

Context-Based Articulation Therapy: Articulation Therapy for Standards-Based IEPs

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Rachel Powell, PhD, CCC-SLP

Disclosure

- * I am the Past-President of the Mississippi Speech-Language and receive reimbursement for travel, meals, and accommodations.

Purpose

- * With the 2014-2015 school year, MDE introduced a new IEP that requires standards-based goals and objectives, including students with L/S deficits
- * The purpose of standards-based IEPs is to tie the performance and outcomes of students to the general education curriculum and the student's functional abilities

Learner Outcomes

- * Articulation Disorders – Origins and Etiology
 - * Speech Sound Disorders
- * Target Sound Selection – Where to start?
- * Treatment Options – Methods for treating Speech Sound Disorders
- * Writing Standards Based IEPs

Articulation Disorders

Origins and Etiology

- * Articulation Disorders - Speech Sound Disorders (SSD)
- * Neurological Origins
 - * Motor Speech Disorders - dysarthria, apraxia
 - * Structural differences - cleft palate
 - * Sensory Deficiencies - hearing loss
- * SSD – child lags significantly behind peers in producing age-appropriate phonemes, but no structural or neurological cause is evident
 - * Phonological Disorder
 - * Articulation Disorder
 - * Functional Articulation Disorder

Risk Factors for Articulation and Phonological Speech Sound Disorders

- * male sex;
- * pre- and perinatal problems;
- * oral sucking habits (e.g., excessive sucking of pacifiers or thumb)
- * ear, nose, and throat problems;
- * a more reactive temperament;
- * family history of speech and language problems;
- * low parental education;
- * lack of support for learning in the home.

(ASHA Practice Portal: Clinical Topics - Speech Sound Disorders)

Where to Start? Assessment

- * Elements of Speech Sound Disorder Assessment
 - * Hearing and Vision Screening
 - * Oral Facial Examination
 - * Parent interview - case/developmental history
 - * Teacher interview - teacher narrative
 - * Standardized Assessment
 - * Articulation Assessment
 - * Phonological Processing assessment
 - * Conversational speech analysis
 - * Stimulability
 - * Adverse academic, social, or vocational impact
 - * Considerations for dialect
 - * Phonological awareness ability
 - * Language ability
 - * 60% co-occur with phonological impairment

Articulation vs. Phonological

- * Articulation Impairment – disorder at peripheral level
- * Phonological Impairment – Underdeveloped phonological concepts at linguistic level
- * Multiple Contributory System –
 - * Motor
 - * Phonology of Language
 - * Perceptual Skills

Types of Phonological Processes

- * Voicing Processes
 - * Change in voicing of phonemes (/d/ for /t/)
- * Fronting Processes
 - * Back phonemes are replaced with front phonemes (/d/ for /g/)
- * Deletion Processes
 - * 1 or more phonemes are deleted (/ka/ for /kat/ or /top/ for /stop/)
- * Syllable Processes
 - * Syllable structure is changed, usually deleted
- * Phoneme Processes
 - * The distinctive feature of a phoneme is changed, such as gliding (/w/ for /r/) or stopping (/t/ for /s/)

Phonological Process Video

* <http://youtu.be/Si3D2j3RT2c>

Sound	Word		
	Initial	Medial	Final
1 p	21	7	3
2 m	6	13	28
3 n	3	6	30
4 w	1		
5 h	1		
6 b	4	17	22
7 g	4	5	29
8 k	3	6	9
9 f	18	2	3
10 d	9	1	33
11 ŋ	9	23	23
12 j	2		
13 t	2	22	17
14 ʃ	5	18	27 (dist)
15 tʃ	19	14	11
16 l	15	30	4
17 r	17	17	16
18 ɔ̃	24	25	17
19 θ	23	22	22
20 v	10	5	34
21 s	8	21	1 (dist)
22 z	7	8	26
23 ð	21	20	
24 bl	16		
25 br	27		
26 dr	28		
27 fl	26		
28 fr	29		
29 gl	32		
30 gr	29		
31 kl	30		
32 kr	31		
33 kw	9		
34 pl	12		
35 sl	33		
36 sp	3		
37 st	34		
38 sw	13		
39 tr	1		

SOUNDS-IN-WORDS

STIMULABILITY

Sound	Word		
	Initial	Medial	Final
1 p	21	7	3
2 m	6	13	28
3 n	3	6	30
4 w	1		
5 h	1		
6 b	4	17	22
7 g	4	5	29
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10 d	9	1	33
11 ŋ	9	23	23
12 j	2		
13 t	2	22	17
14 ʃ	5	18	27
15 tʃ	19	14	11
16 l	15	30	4
17 r	17	17	16
18 ɔ̃	24	25	17
19 θ	23	22	22
20 v	10	5	34
21 s	8	21	1
22 z	7	8	26
23 ð	21	20	
24 bl	16		
25 br	27		
26 dr	28		
27 fl	26		
28 fr	29		
29 gl	32		
30 gr	29		
31 kl	30		
32 kr	31		
33 kw	9		
34 pl	12		
35 sl	33		
36 sp	3		
37 st	34		
38 sw	13		
39 tr	1		

SOUNDS-IN-WORDS

STIMULABILITY

Sound	Syllable		
	Initial	Medial	Final
1 p			
2 m			
3 n			
4 w			
5 h			
6 b			
7 g			
8 k			
9 f			
10 d			
11 ŋ			
12 j			
13 t			
14 ʃ			
15 tʃ			
16 l			
17 r			
18 ɔ̃			
19 θ			
20 v			
21 s			
22 z			
23 ð			
24 bl			
25 br			
26 dr			
27 fl			
28 fr			
29 gl			
30 gr			
31 kl			
32 kr			
33 kw			
34 pl			
35 sl			
36 sp			
37 st			
38 sw			
39 tr			

Where to Start? Target Sound Selection

- * Consideration for Stimulability
- * Developmental Approaches - Consideration for typical sound development progression
- * Nondevelopmental Approaches
 - * Complexity Approach - target more complex sounds not in child's repertoire for cascading effect to other sounds
 - * Dynamic Systems Approach - teaching and stabilizing sounds child may be stimuable for
 - * Systemic Approach - base treatment on the function of the sound in the child's phonological organization
- * Other Considerations
 - * Importance of error to client/family
 - * Impact of error in intelligibility

(ASHA Practice Portal: clinical topics: Speech Sound Disorders)

Treatment Strategies

- * Fey (1986) identified the following (goal attack) strategies:
- * VERTICAL—intense practice on one or two targets until the child reaches a specific criterion level (usually conversational level) before proceeding to the next target or targets;
- * HORIZONTAL—less intense practice on fewer targets; multiple targets are addressed individually or interactively in the same session, thus providing exposure to more aspects of the sounds system;
- * CYCLICAL—incorporating elements of both horizontal and vertical structures; the child is provided with practice on a given target or targets for some predetermined period of time before moving on to another target or targets (e.g., Hodson, 2010)

(ASHA Practice Portal: Clinical Topics - Speech Sound Disorders)

Treatment Approaches

- * Contextual Utilization - target sounds in context of syllables with consideration for surrounding phonemes
- * Contrast Therapy - focus on contrasting phonemes at word level, such as minimal pairs (i.e., gate/date)
- * Core Vocabulary Approach - sounds selected based on child's vocabulary
- * Cycles Approach - targets phonological processing patterns through 5-15 week cycles, switching the target to a different process when one cycle is complete.

(ASHA Practice Portal: Clinical Topics - Speech Sound Disorders)

Treatment Approaches

- * Distinctive Feature Therapy - focuses on distinctive features child lacks
- * Metaphon Therapy - meta phonological awareness (loud sounds vs quiet sounds)
- * Naturalistic Speech Intelligibility Intervention - target sounds in natural environment
- * Non-speech Oral motor therapy - very controversial and mixed findings in research
- * Speech Sound Perception Training - train child in sound perception, i.e. Auditory bombardment

(ASHA Practice Portal: Clinical Topics - Speech Sound Disorders)

Service Delivery

- * Dosage: the frequency, intensity and duration of service
- * Format: whether a person is seen for treatment one-on-one (i.e., individual) or as part of a group.
- * Provider: the person providing the treatment (e.g., SLP, trained volunteer, caregiver)
- * Setting: the location of treatment (e.g. home, community-based, school)
- * Timing: the timing of intervention relative to the diagnosis.

Reasons to target SSD within the Curriculum

- With the implementation of the Common Core State Standards, SLPs are being held accountable for student success within the curriculum.
- reading impairment is predicted by poor performance in phonology at preschool
- Children with SSD also have comorbid reading disabilities
- Speech sound disorders affect the student's reading performance in addition to intelligibility in reading and conversation.

(Catts, 2005; Lewis, Freebairn, & Tylor, 2000; Smith, Pennington, Broada, Shriberg, 2005; Rvachew, 2007)

Potential Benefits

- It is the goal of the SLP to ensure the student's success across all settings, especially the curriculum.
- Targeting speech sound errors in a reading context potentially will increase the student's overall performance in reading
- Potential to reduce time required for carryover since sounds are learned within a meaningful linguistic context

Case Example

- Method: Use context-based reading to target speech sound errors
- Participants: 2 students with mild-moderate speech sound disorders
 - One student with targeted errors tongue thrust /s/, cluster reduction for /s/ blends, and gliding for (w/l)
 - One student with fronting (t/k) and (d/g)

Intervention

- The SLP selected grade level text for targeted speech production (i.e., decodable readers)
- If text was above student's reading level, the SLP used echo reading (I read it, you read it)
- The written text provided a context in which the linguistic load was lightened but the sound production correction occurred within meaningful connected discourse.
- As the student read, any words containing the target sound were
 - Acknowledged for correct sound production
 - Corrected by the child following feedback from the SLP or self-corrected
 - The SLP guided the child to a more correct production of the word.

Results

- Carryover production was seen across error positions within one session.
- Example (from the book *Pumpkin, Pumpkin* by Jeanne Titherington)
 - “The pumpkin seed grew a pumpkin sprout.”
 - Student (First Reading): The “pumtin” seed “drew” a “pumtin” sprout.
 - SLP: Good reading, now look at this letter (point to /k/) and be sure to use your good /k/ sound.
 - Student (Second Reading): The pum**k**in seed **g**rew a pum**k**in sprout.

Subject 2

- Second Student Example:
 - “The pumpkin sprout grew a pumpkin flower.”
 - Student (first reading): “The pumpkin sprout grew a pumpkin fwower.”
 - SLP: Look at this word (point to flower); /l/
 - Student: “The pumpkin sprout grew a pumpkin flower.”
- The reading context is targeting the sound at a higher level than isolated word level, and therefore increasing student carryover.

Video

- * <http://youtu.be/o41ovmoYdZQ>
- * <http://www.teachertube.com/mobile/video/phonic-faces-z-17869>

Tools for Treatment

- * http://ep.yimg.com/ca/I/yhst-129823729322419_2250_6472238
- * <http://www.teachertube.com/mobile/video/sound-blending-idea-20792>
- * <https://youtu.be/Rh79gkRkoUg>
- * <http://elementary.com/books1.html>
- * <http://youtu.be/trmZ6GUoRMA>

PLAAFP – Strengths, Preferences, Interests

- * List student strengths
 - * Include areas of strength in language/speech (i.e., voice, fluency)
 - * Use teacher narrative as source of strengths
- * Skills should be academic OR functional
 - * Academic – only reading or math
 - * Functional – voice, fluency, articulation students with good grades, some language students that can do skills in isolation (i.e., academic tests) but have difficulties in conversation (i.e., socially)
- * Show student preference/interest to indicate you have talked to the student (i.e., John likes Minecraft games)
- * Data sources may include formal and informal testing measures (can list scores), teacher narrative, teacher interview, parent input, student input, SLP observation, conversational language/speech analysis, and/or curriculum based measures and universal screening data

PLAAFP – Strengths, Preferences, Interests

- * John has strengths in the areas of language, fluency, and voice, according to the initial language/speech evaluation, classroom observations, and teacher and parent input. According to the teacher narrative, he has strengths in gross motor skills, fine motor skills, adaptive skills, behavior skills, and emotional skills. According to DIBELS Next, John is performing at the benchmark, or grade level, expectations in all areas of reading. According to mClass Math, John is performing at the benchmark level in all areas of math and needs no instructional support. John can engage and participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups, but demonstrates misarticulations with the sounds /k, g, s, z, sh, ch, l, r, s-blends, l-blends, and r-blends/ that interfere with his communication and may impact him in social and classroom settings. John is excited about coming to speech, and is ready to work with the speech-language pathologist, frequently asking when he can come with her to speech.

PLAAFP – Impact of Disability

- * MUST include Expectation and Impact statement
- * Expectation – what child is expected to do at that age
- * Use Common Core Standards for academics, and cite the standards (i.e., L.K.5.b)
- * For Functional, use various data sources such as ASHA <http://www.asha.org/public/speech/development/>, research/textbook norm expectations (Nelson, Paul, etc.), developmental norms for articulation – BE CONSISTENT!
- * Impact Statement – how child’s disability impacts them educationally, vocationally, or socially
- * Data sources may include formal and informal testing measures (can list scores), teacher narrative, teacher interview, parent input, student input, SLP observation, conversational language/speech analysis, and/or curriculum based measures and universal screening data

Expectation/Impact - Articulation

- * Most Kindergarten students can be understood clearly by others when speaking in unknown context and produce most speech sounds accurately. John can pronounce the front sounds of /m, p, b, t, d, n/ in conversation, but demonstrates phonological patterns of fronting and stopping for sounds with continuous air flow (s, z, sh, i.e., “too” for “shoe”) and sounds produced in the back of the mouth (k, g, i.e., “tat” for “cat”). John’s speech sound errors will interfere with his ability to be understood in conversation with peers and adults in the classroom and in social settings, his ability to carry-on collaborative conversations, and may cause him to be frustrated when he is speaking and not understood by others.

Parent Input

- * Ask probing questions to get increased better response
- * Ask parent to describe their child's speech/language
- * Ask parent what their expectations for the outcomes of therapy are (i.e., speak clearly and no longer need speech, speak clearly in interviews, be understood by others)
- * Use open ended questions rather than closed questions (Tell me what you expect of John in speech vs. What do you think about how John is doing?)

Annual Goals and STIOs – PK and Significantly Delayed Students

- * Goals impact *Communication in Knowledge and Skills Performance Summary*
- * For preschool students and students with more involved disabilities (i.e., ASD, ID), goals will more than likely be functional, and based on developmental progression
- * For preschoolers (3-5), consider the impact of the disability on acquiring skills mastered by other students that age, and how it impacts the child in communicating with adults in their life (think IFSP model)

Annual Goals and STIOS

Articulation

- * Annual Goal – In 36 weeks, Kennedy will increase her speech intelligibility by reducing the stopping and fronting processes (t, d) and producing correct back (k, g) and fricative (s, z) speech sounds in words with 90% accuracy in 3 sessions.
 - * STIO #1 – In 9 weeks, Kennedy will orally produce the final consonants in words via minimal processes cueing by orally producing the final sounds in words (i.e, sew/soap) with 90% accuracy in 3 sessions.
 - * STIO #2 – In 18 weeks, Kennedy will auditorally discriminate between back sounds /k, g/ and front sounds /t, d/ via minimal processes cueing with 90% accuracy in 3 sessions.
 - * STIO #3 - In 27 weeks, Kennedy will orally produce back sounds /k, g/ via minimal processes cueing by orally discriminating between front and back sounds (i.e, date/gate) with 90% accuracy in 3 sessions.
 - * STIO #4 – In 36 weeks, Kennedy will orally produce fricative sounds /s, z/ via minimal processes cueing by orally discriminating between front and back sounds (i.e, date/gate) with 90% accuracy in 3 sessions.

Frequency and Duration

- * Minutes and sessions per week vs. minutes/month
- * 160 minutes per month = 20 minute sessions/twice weekly
- * Options
 - * 25 minutes/twice weekly
 - * 20 minutes/3 times weekly
 - * 15 minutes/3 times weekly
 - * 30 minutes/once weekly
 - * 30 minutes/twice weekly
 - * 40 minutes/once weekly
 - * 5 minutes/4 times weekly – Drill students
 - * Evidence for effectiveness of high frequency/low dose and low frequency/high dose

Other Thoughts/Concerns/Issues
to Address???