

Handout for the Therapro webinar ***FUNCTIONAL Treatment for Childhood Apraxia of Speech***
presented by Lisa B. Mitchell M.S., CCC-SLP - September 29, 2020

Disclosures

Financial Relationships:
Co-owner, Clearly Speaking LLC
Compensation for this webinar
Received compensation/royalties for webinars, Apraxia-Kids

Non financial Relationships:
Apraxia-Kids review committee for intensive training candidates
ASHA member
NH licensed

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Today's Goals:

- ✓ Explore critical thinking used to drive the choice of therapy techniques.
- ✓ Increase understanding of linking therapy materials to practice type of CAS.
- ✓ Increase understanding of techniques and strategies for the treatment of CAS by seeing them used in action.
- ✓ Identify ways to promote generalization outside of the therapy room.

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Looking at functional treatment across a variety of considerations for CAS:

- ✓ Motor learning
- ✓ Prosody
- ✓ Vowels
- ✓ Choosing targets
- ✓ General tips for effective therapy

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Functional:

"having or serving a utilitarian purpose."

www.dictionaries.com

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Motor Learning

CAS treatment is different!

- ✓ Provide treatment using the principles of motor learning
- ✓ We are focusing on a movement gesture vs. a sound.

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Precursors to Motor Learning

- ✓ Motivation

Does the child show motivation to improve?

- ✓ Focused Practice

Will the child demonstrate focused attention to movement?

- ✓ Pre-practice

An understanding of why we are doing these movements - a discussion of the session's targets.
Does the child understand why?


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Bolstering Precursors

- ✓ Imitation: Improve the child's ability to imitate gestures.
Working from gross motor to fine motor.
- ✓ Establish trust
- ✓ Attention to the clinician's face
- ✓ Production of variety of vowels
- ✓ Tolerating tactile and verbal feedback
- ✓ Identifying what motivates the child
- ✓ Limit extraneous stimuli in treatment environment

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Bolstering Precursors - imitation



- ✓ Teach early imitation by using gross motor imitation to set the stage for "do what I do"...
- ✓ From Head to Toe, Eric Carle
- ✓ DeThorne, Johnson, Walder and Mahurin-Smith (2009)

Bolstering Precursors - imitation

Freeze dance – (Kidboomers)
<https://www.youtube.com/watch?v=2UcZWxvgMZE>

Body warm up – big movements to start

Motor imitation boom cards
<https://www.boomlearning.com/deck/motor-imitation-SqgsFREMnL2CYZ5XL>

Head shoulders, knees and toes –
<https://www.youtube.com/watch?v=RuqvGiZi0gg>

We are the Dinosaurs (Laurie Berkner Band)
<https://www.youtube.com/watch?v=vPrmY7labLA>

Walking, walking, hop hop hop
(Kidboomers). <https://www.youtube.com/watch?v=r6cJB7k6eEk>

Bolstering Precursors - Motivation

Motivation is essential in successful treatment. As SLPs, we need to be flexible to discover what motivates our kids. Keep an open mind!

- ✓ Gain information from family
- ✓ Provide the child an opportunity to switch roles!

Fish, 2011

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Functional Questionnaire

Wilson & Guldereve-Neumann

<https://www.pdx.edu/speech-development-children/sites/www.pdx.edu.speech-development-children/files/Functional%20Communication%20Parent%20Questionnaire.pdf>

Functional Communication Parent Questionnaire

Author: Lisa B. Mitchell, M.S., CCC-SLP

Child's name: _____ Date of birth: _____

Fill-in: _____

This questionnaire captures your child's current communication needs to create immediate functional treatment goals.

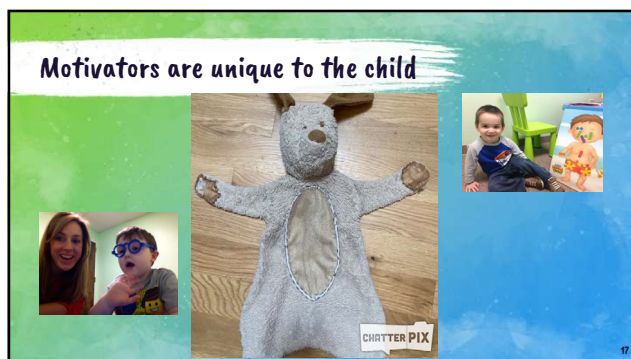
Purpose: This questionnaire gathers information to directly assess children and families as they select treatment targets and goals for children with speech sound disorders. The information provided to caregivers can help create a therapy program that is individualized and meaningful to children, and that incorporates caregiver's ideas in the assessment of meaningful speech goals.

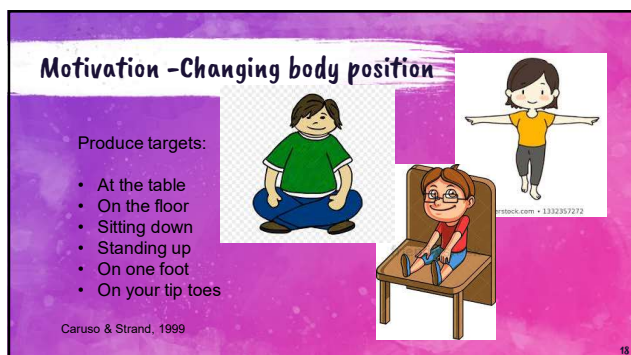
Instructions: Please read each question and provide answers to the ones that apply to your child. As you answer the questions, think of the most difficulties that your child experiences with the task. For example, if your child says "mama" rather than "mama" (phonetic) or "mama" (phonetic) this questionnaire is designed to capture your child's language use, so the questionnaire will not be checked for self-identified therapy. For each of the questions, we have included example words and phrases in parentheses. If your child uses a means of communication other than verbal words to convey a message (for example, pointing, signing, visual representation) please write that information.

This questionnaire is comprehensive and intended to gather as much information as possible regarding your child's communication. It is long, and you may choose to skip sections that you feel are not important for your child at this time. Please write the section name and the corresponding page number for the questionnaire.

- Names p. 2
- Activities p. 3
- Play p. 4
- Receptive and Verbal p. 4-5
- Receptive and Verbal p. 4-5
- Play and Materials p. 6
- Food and Drink p. 7
- Household Items and Places p. 7
- Challenges p. 8
- Children's Words p. 8
- Use and Use of Language p. 8
- Reading p. 9
- Other words (check page) p. 10

As you go, or when you finish, please mark with a star the 10-20-30 words that you believe are most meaningful to your child. These may be the words that are targeted for treatment.





Establish trust – minimize pressure

Stress and anxiety do not aid in motor performance.

✓ Deflect attention to a 3rd party

✓ Baskett (1996), Kouri (2005)

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Minimizing Pressure



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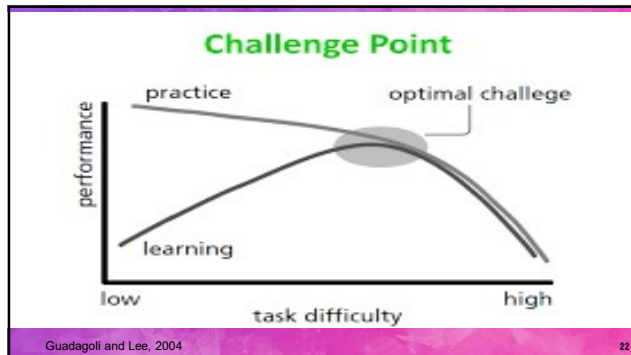
Optimal Challenge Point

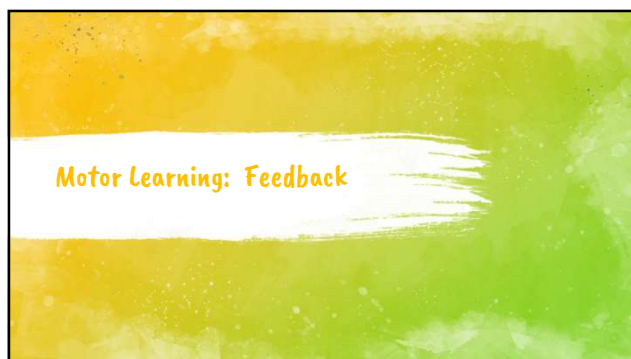
Challenge can facilitate motor learning!

Work at a level that is optimally challenging:

1. Choose words that motivate the child/have significance in their life
2. Choose sounds from the child's phonetic inventory
3. Target sounds in phonotactic structures where the child begins to break down (Strand & Stoekel; 2006)

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Knowledge of Results
Knowledge of Performance

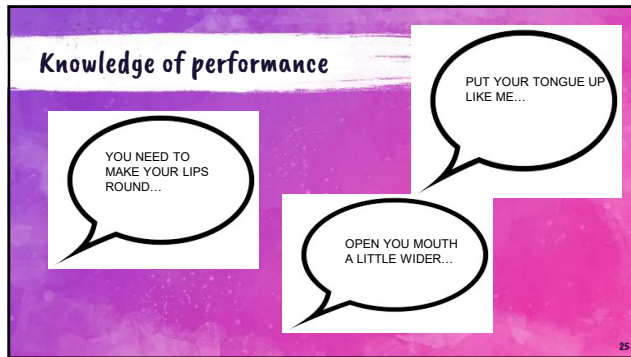
Results is right vs. wrong. Performance is what needs to be done to improve, specifically. Our kids need both.

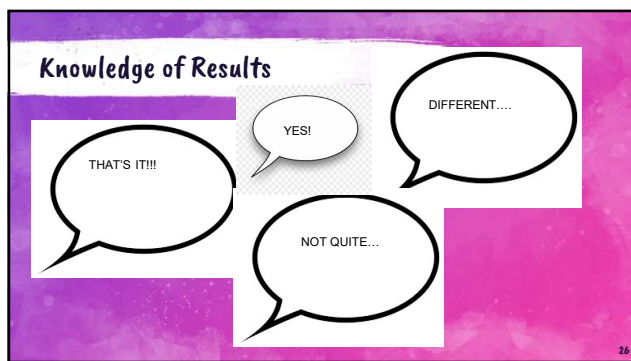
Use feedback that is appropriate for the child, based on stages of practice.

Early stages require extensive feedback on performance, feedback related to results would not suffice alone.

Hula, Maas, et. al. (2008)

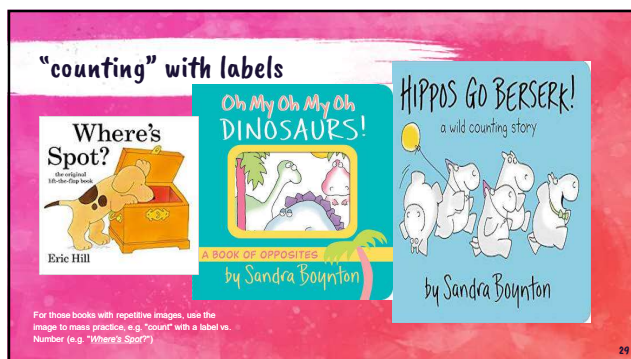
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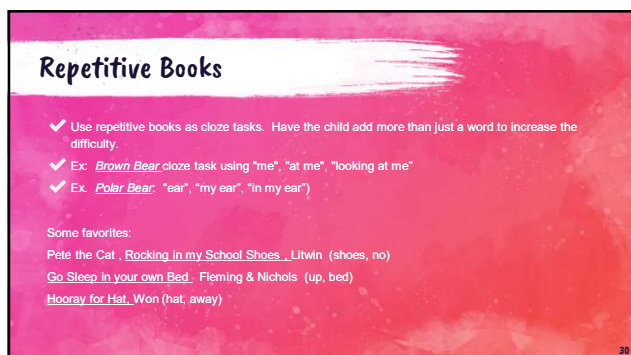












First sound series



Pereira & Solomon

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Opportunities for Multiple trials

Coins in a jar/bank/earning play money
Pop up Pirate...any game with repetitive actions!
Stickers/stamps
Setting up and breaking down games
Dice games
Abacus
Build! Use productions to earn pieces



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Massed practice via
Telepractice



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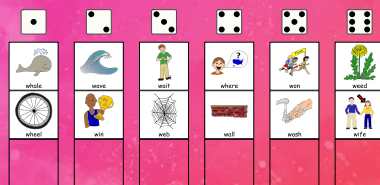
Tele options

- ✓ Abacus/marbles in a jar website: <https://toytheater.com/abacus/>
- ✓ Repetitive Stories on YouTube
- ✓ 5-10 productions to..... Open a present, open a door, dress a character: <https://boomlearning.com>
- ✓ Build a monster: <https://www.pinkcatgames.com/play>
- ✓ Create a car: https://www.abcy.com/games/create_and_build_car
- ✓ Online spinners (spin for repetitions). You can customize the #!
<http://www.superteacherstools.us/spinner/>
- ✓ LessonPix "fill the dice page"
- ✓ LessonPix gameboard with PowerPoint format

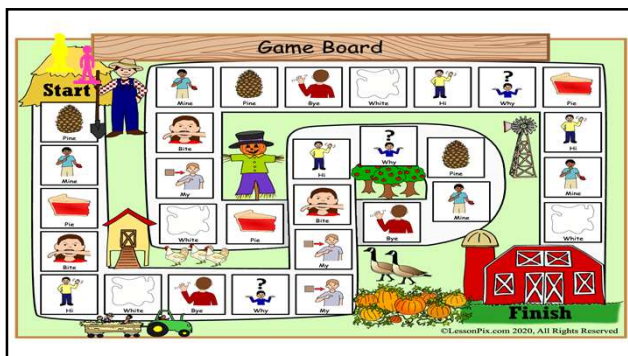
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Tele options

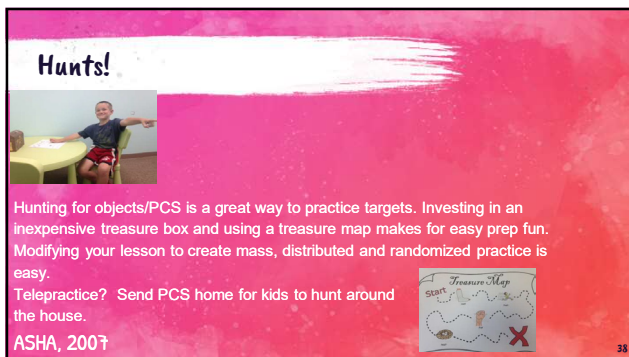
Dice Rolling Grid



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Containers

- ✓ When you have a solid target, move to solid carrier.
- ✓ Placing objects or PCS in any container like plastic eggs, trash cans (trashies), presents etc. You can have a child request by color, size, etc AND practice target inside. Great activity for your carriers: "I got _____", "I see _____", "I found _____"

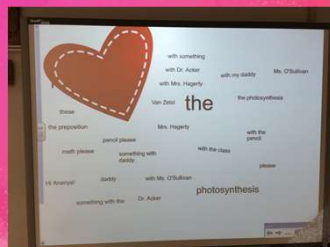


Velleman, 2003

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[illegible]

SmartBoard



E Maas, KA Farinella (2012)
Maas et. al. (2008)
Skelton & Hagopian (2014)

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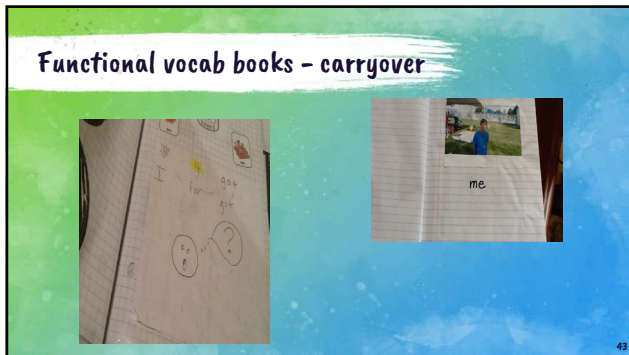
Personal Vocabulary books

Building confidence through successful communication.

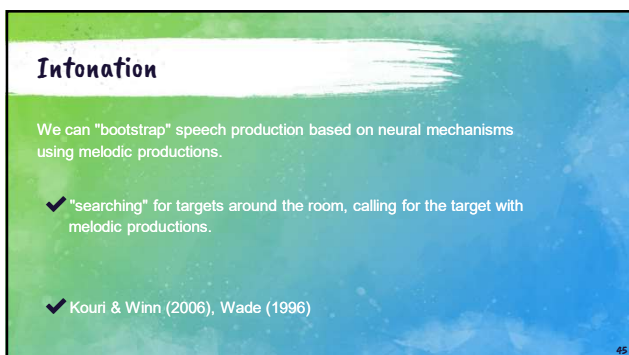
Training Automaticity. Help a child create a book of targets that he/she is successful with in practice.

Davis & Velleman (2000); Velleman & K. Strand (1994, 1998)

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Varying intonation



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Sentential Stress

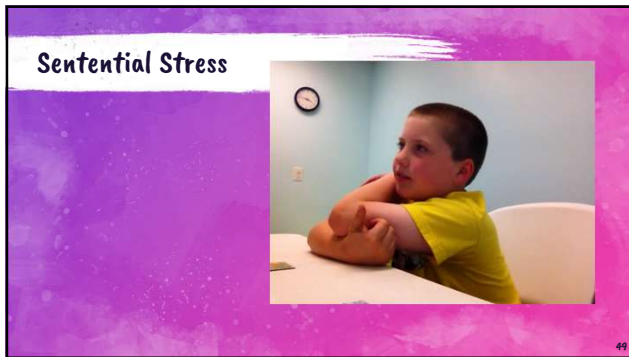
- ✓ Work on sentential stress by altering your "wh" questions. .
The child changes the stressed word to make an accurate reply.
- ✓ Velleman & Strand (1994, 1998)

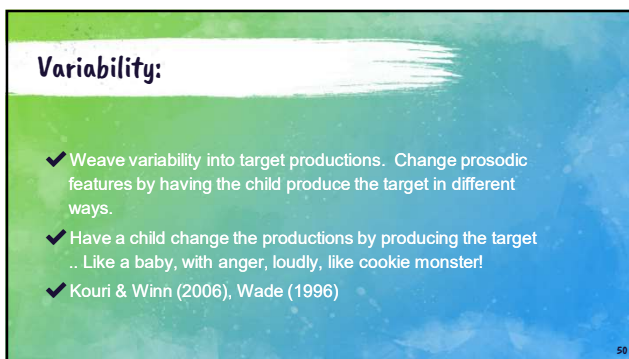
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Sentential Stress



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Meet Peter!



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Pacing – Functor words

Consider using signed English as a pacing cue or to mark functor words in sentences.
Even though we don't prioritize functor words, it's important to mark them as we want to expose them to the child.




Helfrich-Miller, 1984, Weiss (2001)

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Tele options – Prosody

Koo Koo Kanga Roo- Milkshake song: <https://www.youtube.com/watch?v=Y9LLfv7yauM>
Online prosody wheel: <http://wheeldecide.com>
(customize your own wheel), <https://www.online-stopwatch.com>
Magic Mirror: <https://www.online-stopwatch.com/picture-pickers/magic-mirror/>



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Vowels

- Start on vowels EARLY!
- Increase the range, reduce the deviations.
- Consider using the facilitative contexts of homorganic productions to aid in vowel production.

Contrast vowels

Rosenbek & Wertz, 1972 Fish, 2011

	Front	Central	Back
High	i ɪ		u ʊ
Mid	e ɛ	ə ɜ ɐ	o ɔ
Low	æ a		ɑ



Vowels

- Vowels are considered the "core of the syllable nucleus" of a word or the "heart" of a syllable and carry a lot of weight in regards to intelligibility.
- Children with CAS demonstrate vowel distortions. If you have trouble transcribing the vowel, it is likely a distortion!
- A child will be better understood if they have consonant substitutions or distortions but a correct vowel.

Fletcher, 1992
Marshall, 2019

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Vowels

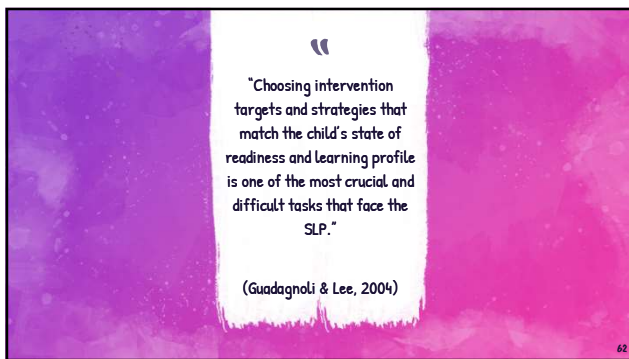
	Front	Central	Back
High	/i/		/u/
	e	ə	o
Mid	ɛ	ɜ	ɔ
Low	æ	ɑ	/a/

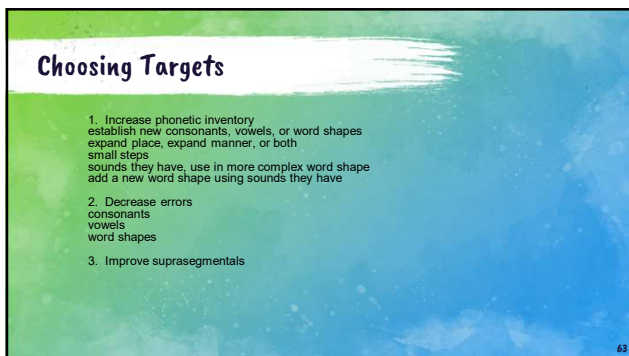
- Consider targeting the cornerstones of the vowel quadrilateral - the 3 most different vowels:
/i/, /u/, /a/

Marshall, 2019

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Exclamations!

Remember social considerations in choosing targets.
Don't forget about exclamations!
Examples: "uh oh!", "oh no!", "oh man", "yee haw!",
"woo hoo!", "yay!", "whoa", "tada"

Velleman & K. Strand (1994, 1998), Kaufman (1998, 2001)



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Homorganicity

Choose targets homorganic in structure to minimize the motoric load.

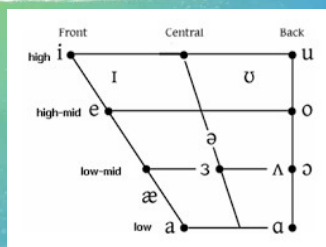
Example: Facilitating consonant contexts
alveolar with high front vowels
velar with high back vowels
labial with low, central vowels

MacNeilage et al., 2000

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Choosing homorganic constructs

Use the vowel chart for reference to choose homorganic targets



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Unique targets to child

What is a more functional target that the child's own name? Think about social considerations when choosing targets.

Social considerations are especially imperative when children are excessively shy, demonstrating frustration and/or exhibiting unwanted behaviors.

Velleman & K. Strand (1994, 1998), Kaufman (1998, 2001)

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Jackson...

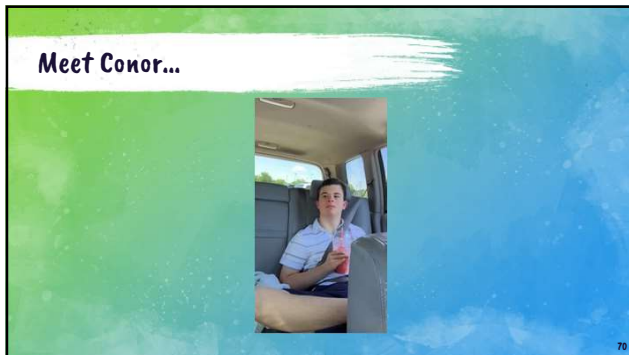


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Functional phrases



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DTTC

DTTC: Dynamic Temporal and Tactile Cueing - an approach based on integral stimulation that incorporates the principles of motor learning.

- ✓ Focus on dynamic movement, cueing constantly changes to support the level of performance.
- ✓ Strand, E and Debertine, P. (2000).

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DTTC in action - outpatient



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Make sure you have the ingredients!

- High number of practice
- Small set of treatment targets
- Homework components
- Provision of knowledge of results and knowledge of performance feedback
- Use of alternative feedback modalities



E.Mass, C.E. Gildersleeve-Neumann, K.J Jakieliski, R. Stoeckel, April 2014

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Cumulative Data

Cumulative Accuracy vs.
Traditional Data Collection

1	2	3	4	5	6	7	8	Total
3/10	4/10	3/10	8/10	8/10	8/10	5/10	1/10	
3/10	1+4=5	5+3=8	8+8=16	16+8=24	24+8=32	32+5=37	37+1=38	38/80=47%
	30	30	40	50	60	70	80	

Yorkston, et al., 2010

Revised from Miller, Miller (2010)

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Community of Practice

Save time by using shared resources.

Boom Learning

Teachers pay Teachers

Listserve

Professional groups

Wenger-Trayner E. & Wenger-Trayner, B. Communities of practice: A brief introduction. <http://wenger-trayner.com/map-of-resources/>

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Starter Positions...

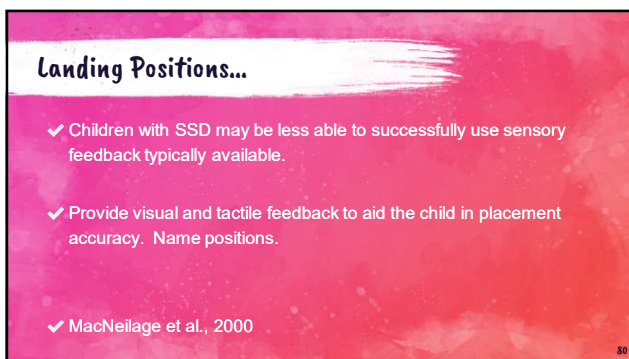
✓ Holding a position to increase awareness.

✓ Teaching "starter positions" such as "mmm" (bilabials), "eee" (/j/) and "ooo" (/w/) to get a child "ready" to initiate a production with accuracy.

✓ Kaufman (1998, 2001); Velleman & K. Strand (1994, 1998); Fish, 2011; Hammer (2006)

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No oral motor exercises

- ✓ Motor control for speech is distinct from nonspeech oromotor behaviors.
- ✓ With the information we have now, blowing bubbles, horns and cotton balls will improve the nonspeech behaviors of blowing bubbles, horns and cotton balls
- ✓ Research: Lof (2003)

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Placement Cues

- ✓ Placement cues are NOT the same as oral motor exercises.
Providing a placement cue, within the context of treatment facilitates production of the child's accurate production of a new motor plan.
- ✓ Create an opportunity to have the child get into the position for a certain phoneme/vowel.
- ✓ Strand & Skinner, 1999; Hammer 2006

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Placement Cue:



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Motor movement

When training automaticity, practice your target with an accompanying motor movement.

Hopscotch tape, in/out hula hoop, lily pads

Velleman, 2002

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AAC

By utilizing AAC, we provide a meaningful framework for new sounds, syllables and words. We also support a child's social language development.

- ✓ Carrier phrases in sentence strips, communication topic boards, communication books.
- ✓ Provide access to AAC to those children who are minimally verbal.

Millar et. Al. (2006), Caruso and Strand (1999)

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AAC



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Adjacency

Use adjacency to facilitate production of elements in new positions.

Example: a child successfully utilizes /s/ final in CVC to facilitate /s/ initial by using /s/ final "bus -so" (word final /s/ facilitates production of word initial /s/)

Velleman, 2002

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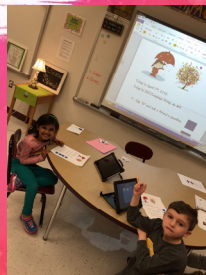
Group work

✓ Activity:

1. Stations
2. Same Activity, Same Motor-Speech Target
3. Natural Groups

✓ Research:

Edeal & Gildersleeve-Neumann (2011)
Sommers (1966)
ASHA NOMs Report



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Negative Learning

- ✓ **Avoid** negative learning movement gestures.
- ✓ Practice "error-less" productions to create correct motor plans at level of acquisition.
- ✓ Practice makes permanent!

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Transcription

- ✓ dast of jor trænzkripfən skiz!!!
- ✓ If your setting mandates a standardized articulation test, use transcription for PVC/ PCC or IPC to denote change. Standardized assessments may not show change, specifically if the child is below the lowest standard score.
- ✓ McCauley and Strand (2008)

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Collaborate!

- ✓ Take initiative and collaborate with any/all other professionals working with the child at onset of treatment.
- ✓ Patterson, K. (2011)

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Make the connection

Establishing Successful Professional Collaboration (STPC)

Name of collaborating SLP _____

State of initial contact _____

Intended method of collaboration: email _____ phone _____

Other: _____

Contact only for desired method of collaboration _____

Expected collaboration frequency _____

Proposed to include in collaboration _____

present (X) _____

future _____

State of next contact _____

Signature: _____

Date: _____

This STPC form was created by Lisa B. Mitchell, M.S., CCC-SLP, and is intended for use by SLPs and other professionals working with children with speech and language disorders. It is not intended to be used as a legal document.

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Select References

- ✓ Lof, G. (2003). Oral motor exercises and treatment outcomes. *Language Learning and Education*, 7-11.
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- ✓ Velleman & Strand. (1994). Developmental Verbal Dyspraxia. In J.E. Bernthal & N.W. Bartonson, *Child phonology: Characteristics, assessment and intervention with special populations*. New York: Thieme.
- ✓ When "Simon Says" Doesn't Work: Alternatives to Imitation for Facilitating Early Speech Development. Laura S. De Thorne, Cynthia J. Johnson, Louise Walder and Jamie Mahunn-Smith. *American Journal of Speech Language Pathology*, May 2009, vol 18, 133-145.
- ✓ Williams, A., McLeod, S., & McCauley, R. (Eds.) (2010). *Interventions for speech sound disorders in children*. Baltimore, MD: Paul H. Brookes.

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