differ from traditional phonological or articulation goals.

# My Personal Connection: Ashlynn 3:6



# Treatment approaches

(In order of proven effectiveness in current peer reviewed literature)

Maas et al. 2014

- Integral stimulation/DTTC
- ReST (Rapid Syllable Transition)
- NDP3 (Nuffield Dyspraxia Program, 3<sup>rd</sup> Edition)
- PROMPT
- Biofeedback Treatment

# Other popular approaches

- K-SLP (Kaufman Speech to Language Protocol)
- SpeechEZ

# Program Treatment Components

(Maas et al. 2014)

## Commonalities

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- High amount of practice reps
- Relatively small set of treatment targets
- Homework component
- Provision of knowledge of results and knowledge of performance feedback
- Alternative feedback modalities (visual feedback, tactile cues).
- Focus on motor *movement*

## Differences

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- Target selection criteria
- Distribution of practice
- Elicitation method
- Frequency of feedback
- Practice schedule

# Principles of Motor Learning

(Maas et al. 2008)

## Pre-practice

Inspire motivation

## Conditions of practice

Awareness of goal

Mass vs Distributed Practice

Constant vs Variable Practice

Blocked vs Random Practice



# Motor Learning Continued

- Feedback
  - Knowledge of Results vs Knowledge of Performance
  - Additional Considerations:
    - Cueing
      - Visual
      - Tactile

# Mass Versus Distributed Practice

## Mass

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- Minimal time between trials or sessions
- Facilitates Acquisition
- May refer to a large number of repetitions of a single target

## Distributed

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- A greater amount between trials or sessions
- Important for stabilization and generalization
- Fewer repetitions spread throughout the session
- Parents can play an important role

# Constant vs Variable Practice

## Constant

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- Working on one exemplar of target
- Facilitates Acquisition

## Variable

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- Practice incorporates variations of the target
- Facilitates motor memory and transfer of skills

# Blocked vs Random Practice

## Blocked

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- Presentation of stimuli are chosen and practiced in a predictable manner throughout the session

## Random

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- Order of the presentation of the stimuli are randomly mixed up throughout the session

# Feedback

## Knowledge of Results

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- Information provided after the movement that refers to the outcome of the target (that was great, perfect, nice job)

## Knowledge of Performance

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- Information provided after the movement that refers to the nature or quality of the movement (oops, your lips were open, put your lips together, put your tongue up behind your teeth etc)

# Suggested techniques

- Simultaneous production adding tactile or gestural cueing (DTTC)
- Successive approximations (KSLP)
  - Build confidence! Follows typical phonology patterns
- Errorless teaching (KSLP)
- Use of some type of visual or tactile cue (DTTC, PROMPT, KLSP, Speech-EZ)
  - Key is consistency
- Backward chaining (DTTC, KSLP)
- Core Vocabulary Book: Contains pictures for functional words and therapy targets (DTTC, PROMPT)

# A.P 2:10 Suspected CAS



# What Evidence of Motor Learning Principles Did You See?

Motivation?

Practice Conditions?

Feedback?



D.G



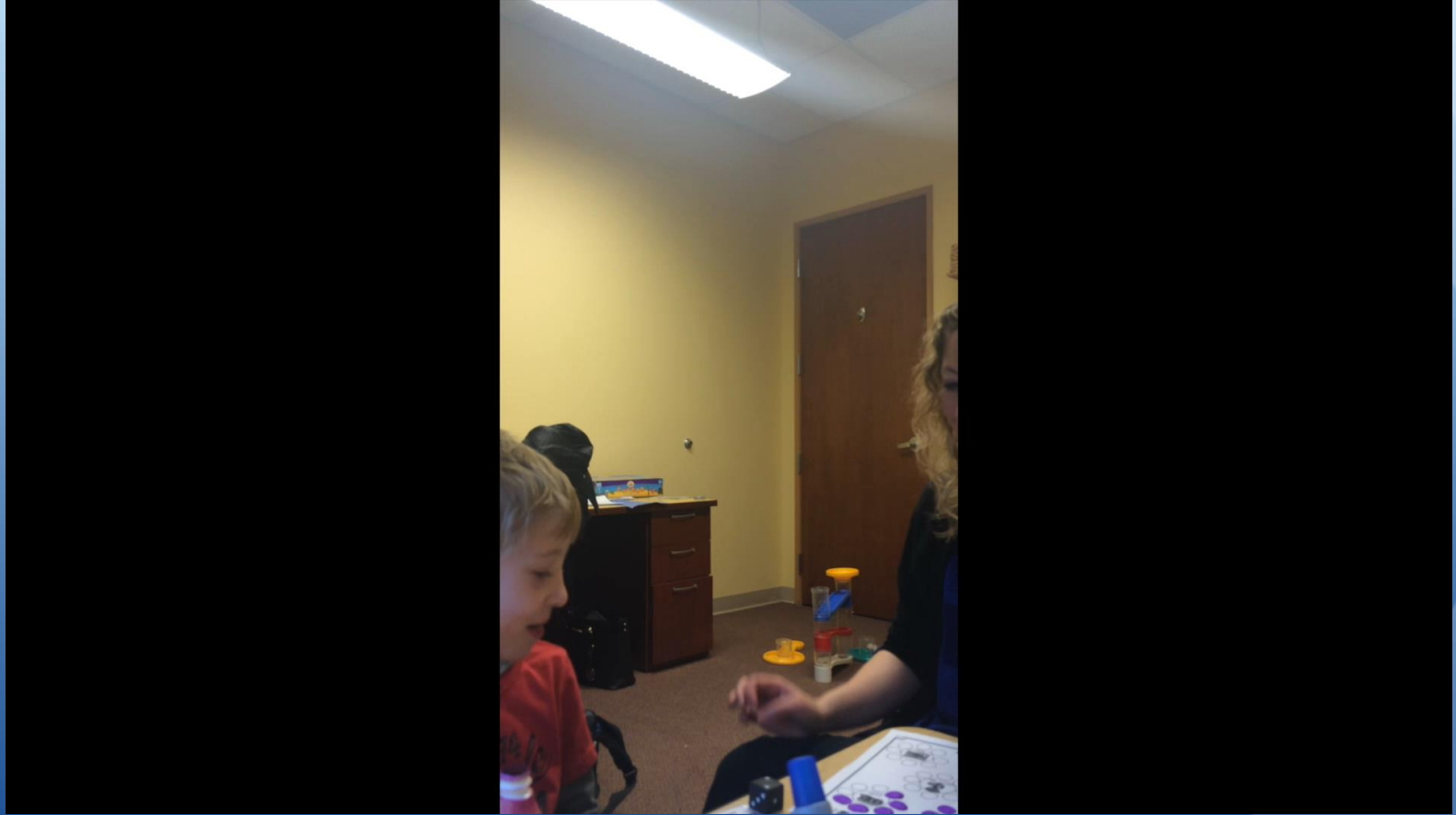
# What Evidence of Motor Learning Principles Did You See?

Motivation?

Practice Conditions?

Feedback?

C.O. 5:3



# What Evidence of Motor Learning Principles Did You See?

Motivation?

Practice Conditions?

Feedback?

# Goal Writing

- Target Selection is Key and should take into account
  - Child's current phonetic inventory including consonants and *vowels*
  - Phonetic content and complexity
  - Syllable shapes (VC, CV, CVCV etc.)
  - Stimulability (child's ZPD)
- The focus should be on **MOVEMENT** and sequencing sounds and syllables using a bottom up approach.

# IEP Goal Suggestions (Severe/Limited Language)

- During 1:1 individual speech therapy sessions, Johnny will plan and sequence simple syllable structures including CV, VC, and CVC syllable shapes, using sounds in his repertoire following direct imitation with no more than one visual and/or verbal cue from.... to .....AMB.....
- During 1:1 individual speech therapy sessions, Johnny will accurately plan and sequence simple syllable shapes comprised of sounds in his repertoire to produce functional phrases and/or sentences when given visual/verbal/tactile cues from...to....AMB.....

# IEP Goal Suggestions

(Broad Sound Repertoire/Increased

Language Skills)

- During 1:1 structured speech activities, Jane will produce 3-5 word intelligible utterances, accurately articulating and sequencing (using appropriate motor planning) all sounds when given visual and verbal cues from .....to.....as measured by.....
- During 1:1 therapy sessions, Jane will produce CCVC syllable shapes at the word and phrase level given no more than 1 visual and/or verbal cue from....to....as measured by.....

# Can they improve?

- With appropriate therapy, kids with CAS can and DO improve.
- With inappropriate therapy (i.e. articulation or phonologic only based approaches), kids with CAS can continue to struggle.



# Ashlynn 5:3



# Recognize our impact

- “She gave me hope for my son, when I had so little left.”
- “She fills my cup, that’s for sure.”
- “She was his first friend...a constant in his life, and a ray of light in mine.”
- “Not only have you changed her (child’s) life, you changed the life of our entire family.”
- “I have been waiting for this day forever! Thank you. All I can say is thank you.” (with tears in his eyes)

# Questions/Discussion

# Resources

- [Apraxia-kids.org](http://Apraxia-kids.org)
  - Articles, webinars and on demand webinars
- [Slpmommyofapraxia.com](http://Slpmommyofapraxia.com)
- Facebook pages
  - APRAXIA KIDS: Every Child Deserves a Voice
  - Apps for Apraxia Kids
  - Apraxia Bloggers
  - Colorado Families Living with Apraxia

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# What Doesn't Work!!

