Practical Strategies in CAS for the School Based SLP

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Disclosure Statement

Non-Financial Disclosures:
Laura is a guest blogger for the ASHA wire
Laura volunteers for the Childhood Apraxia of Speech Association of North America (CASANA)
Laura is a mother of a child with CAS
Laura is the winner of ASHA’s media award in 2016 for garnering media attention around apraxia

Course Content Disclosure:
Laura has developed materials which are available on Teachers Pay Teachers. Although this presentation does not focus specifically on any of these products, they may be mentioned during the course of this presentation.
Learning Outcomes

- List the most widely used therapy approaches for CAS and what common elements make them successful.

- Discuss target selection criteria and rationale for goal decision making.

- Describe at least two different ways service delivery can be modified to better serve students with CAS.
Is it CAS?

Important to know if CAS was in the history

Implications for treatment
  Articulation
  Grammar
  Syntax
ANY SLP in ANY setting is as qualified as the next SLP by basic certification standards.

SLPMommyofApraxia.com
No, I don't need an actual office or classroom for effective therapy sessions...
I have this spacious closet!
Motor speech Exam
Apraxia is a SEQUENCING disorder
Apraxia is a problem with programming/planning: NOT execution.

(E. Maas, C. E. Gildersleeve-Neumann, K. J. Jakielski R. Stoeckel, 2014)
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, 3rd Edition
PROMPT
Biofeedback Treatment
K-SLP
Speech-Ez
## Treatment Comparisons
*(Maas et al. 2014)*

<table>
<thead>
<tr>
<th>Commonalities</th>
<th>Differences</th>
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<tr>
<td>• High amount of practice reps</td>
<td>• Target selection criteria</td>
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<td>• Relatively small set of treatment targets</td>
<td>• Distribution of practice</td>
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<tr>
<td>• Homework component</td>
<td>• Elicitation method</td>
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<tr>
<td>• Provision of knowledge of results and knowledge of performance feedback</td>
<td>• Frequency of feedback</td>
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<tr>
<td>• Alternative feedback modalities (visual feedback, tactile cues).</td>
<td>• Practice schedule</td>
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<tr>
<td>• Focus on motor <em>movement</em></td>
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I DON'T ALWAYS TREAT APRAXIA

BUT WHEN I DO, I USE PRINCIPLES OF MOTOR LEARNING.
## Principles of Motor Learning

<table>
<thead>
<tr>
<th>Pre-Practice</th>
<th>Practice</th>
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<tr>
<td>Inspire motivation!</td>
<td>Awareness of Goal</td>
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<td>Mass vs Distributed</td>
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<td>Constant vs Variable</td>
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<th>Feedback</th>
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<tr>
<td>Knowledge of Results</td>
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<td>Knowledge of Performance</td>
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Other considerations

Cueing
Mass vs Distributed Practice

Mass Practice

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

Distributed Practice

- Greater time between trials or sessions
- Important for stabilization and generalization
- Fewer repetitions
Cues and feedback

Feedback
(Sullivan, Kantak, & Burtner, 2008)
(Maas et. al. 2008)

Visual
Auditory
Tactile
*fade cues as quickly as possible

*Preliminary studies show children need more feedback for a longer amount of time

*Knowledge of Performance
*Knowledge of Results

*avoid the “good job”
*be mindful of fading
What does the research say?

• Approaches for CAS typically involve 60-120 trials per session.

• In contrast, approaches for phonological disorders average 10-30 trials per session (Murray, McCabe & Ballard, 2014).

• Distributing practice over a longer period facilitates both immediate performance and retention. (Maas et al., 2008).

• Including parents in the treatment process for speech facilitates progress and generalization. (Broen & Westman, 1990; Girolametto et al. 1999)
Example of visual cues
Simultaneous Production
(DTTC technique)
Goal Selection

• Take into consideration:

  Phonetic Repertoire
  Syllabic Repertoire
  Language Abilities
Intensity of Treatment

- What does the research say?
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- Distributing practice over a longer period facilitates both immediate performance and retention. (Maas et al., 2008).
- Including parents in the treatment process for speech facilitates progress and generalization. (Broen & Westman, 1990; Girolametto et al. 1999)
How do we get that many practice reps?
Games

Pop-up Pirate
Pop the Panda, Pop the Pig
Don’t Spill the Beans
Don’t Break the Ice
Jumpin’ Monkeys
Shopkins
Guess Who
Cloze procedures

Books

Nursery Rhymes
Ashlynn
cloze
procedure: book
K.C

cloeze

procedure: song
Repetitive book

Change the script
“I’m not scared”
Toys
A.P 2:10 Suspected CAS
Use what you have
J.B. 7:3
School Age Implications

- History of CAS
- Grammar/Syntax Errors
- Residual Articulation Errors
- Prosodic Errors
These findings suggest that the phenotype for CAS changes with age. Language disorders persist in these children despite partial resolution of articulation problems. Children with CAS are also at risk for reading and spelling problems.
Grammar/Syntax Errors

• Need to consider principles of motor learning
Principles of Motor Learning

Pre-Practice
  Inspire motivation!

Practice
  Awareness of Goal
  Mass vs Distributed
  Constant vs Variable
  Blocked vs Random

Feedback
  Knowledge of Results
  Knowledge of Performance

Other considerations
  Cueing
Sentence Strips

Mass/Constant/Blocked practice
I can ____.
Can you ____?
I can not ____.
Can you see the ___? 
I can not see the ___ 
I can see the ___
Residual Articulation Errors

- Need to consider principles of motor learning
- Found that Motor-based treatment with and without ultrasound visual feedback of the tongue may aid in speech-sound acquisition for children with RSSEs.

Residual /r/

Mass practice
Blocked practice
Don’t just teach the speech: Addressing Prosody in therapy

Suprasegmental Characteristics of Speech
- Pitch
- Intonation
- Volume
- Rate
- Stress
I WANNA BE A SCHWA.

IT'S NEVER STRESSED
C.O. 5:3
HOW DO I DO THIS?
FLEXIBILITY WITH YOUR SCHEDULE

BE WILLING TO CHANGE IT

START OVER!

DO THINGS DIFFERENTLY
GET HELP

Librarian

Special educator

Secretary
SPEECH THERAPIST

what my friends think I do
what my mom thinks I do
what society thinks I do
what kids think I do
what I think I do
what I really do

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RESOURCES

Apraxia-kids.org

Articles, webinars and on demand webinars

Slpmommyofapraxia.com

Facebook pages

APRAXIA KIDS: Every Child Deserves a Voice

Apps for Apraxia Kids

Apraxia Bloggers

Colorado Families Living with Apraxia
References


