Can't Remediate that /R/? Try This Step by Step Approach for /R/ and Other Challenging Speech Sound Errors

Today is For You!

- Please consider turning on your camera
- Participate (Cameras, Unmute, Chat, Breakout rooms)
- Have fun!

What you look like to us!

Where are you Zooming in from?
What Do You Hope to Get Out of Today?

Today's Agenda

9:00 Central Time: Begin

10:30 Morning Break (announcements and 10 minute break)

12:00 - 1:00 Lunch

2:10 Afternoon 10 minute break

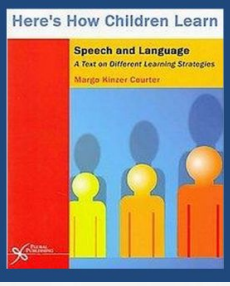
~ 3:30 Seminar finishes

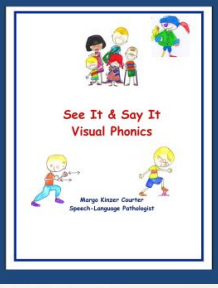
Margo Kinzer Courter, MBA, MA, CCC-SLP, BCS-CL

About your Presenter:

- *35 years experience PreK-12th*
- *Board Certified Specialist - Child Language and Language Disorders*
- *Past: National Facilitator for LETRS*
- *Specialty Areas: Speech and Language Disorders and impact on learning*

- *Author of :*





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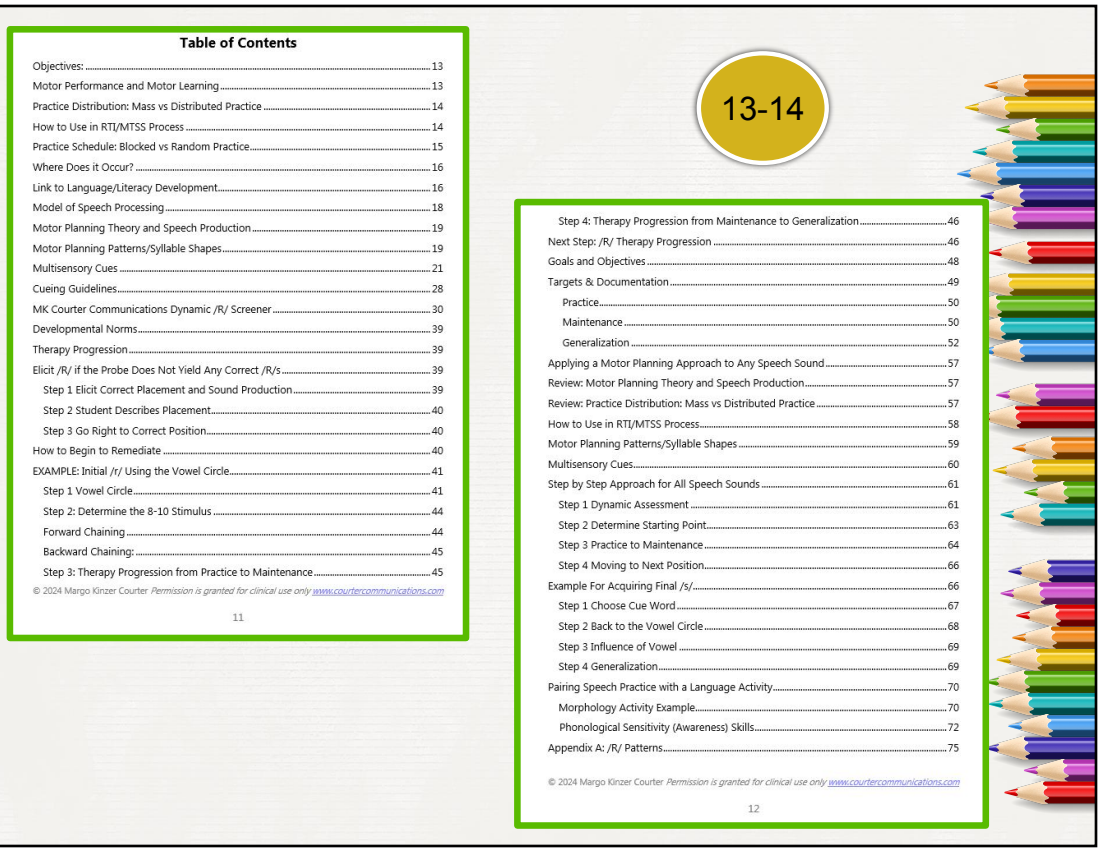
Additional materials at www.courtercommunications.com
More – Conference Materials- Create Account

Margo's Website



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Objectives

- Define speech therapy from a motor planning perspective
- Provide a step by step approach for remediation of /r/
- Apply a motor planning approach to all speech sounds
- Discuss the link between persistent speech sound disorders and language

Breakout:
How are you doing with /r/?

- For those of you serving PreK and K, are you treating students with /r/ errors?
- Take a moment to reflect on students that you have seen, maybe 4th -12th grade, that the /r/ was still not remediated.
- What techniques did you try?
- What was successful?
- What wasn't successful?

How are you doing with /r/?

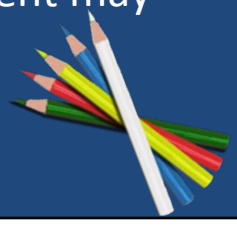
- How many /r/s are there in the English language?
- Where is /r/ made?

Story of Evan
Story of Austin
Story of Jack
Story of Zoey

That /R/ That You Just Can't Remediate: Let's Go!

Why is /R/ so Difficult?

- Articulatory placement: Where is /r/ made?
  - [ɹ] an approximate sound along the palate somewhere from the alveolar to post alveolar to palatovelar
- Not responded to our tried and true methods
  - following directions, auditory perception, attention, motor planning, etc
- Our attempt at instruction for placement may not be the natural motor plan
- At least 21 different /r/s in English



Key Aspects of Persistent Speech Sound Disorders

Variability

residual distortion of later developing sounds

production of multisyllabic words

neurological impairment (CAS, Dysarthria)

Etiology

Known

Unknown

May have associated difficulties::

Motor

Language/Social

Academics

PSSD and Attention

1. Moderate to severe SSD = higher ratings of inattention, hyperactivity, impulse control
2. Cognitive Load - dividing attention across multiple tasks
3. Under divided attention- perception can also be hindered
4. Speech recognition hindered by higher order processing seen in ADHD
   a. Study: 2-5 nonword syllable pairs for discrimination could be tied to working memory and not necessarily discrimination

Link to Language and Literacy

Pages 17-18

Key Points

- SSD at age 4, higher risk for difficulty with phonological/phonemic awareness and morphological awareness skills ((Rvachew, Ohberg, & Grawburg, 2003; Apel and Lawrence, 2011).
- SSD at 6;9, worse on phonological awareness, reading, and spelling (Nathan et al., 2004).
- If motor speech impairment, concomitant language, reading, and/or spelling difficulties

Overall Guidelines

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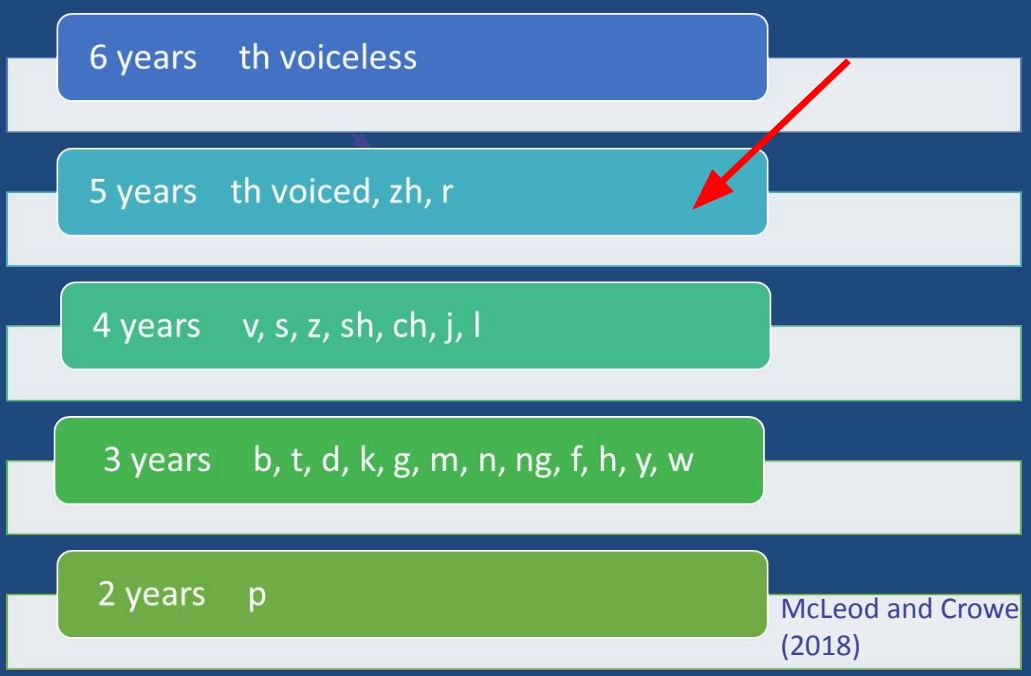

McLeod and Crowe (2018)

Model of Speech Processing (Strand, 2018)

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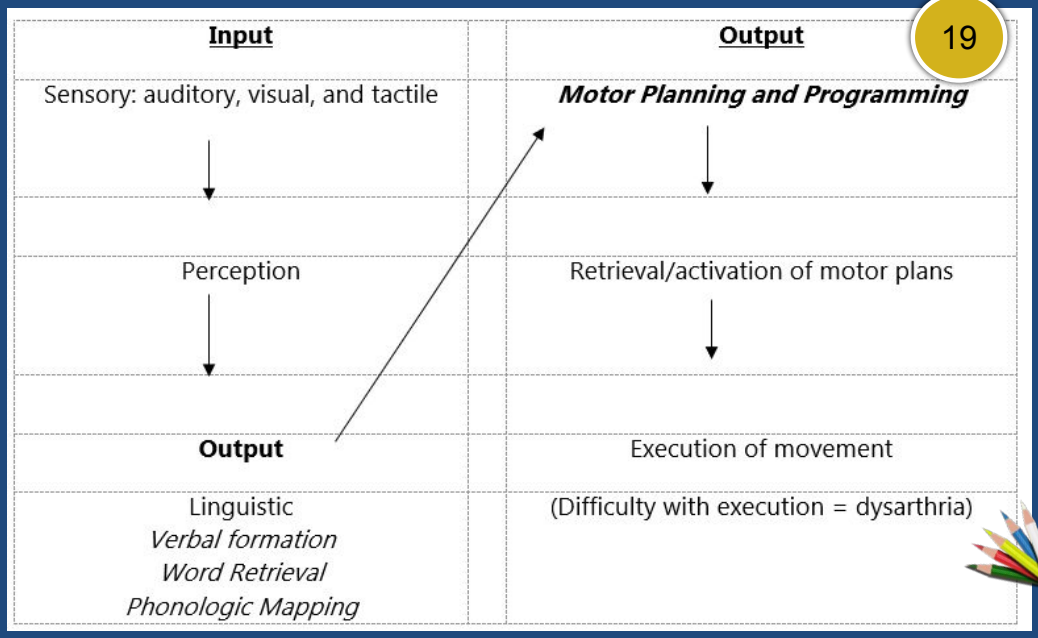

Keep in Mind

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- Speech production involves continuous movement of parts of the vocal tract at the level of syllables. We must think in syllable patterns (CV, VC, CVC, C1V1C1V1, C1V1C1V2, etc.) and not in specific speech sounds which are isolated movement.

- Assessment and treatment should be focused on the continuous movement within the syllable or string of syllables and not on specific speech sounds.

Where Does It Occur?

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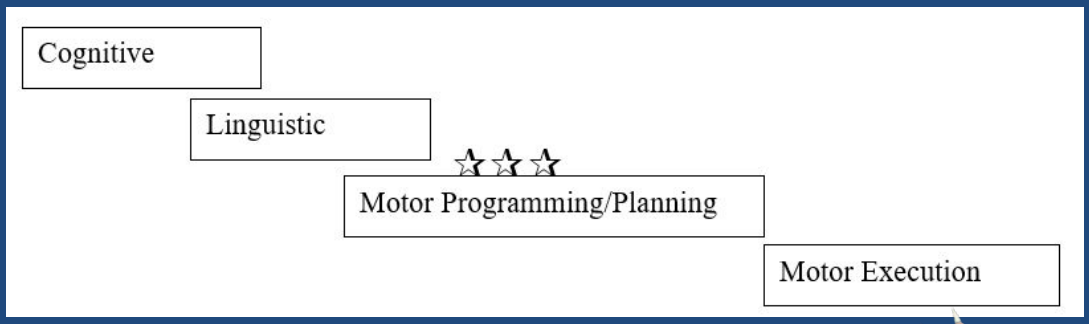

Motor Planning Theory and Speech Production

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1. Initial Condition: Articulatory placement, voicing, prosody, intonation, phrasing

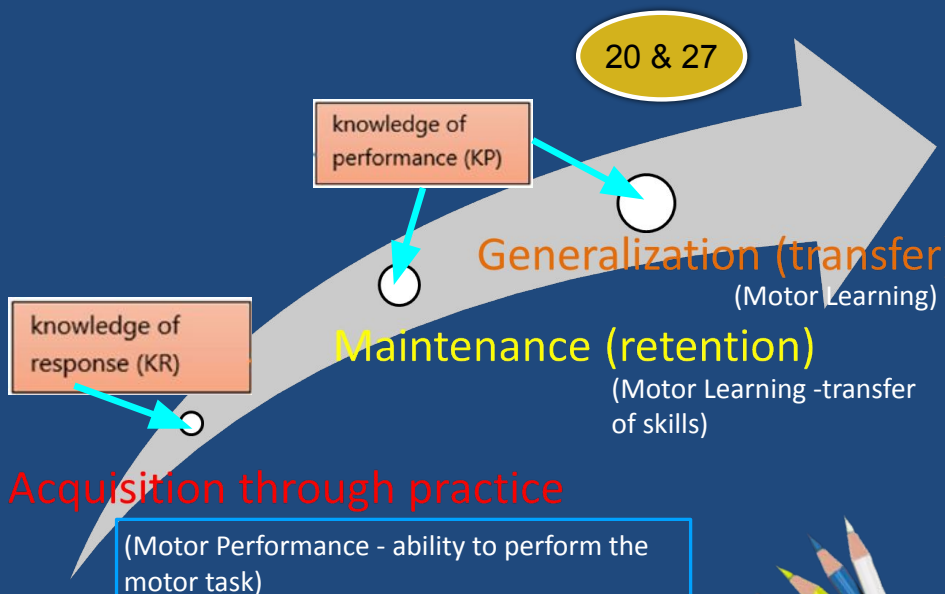
2. Motor Commands Needed: Timing and amplitude of production

Strand, 2018

Motor Planning Theory and Speech Production

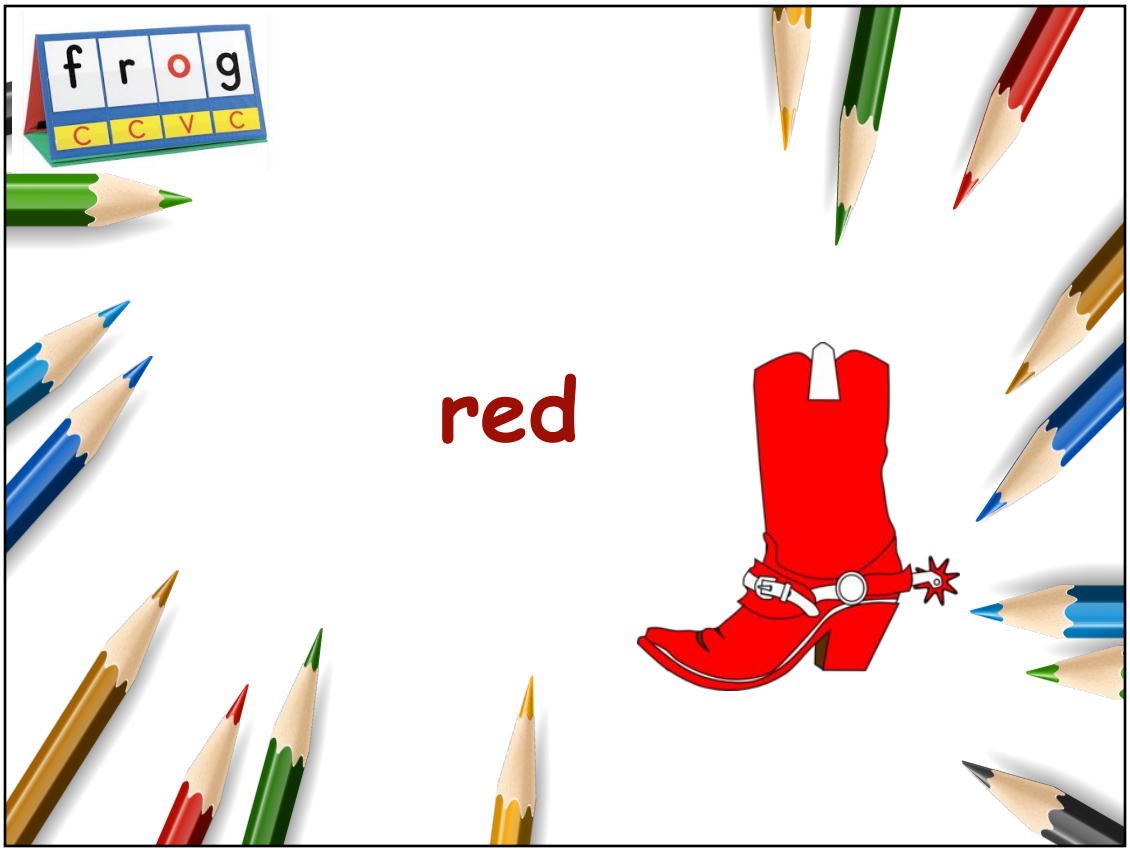
3. Sensory Consequences:
   a. Tongue and lip movement for production
   b. Tactile awareness of articulatory placement

4. Outcome: Were the speech sounds, voicing, intonation, and prosody correct?



Motor Planning Patterns/Syllable Shapes

V/VV	(would not target vowels or VV outside of a syllable shape) USE THIS SPACE FOR DOCUMENTATION
C	(I would not typically target a consonant by itself outside of a syllable shape) USE THIS SPACE FOR DOCUMENTATION
CV	
VC	
VCV	
C1V1C1V1	
C1V1C1V2	
C1V1C2V2	
C1V1C1	
C1V1C2	
CVCVCV	
CVCV + CVC	

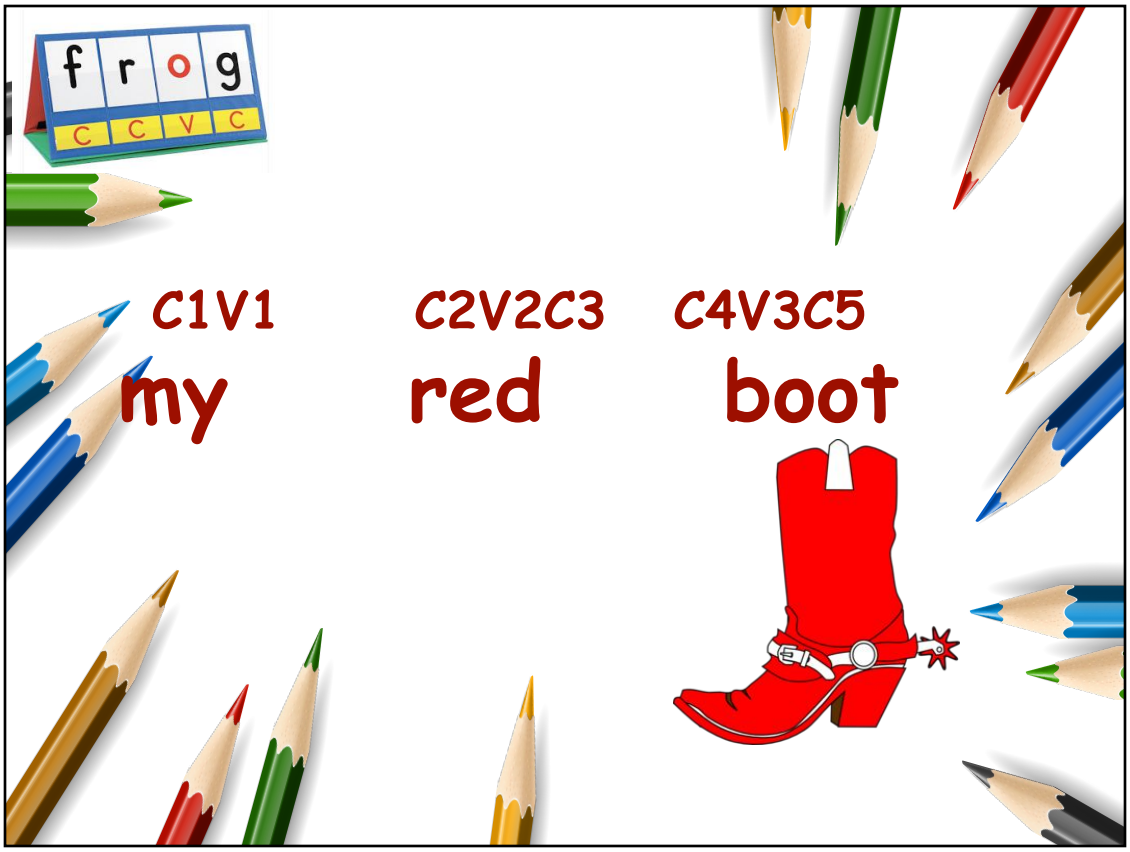



f r o g
C C V C
C1 V1 C2
red


f r o g
C C V C
red boot


f r o g
C C V C
C1V1C2
red
C3V2C4
boot


f r o g
C C V C
my red boot



Multisensory Cues

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- Prosodic Cues
- Tactile Cues
- Visual Cues
- Kinesthetic Cues

Prosodic Cues

- Pitch
- Loudness
- Timing
- Voice Quality

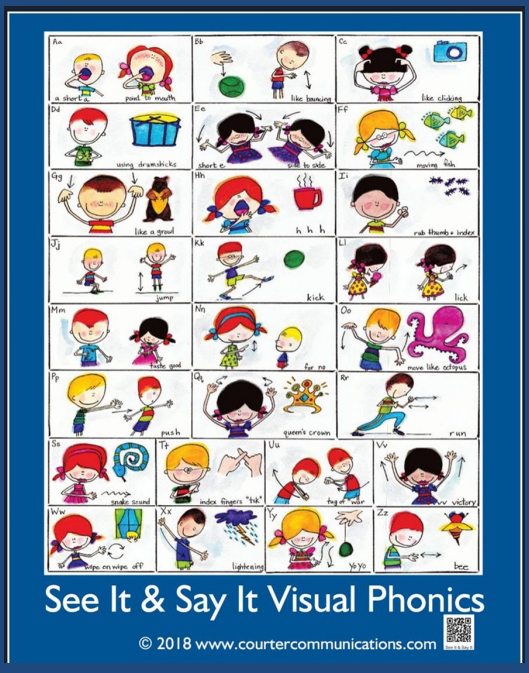
Tactile Cues

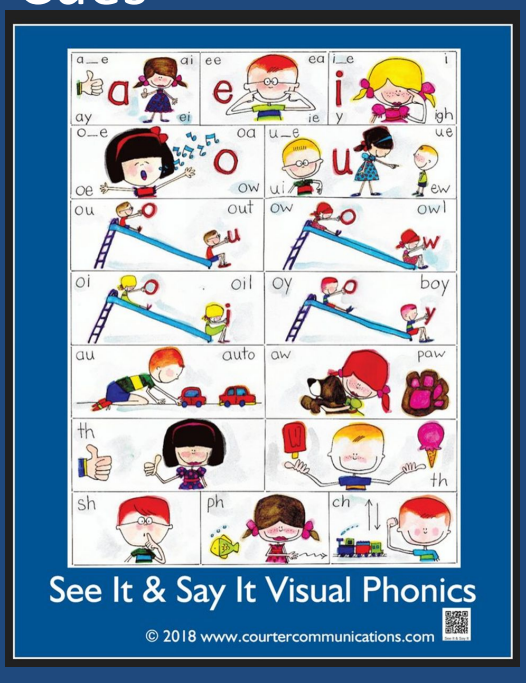
Tactile Cues

marble.mov

Visual Cues

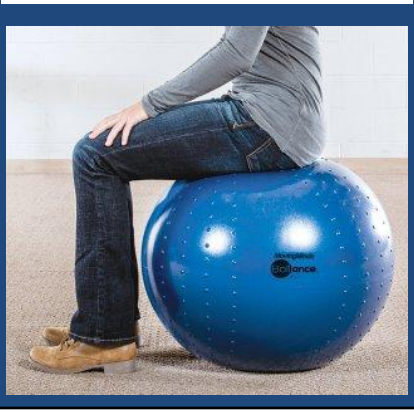
See it and Say it Visual Phonics.MOV



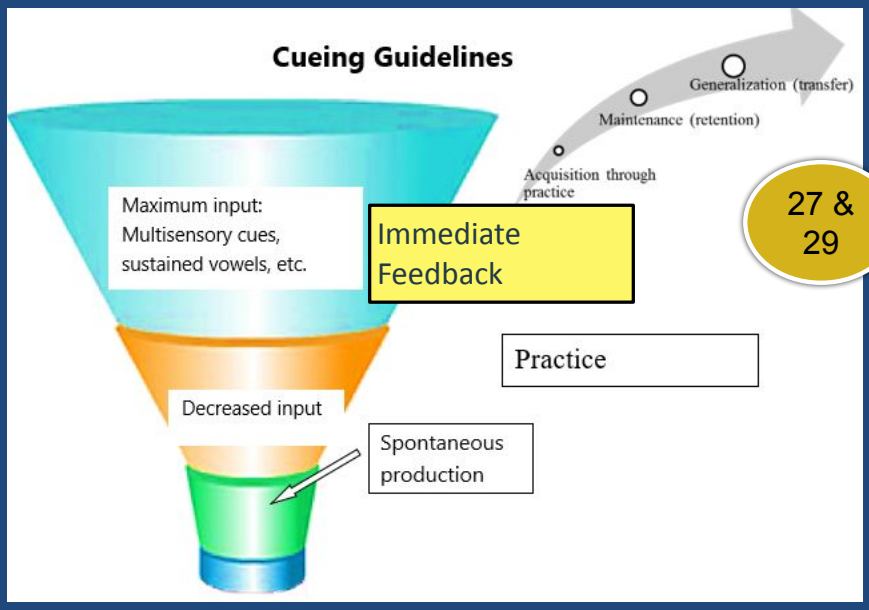


Tactile and Visual for /R/

Kinesthetic



Cueing and Feedback Guidelines



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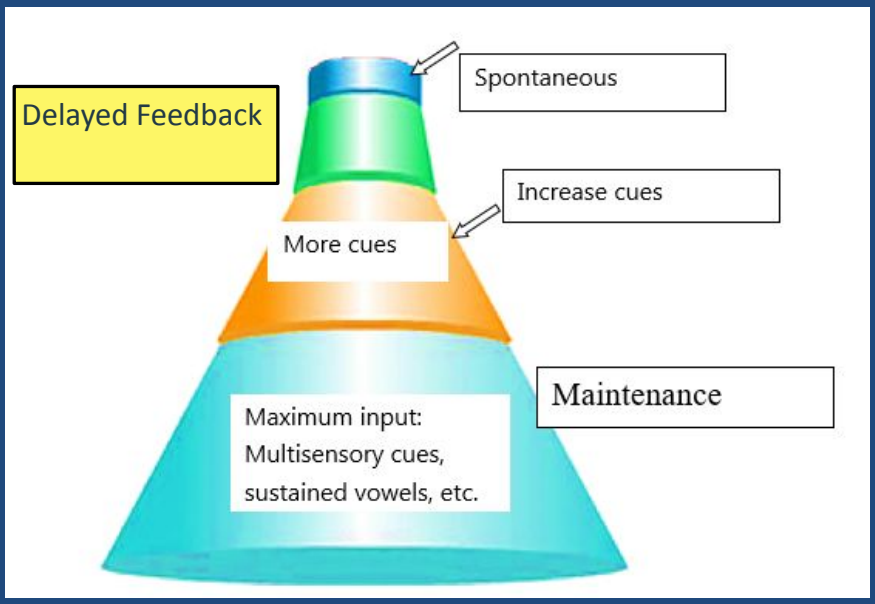
Cueing Guidelines



Assessment and Intervention for the /R/ that just won't remediate

Assessment and Intervention: Step 1: Assess All /r/ Patterns

- How many /r/s in English?
- All must be screened

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MK Courter Communications Dynamic /R/ Screener

This screener is designed to assess /r/ from a motor planning approach.. It is designed to use as a dynamic assessment to determine /r/ production without and with cueing to determine where to begin therapy and how the student responds to the cues utilzed.

Directions:

1. State each word.
2. Have the student look at you when you say the word. Do not provide any other cueing for the first production. Score production as a 1 for correct or a 0 for incorrect.
3. If the student does not produce the word correctly, repeat the word adding a cue. Take notes on any changes.
4. If still not produced correctly, add a different cueing (of your choice) to measure change of production with cueing. Score again in the space provided next to each word.

Scoring:

Production	**Take Notes**
1 = correct **0 = incorrect**	☐ Type of cue provided 1st attempt ☐ Type of cue provided 2nd attemt ☐ Inconsistent production ☐ Prosody errors ☐ Other
1. Score initial production with eye contact as correct or incorrect. 2. Score the cued production if 1st attempt was not correct 3. Score cued response as correct or incorrect.	

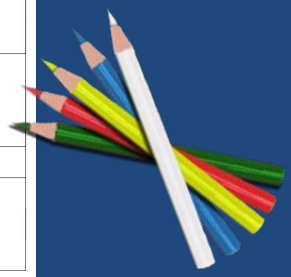
**** Importance of a Dynamic Assessment

Mild	Moderate	Severe/Profound
Requires minimal cueing to obtain syllable production	Considerable cueing needed to produce syllable shape	With considerable cueing, cannot produce syllable shape
• Improvement is more rapid Prognosis: Good • Larger stimulus set (8-10) and can include words from more than one syllable shape • More random practice	• Prognosis is good but longer duration in therapy • Larger stimulus set and can consider words from more than one syllable shape	• Prognosis is guarded • Smaller stimulus set (3-5) • May not be able to include words from other motor shapes • More block practice • Increased frequency and type of feedback

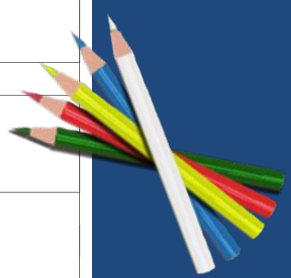
Stimulus	Attempt Score: 1 or 0	Notes
/ar/		
1. art		
2. bark		
3. car		
/er/		
4. earn		
5. learn		
6. her		
7. father		

For Motor Planning, imitation is the most difficult

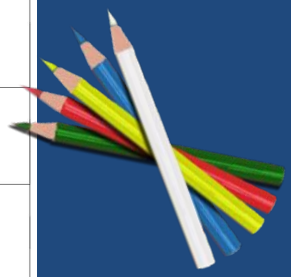
Stimulus	Attempt Score: 1 or 0	Notes
/air/		
8. air		
9. dairy		
10. share		
/ire/		
11. iron		
12. pliers		
13. fire		
/ear/		
14. ear		



Stimulus	Attempt Score: 1 or 0	Notes
15. pyramid		
16. pier		
/or/		
17. orbit		
18. fort		
19. pour		
/our/		
20. hour		
21. ours		

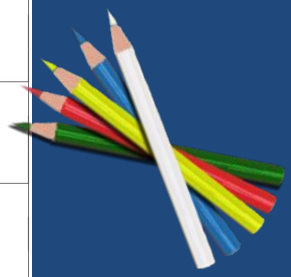


Stimulus	Attempt Score: 1 or 0	Notes
22. power		
/irl/		
23. girl		
24. squirrel		
25. world		
/r/ initital		
26. read		
27. wrist		
28. red		

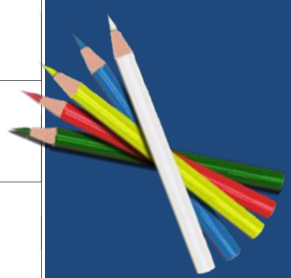


Stimulus	Attempt Score: 1 or 0	Notes
29. rake		
30. rat		
31. rug		
32. robin		
33. raw		
34. roots		
35. row		
36. ride		

Stimulus	Attempt Score: 1 or 0	Notes
37. royal		
38. round		
/r/ blends		
39. brush		
40. crown		
41. dress		
42. free		
43. green		



Stimulus	Attempt Score: 1 or 0	Notes
44. print		
45. tree		
/r/ unstressed		
46. actor		
47. cider		
48. father		
49. sister		
50. badger		



Summary
Most Stimulable
Starting Point for Therapy

Stimulus	Attempt Score: 1 or 0	Notes
Other		

Therapy Progression

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If Probe Does Not Yield a Correct /R/

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If motor planning, asking a student to produce a bunched or retro flex /r/ based on verbal directions would be contraindicated

Ways to Elicit /R/

Step 1: If no /r/s are produced correctly, elicit correct placement and sound production

1. Produce /l/ or /th/ and slide back
2. Hard /g/ and slide forward for /ger/
3. /y/ and raise tongue tip toward palate and slightly back

*** May try other consonants such as /sh/

Ways to Elicit /R/

Step 2: Once Placement is Achieved

1. The student produces a correct /r/, therapist taps student's arm and asks the student to hold the position
2. Student describes tongue position

Step 3: Right to Correct Position

1. Continue sliding from one sound to /r/ until the student can go right to the correct tongue placement
2. Once the student can produce the /r/ then have the student go to the correct /r/ placement
3. Therapist continues to tap to hold the place

Reminder, if motor planning, asking a student to produce a bunched or retro flex /r/ based on verbal directions would be contraindicated

How to Begin to Remediate

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1. Therapist chooses which /r/ to begin with (by using a mastered /r/ from the screener or choosing which /r/ if there are no mastered /r/s.
2. A mastered /r/ can be used to move to a unmastered /r/

If /r/ is established by sliding from one phoneme to the /r/

1. Therapist chooses if no /r/ mastered
2. Greatest impact on intelligibility
3. Which /r/ will make it easier to get to the next /r/

Example: Initial /r/

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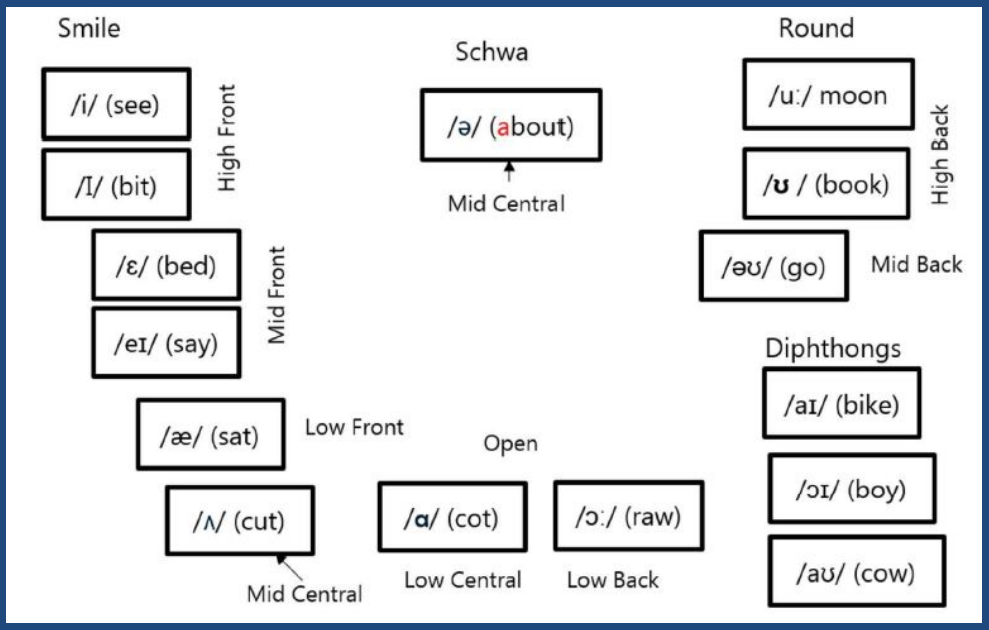
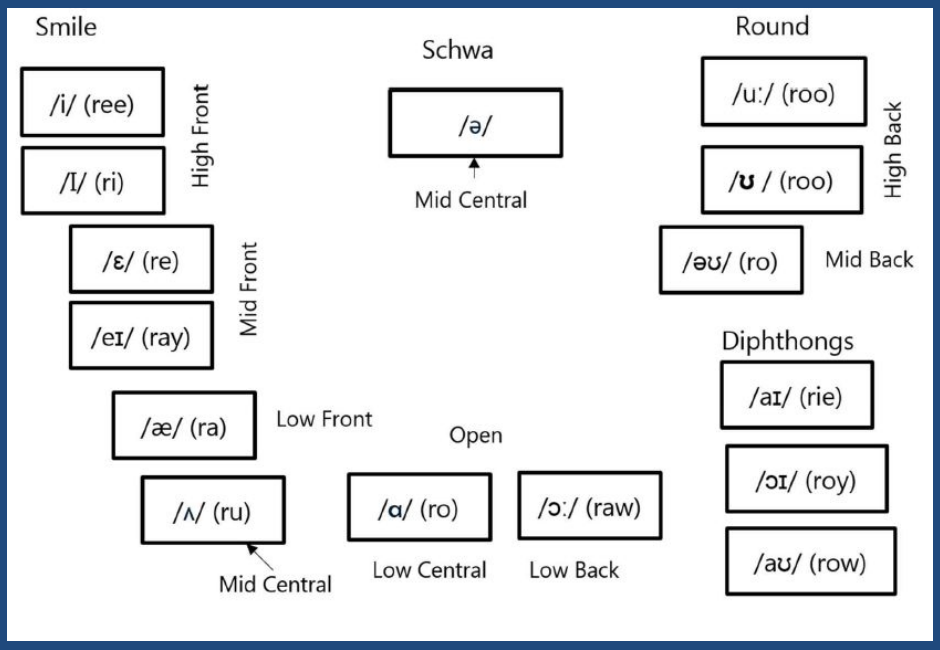
Therapist chose initial /r/ to target first

Step 1: Screen with Vowel Circle

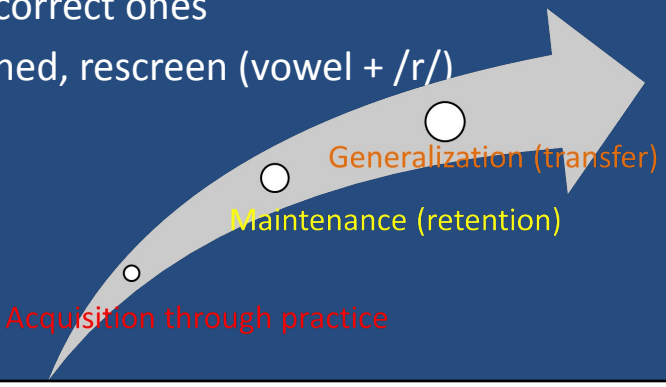


Example: CV Screening for /R/ initial



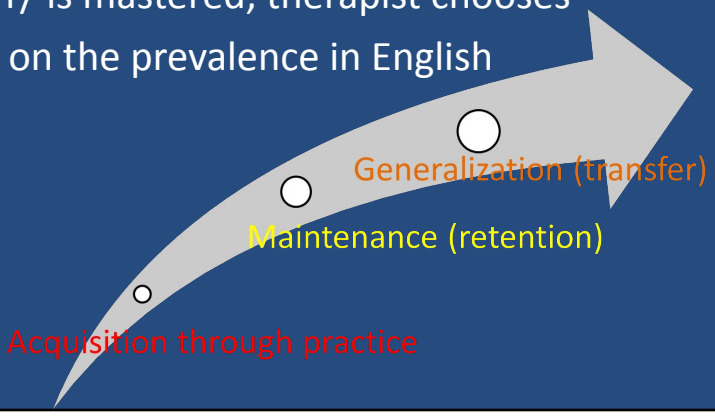
Premise

1. Student may be stimulable for one or some but not necessarily all
2. Target the ones that are correct (8-10 words or less if more severe)
3. If more than one are correct, split the words between the correct ones
4. Once maintained, rescreen (vowel + /r/)



Premise

5. Once all /r/ + vowels + consonants are generalized, therapist would move to a new /r/ (vocalic /r/)
6. To determine which vocalic /r/ to target, rescreen all /r/s
7. If no vocalic /r/ is mastered, therapist chooses
8. Base next /r/ on the prevalence in English



Example

****ree	roo (root)	
ri	roo (roof, foot)	
re	roe	
ray		rie
ra		row
ru	ro raw	roy
		rue (are you)

Motor Planning Patterns/Syllable Shapes

Words chosen for targets should begin with simple single syllable words (consonant and vowel patterns). Multisyllable words may need to be targeted after mastery of single syllable patterns. The student may also have to move from 2 syllable, then 3, then 4 syllables to produce a correct /r/ within the more complex word.

CV	
VC	
VCV	
C1V1C1V1	
C1V1C1V2	
C1V1C2V2	
C1V1C1	
C1V1C2	
CVCVCV	
CVCV + CVC	

Step 2:
Determine
8-10 Stimulus

redo
respect
regard
response
ripple
radio
ripped

8-10 Target Words

read
reef
reek
real
ream
reap

wreath
reach
respect
redo

****ree
****ri
re
ray
ra
ru

ro raw

roo (root)
roo (roof, foot)
roe

rie
row
roy
rue (are you)

8-10 Target Words

reed
reef
reek
real
ream
rib

rid
rig
rim
rip

Forward Chaining

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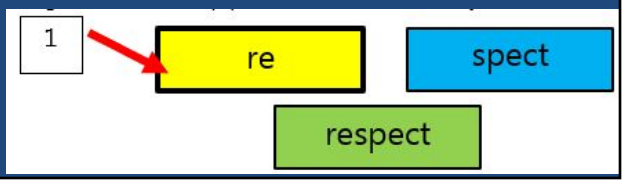
1. Always keep the initial sound and the vowel together for coarticulation.
2. Have the student state the first part
   a. Provide multisensory cues
   b. Could attempt simultaneous production (saying it together)
3. Once the student is successful with the first part, have them state the second part
4. Blend the two together.
   - May need to use cues initially
- Fade cues as student is successful

shallow chaining.MOV



Backward Chaining

1. Consonants and vowels in the word must be produced correctly.
2. If the student is able to produce the first syllable correctly, but let's say, produced the vowel or another sound incorrectly in the second syllable (or any syllable in a multisyllabic word), backward chaining could be used to get the correct production of the incorrect syllable.
3. Use multisyllable cues to demonstrate the correct production of the incorrect sound.

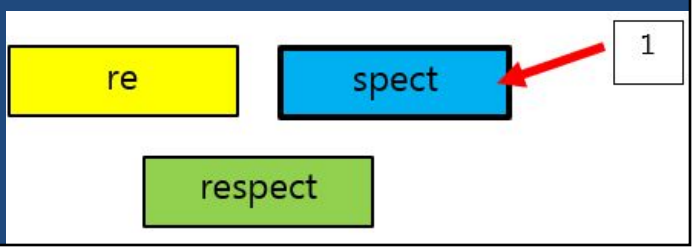
Re is produced correctly.

spect is in error (ie: student states "spict" or "pect".

Correct the error in the second syllable.

Then add the first syllable. May need to continue to cue the second syllable and fade as soon as possible

stream Backward chaining.mp4



Target Discrimination/Perception at this Point

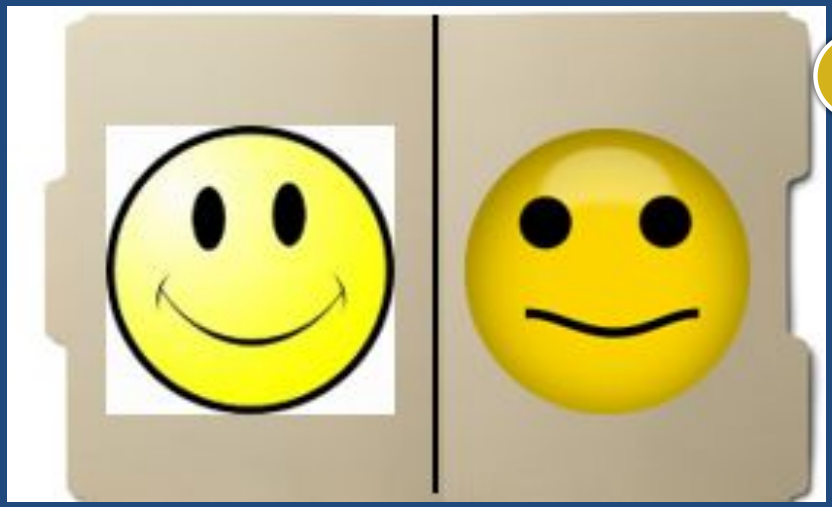
Phonemic Awareness Tasks

Minimal Pairs

Judging own production

Strategies from pages 73 & 74

Discrimination: Judging Own Production



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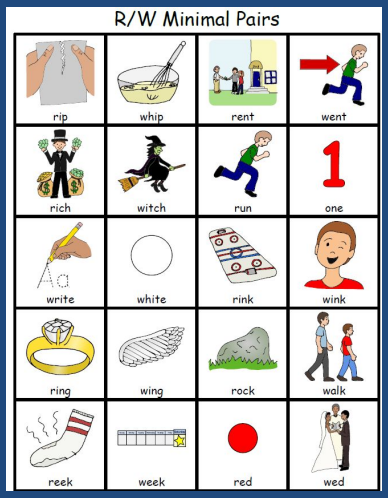
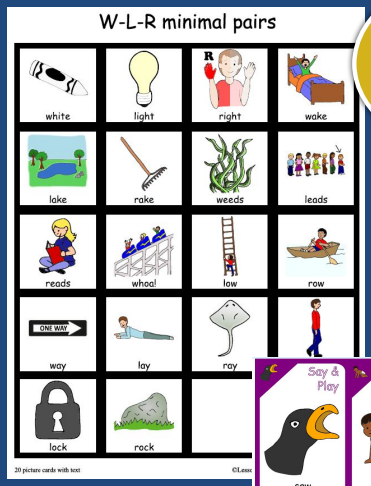
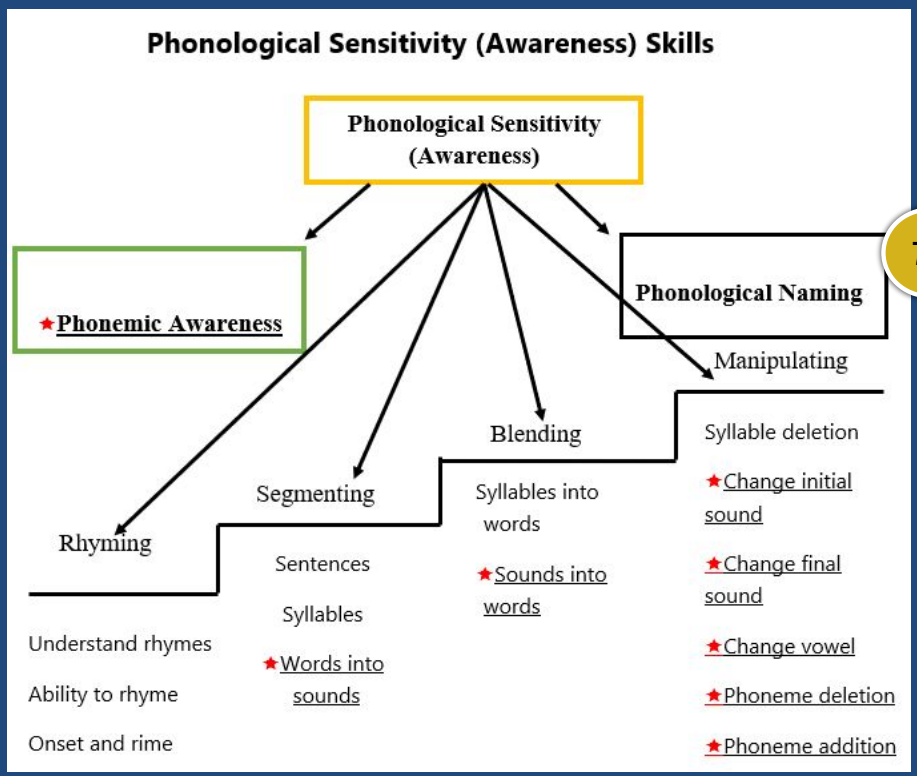
**** Minimal Pairs for Discrimination





from Margo's website

https://courtercommunications.com/therapy-materials
3rd /r/ section



Discrimination

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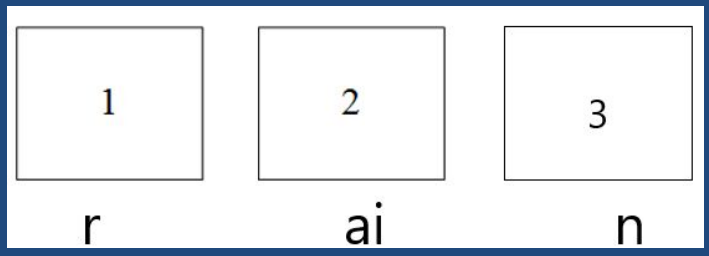

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Manipulation

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Example: Initial /r/

write (wrote, written, writing, writes) ride (rides, riding, ridden, rode) roam (roams, roaming, roamed) rip (rips, ripped, ripping) run (runs, ran, running)	redo (redoes, redoing, redid) rain (rainier, rainiest, rains, raining, rained) raincoat (raincoats, raincoat's) robin (robins, robin's)

Say "riding." Say it again without /ing/. (ride)

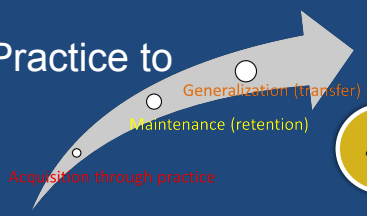
Say "refreshment." Say it again without -ment. (refresh)

Say "write." Change the /t/ to /d/. (ride)

Say "roam." Change the /oa/ to /i/. (rim)

Say "ride." Say it again and add /s/ at the end of the word.

Step 3: Therapy Progression from Practice to Maintenance



45

1. The student produces the targeted /r/ word(s) by repeating 8-10 targeted words one at a time (reek, read, reef, real, ream, reap, wreath, reach, respect, repeat).

2. The student then attempts 2 repetitions of the word (i.e.: ream, ream)

3. The student can repeat a targeted word 3 times (ie: ream, ream, ream)

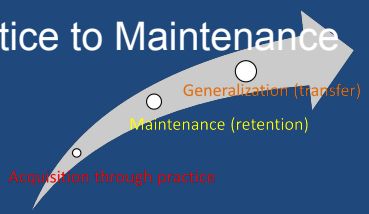
Therapy Progression from Practice to Maintenance

4. The student can repeat a targeted word 4 time.

5. The student can repeat a targeted word 5 time.

6. The student can repeat the targets rapidly with changing the word to another target (i.e.: ream, ream, ream, reap, reap)

Therapy Progression from Practice to Maintenance



7. The student can add another word (i.e.: ream, ream, reap, reap, real, real)

8. The student can alternate patterns (i.e.: ream, reap, ream, reap)

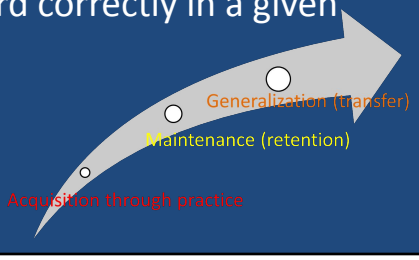
Step 4: Therapy Progression from Maintenance to Generalization

Once the student is able to alternate patterns with ALL C1V1C2 words, then, this motor planning pattern needs to move toward generalization before rescreening all /r/ patterns.

1. The student can produce the word with a carrier phrase. (re: one word + the target.

Then, 2 word phrases + the target, etc.)

2. The student can produce the word correctly in a given sentence.

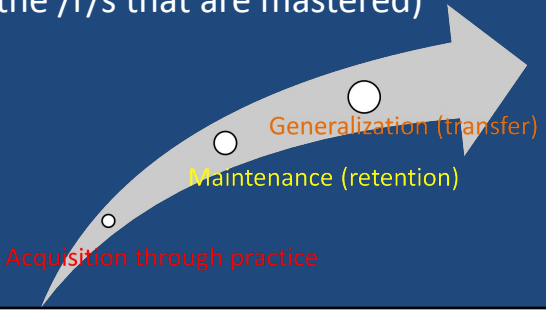


Therapy Progression from Maintenance to Generalization

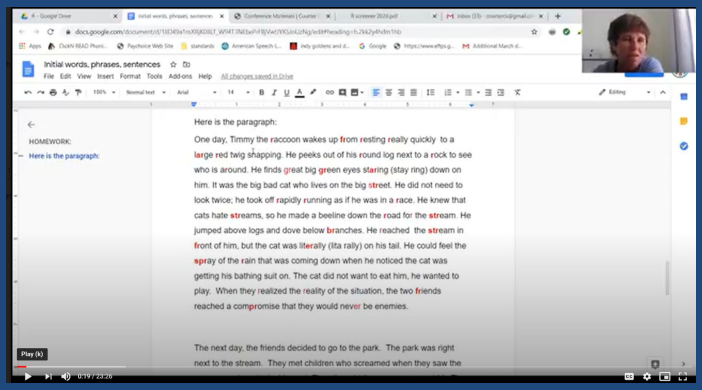
Once the student is able to alternate patterns with ALL C1V1C2 words, then, this motor planning pattern needs to move toward generalization before rescreening all /r/ patterns.

3. The student can produce the word in a novel sentence.

4. The student can produce the words correctly in a paragraph. (only containing the /r/s that are mastered)



Racoon story.mp4



Breakout Room

Time to move to the next /r/,

1. What is the first step?
2. How do you decide which /r/ will you move to and why?
3. How will start with the new /r/?

assessment.mp4 Jack reeval

Next Step: /R/ Therapy Progression

The goal is to use an /r/ that has been remediated, maintained, and generalized to target the next /r/.

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Moving to the Next /r/

1. Once the next target is determined, the therapist can use a previous target to target the new /r/.

New target		/r/ initial word that is the easiest to produce
her	rrrrrrr	rabbit
burr	rrrrrrr	rabbit
sir	rrrrrrr	rabbit
fur	rrrrrrr	rabbit

2. May have to delete the /r/ from the new word so that the student does not motor plan the incorrect /r/ first.

h ɔ	rrrrrrrr	rabbit

Goal

1. Get the student to think about the mastered /r/
2. May have to cover the /r/ of the new word
3. Tap the student as soon as you hear the correct /r/ sound
4. Once the student can say the new word without the mastered word, take the mastered word away, and move to multiple productions

******* Don't forget multisyllable words (over, mother, future, etc which moves to unstressed)*

unstressed er.mp4

5. Once the student can produce multiple repetitions of the word, rescreen for next target

Moving to /r/ Medial: Using Forward Chaining

Example of Forward Chaining

C1V1C2V2		C1V1C2	
rob	in	rea	ch
ro	bin		

Once the final /r/ is mastered, the next position of that /r/ can be targeted.

her	t
her	d
her	s
bur	n
bur	p
bir	d

er medial to final and sentences.mp4

Goals and Objectives: SMART

Specific

- This is the specific goal or goals that are being targeted
- (Name of student) will produce initial /r/ and vocalic /r/

Timely

- This is the timeframe of your goal. Are you writing for an IEP cycle, calendar year, or shorter time increment?
- By _____ (date or timeframe)

Realistic/Achievable

- This is the opportunity to determine how realistic the goal is based on the student.
- Pick: at the single word level, with 5 repetitions, with alternating patterns, in phrases, sentences, structured tasks (reading sentences, reading paragraphs, spontaneous speech), unstructured tasks, or spontaneous speech

Measureable

- This is the data collection. How will the goal be measured? (# of trials, percent correct, etc)
- with 95% accuracy (over three consecutive sessions, in the classroom, in spontaneous production, etc)

Goal (Long Term)

By the end of the fourth quarter (timely), student will produce initial /r/ and vocalic /r/ in unstructured task such as spontaneous speech (specific and reasonable) with 95% accuracy while talking with peers or in class (measurable).

Objectives (Short Term)

1. Student will produce _____ (initial /r/ or specific vocalic /r/ or other speech sounds being targeted) in (single, with 2, 3, 4, or 5 repetitions, alternating patterns,) words using 8-10 words (stimulus) with 100% accuracy (with cues, without cues) over three consecutive sessions.

2. Student will produce _____ (initial /r/ or specific vocalic /r/ or other speech sounds being targeted) in structured tasks for generalization (phrases, sentences, reading) with 95% accuracy (with cues, without cues) over three consecutive sessions.

3. Student will produce _____ (initial /r/ or specific vocalic /r/ or other speech sounds being targeted) in unstructured tasks for generalization with 95% accuracy (with cues, without cues) while conversing with peers over three consecutive sessions.

Targets and Documentation: Considerations

1. Target 8-10 stimulus at a time within the pattern
2. Mastery of at least 95% is required to move onto the next level as listed below.
3. Incorporate activities and reinforces to keep the child motivate.

a. Take a step back toward a wall or other object each time the word is said.

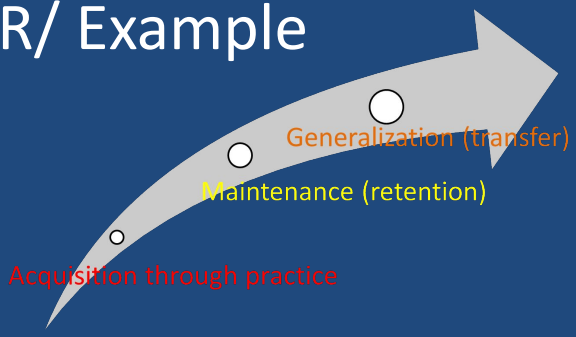
b. Shoot a ball into a basket

c. Bounce on a ball after practice the number of times repeated (i.e.: 5 repetitions then bounce 5 times)

d. Make a craft (i.e.: bead bracelet, perler bead picture). Add a bead after desired number of repetitions. (Can hold bead by your face to increase attention)

Initial /R/ Example

Practice



Read	Reef	Real	Ream	Reek	Reap	Respect	Reason	Really
+	+	+	+	+	+	+	+	+

Targets and Documentation

Maintenance

Read	Reef	Real	Ream	Reek	Reap	Respect	Reason	Really
++	+- visual/ tactile	+- visual/ prosodic	-- prosodic /visual					

Targets and Documentation

Maintenance

2 repetions maintained without cuing

Read	Reef	Real	Ream	Reek	Reap	Respect	Reason	Really
++	++	++	++	++	++	++	++	++

Once the student is able to produce 2 repetitions without cuing, move to 3 then 4 repetitions

Targets and Documentation

Maintenance

Once the student is able to produce 2 repetitions without cuing, move to 3 then 4 repetitions

5 Repetitions (not yet maintained)

Read	reef	Real	Ream	reek
+++++	++— -	— —-++	- - +++	- - +++
	Visual/Tactile	Visual/tactile/ Prosodic	Prosodic/Visual	Visual/Tactile

5 Repetitions (maintained without cuing)

Read	reef	Real	Ream	reek
+++++	++++++	+++++	++ +++	+++++

Repeat Word 3 Times Then New Word

Once the student can do 5 repetitions **without cues or errors**, have the student repeat the same word three times then switch to another word.

C1V1C1	read	read	read	reap	reap	reap
1 change						

change

Repeat Two Times, Change, Repeat Two Times, Change

Once the student can make the one change as the example above without cues or errors, then have the student make two changes. Repeat the same word a couple of times, then switch to a new word then switch again.

C1V1C1	read	read	reap	reap	reek	reek
2 changes						

change change

Alternating Patterns

An alternating pattern may be more difficult than the above patterns.

C1V1C1	read	reap	read	reap	read	reap
alternate						

Generalization
Pivot Phrases and Documentation

One syllable	2 syllables	3 syllables	4 syllables
My _____	Open _____	Open the ____	Can I have ____
Help _____	Put on _____	Put on a ____	I don't want _____
No _____	Take off _____	Take off the ____	Help me open
Help _____	I want ____	I want a ____	
On _____	Help me _____	Help me on _____	
Hi _____	Begin ____		
Bye _____	Enjoy _____		
Blue _____			

Next

4. Develop sentences of any complexity
5. Move to paragraphs with only mastered /r/
6. All maintained /r/ patterns should be included for practice

Next Steps

Step 1:

Rescreen all /r/s

Step 2:

Pick the next /r/ and follow the above steps

You Pick

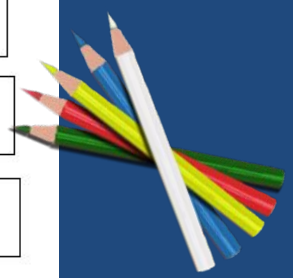
Pick a vocalic /r/ that your student was able to produce during the initial evaluation. Where would you start therapy?

Please stay on this page!!

Using /ar/ as a starting point

Student can produce /ar/ in the final position. How do you use this /ar/ to get to the next target?

/ar/		/r/ initial in a CV pattern
car	rrrrrr	re
bar	rrrrrrr	ri
far	rrrrrrr	re
star	rrrrrrr	rae



Final R to Initial R Practice

Use the word "_ar" in front of the following words. Hold out the /r/ sound at the end of _ar (ie: _ar rrrrrr) and add the words below.

arrrrrrrr	eek

Example

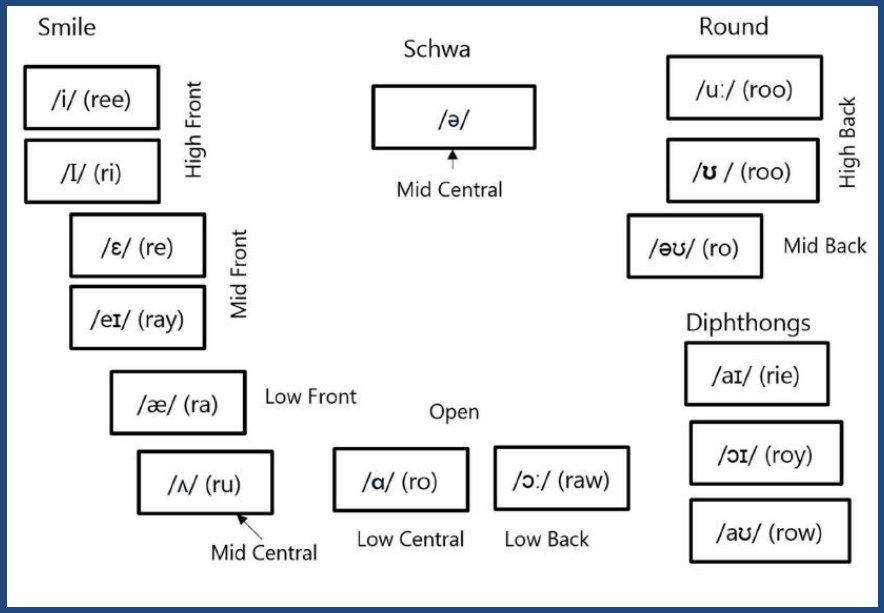
Judge your /r/ sound before you say the new word.

Long /ee/	**Short /i/**	**Short /e/**	**Long /ae/**	**Short /a/**
ar rrrr	_ar rrrr	_ar rrrr	_ar rrrr	_ar rrrr
eek	ib	ed	ake	ack
eef	id	ef	aid	ag
eal	iff	eck	age	am
eam	ick	ep	ail	an
eap	im	est	ain	ap
ease	ip	ev	ace	at
eath	ist		ate	
each			ave	
			aise	

Example using /ar/ to get to /r/

car rrrrr eak.mp4 (holding our arrrr to get to initial and judging)

ar to r.mp4



Let's Chat

What if your student can only produce /ar/ in the medial position like in bark, park, farm, yarn, cart, large, march, heart. What would you need to do first?

Practices to Support Maintenance and Generalization

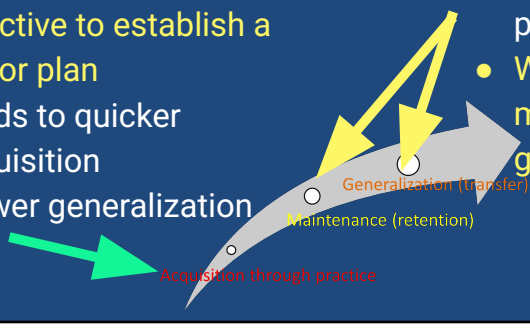
Practice Distribution

Massed Practice

- Practice of a certain amount of trials in a short period of time (fewer sessions/week)
- Effective to establish a motor plan
- Leads to quicker acquisition
- Slower generalization

Distributed Practice

- Practice is divided over time
- Spreading practice out over a longer period of time
- Works better for maintenance and generalization



Distributive Practice: Therapy Intensity

- Higher number of sessions and practice trials per session results in the greatest gains within one block of treatment.
  - Minimum intensity two sessions a week (Namasivayam, Pukonen, Goshulak, et al., 2015; Thomas, McCabe, & Ballard, 2014)
  - most articles employing sessions 3–5 times a week and 100 production trials per session (Edeal & Gildersleeve-Neumann, 2011; Murray et al., 2015). [Murray, E., and Iuzzini-Seigel, J. (2017).

Maintenance and Generalization

The 5-Minute Kids program conducted a study which showed that children receiving nine 5-minute sessions were dismissed in about half the time of children receiving seven 30-minute sessions per month.

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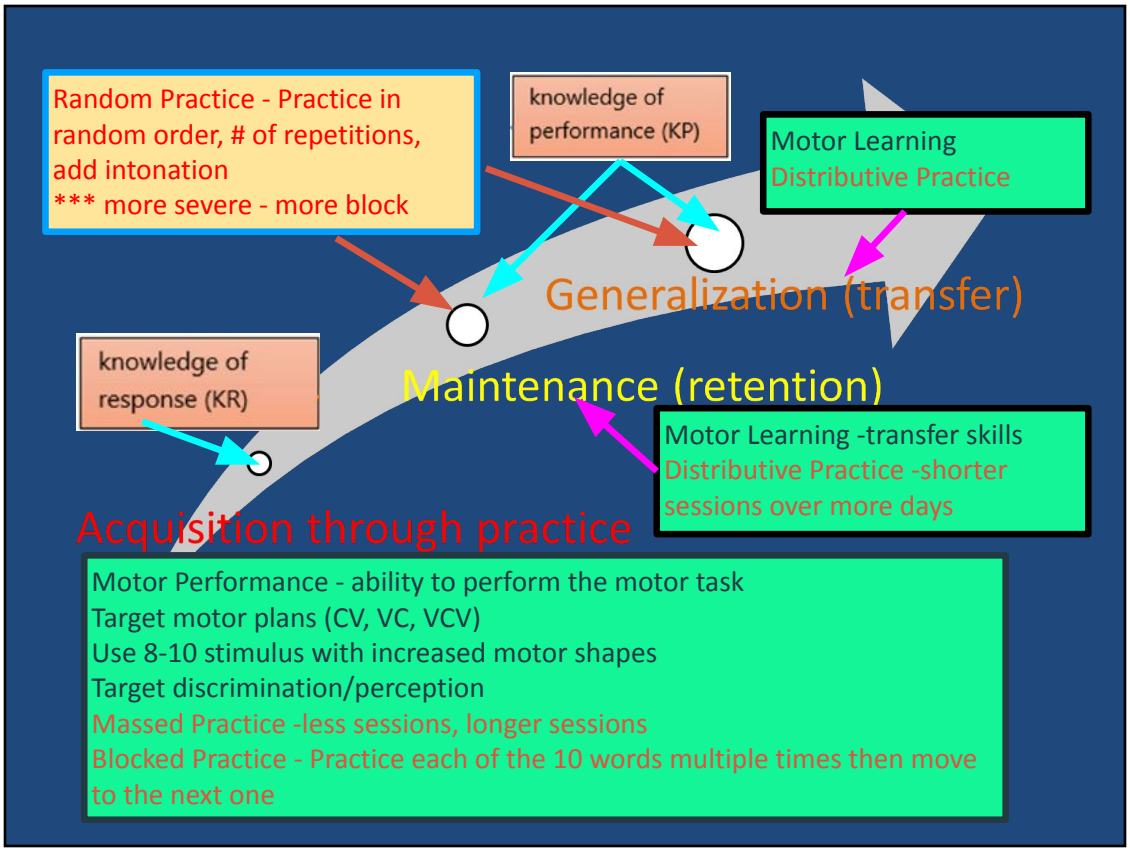
Speech Program	Total number of months in therapy	Minutes per month based on average sessions	Total number of minutes in therapy	Equivalent number of hours in therapy
Traditional Therapy [1]	18	210	3780	63
5-Minute Program [2]	9.6	45	432	7
Differences Between Programs	8.4 months	165 minutes	3348 minutes	56 hours

Sexton and Seth



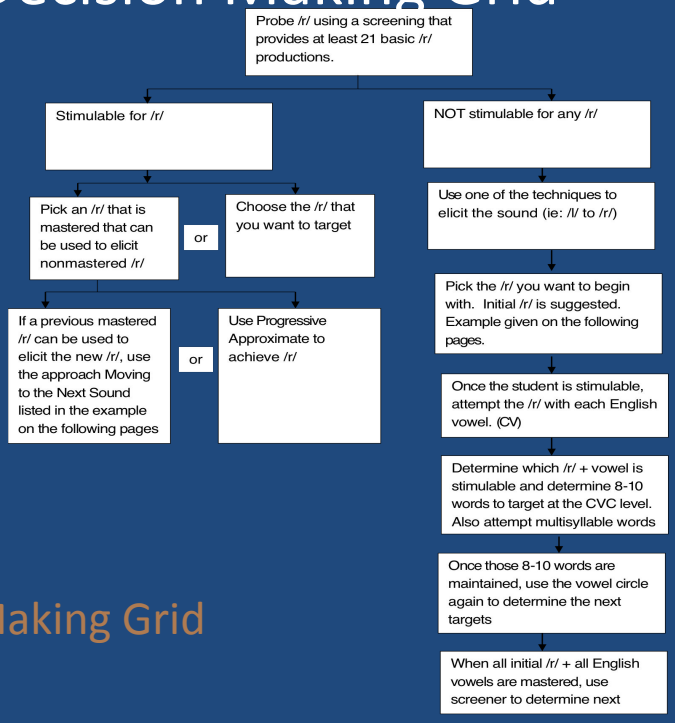
Generalizing All Rs

all r sentences no highlighting.mp4

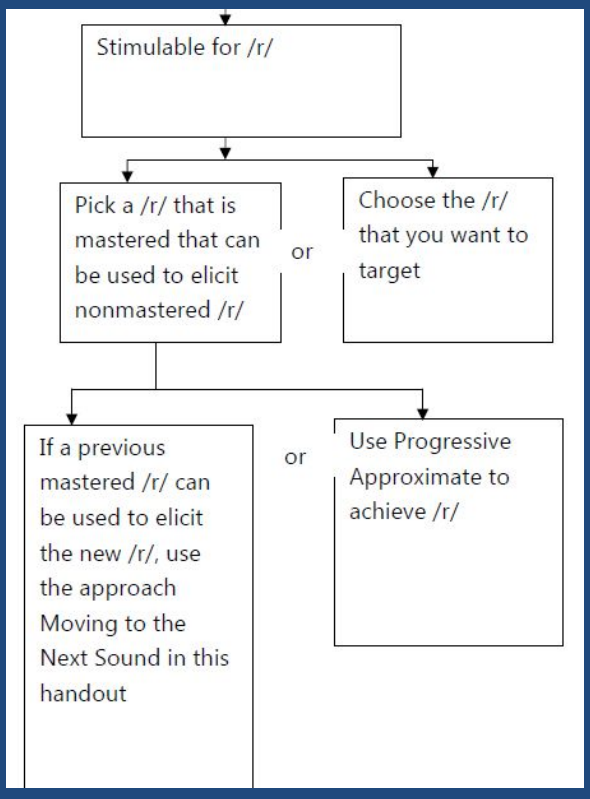
Conversation with cueing.mp4

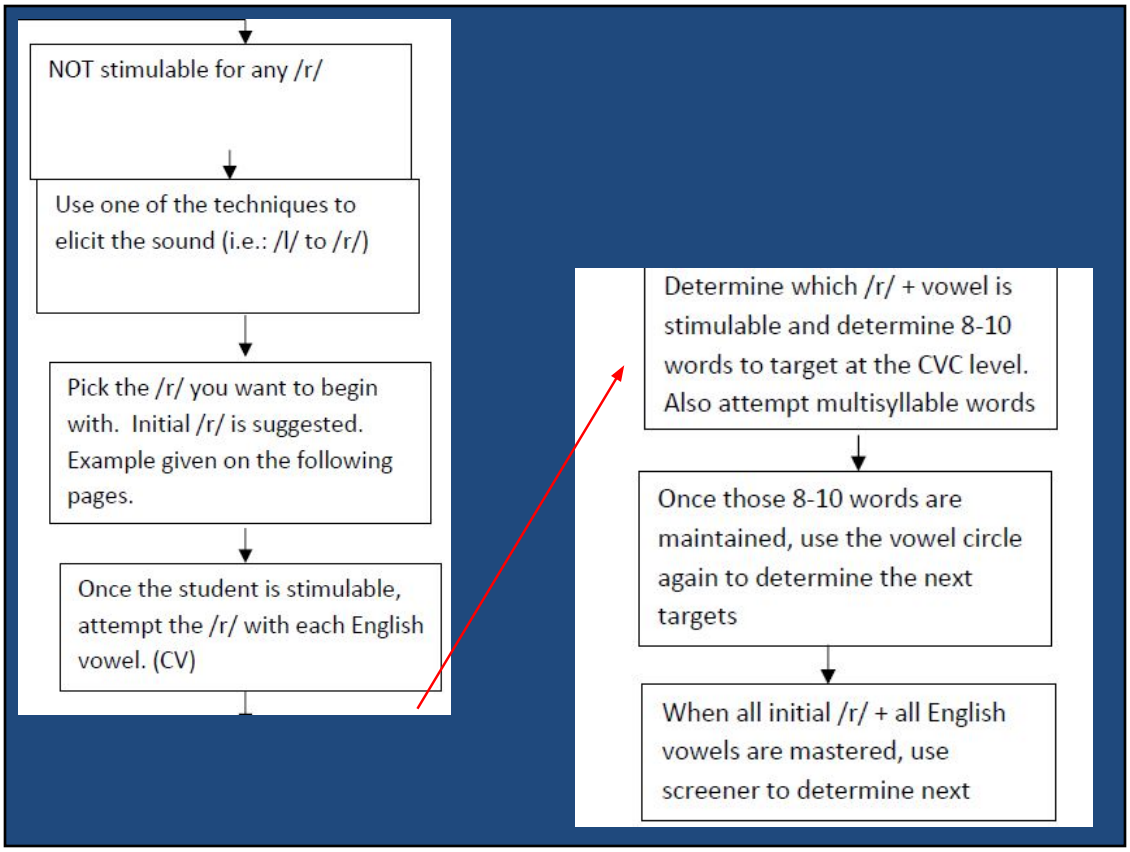
Generalization Conversation min cues.mp4

Decision Making Grid



Decision Making Grid





/R/ Patterns

AR	ER	AIR
Initial art army arm arc	**Initial** early earn herb Earl	**Initial** air airport airplane airy aired
Medial tarp bark harp tarp bark harp cart start garlic sparkle heart marble guard farm yard tart dark dart card yarn garbage market	**Medial** cursive skirt first herd turn learn fern curds hurt concern stir dirt germs	**Medial** parents sheriff barefoot married stereo marathon asparagus parrot cherry dairy parachute arrow hairy bury caring staring
Final star bar far tar car	**Final** fur, her, sir, bur, per, were, chur, der, ger, jer, ler, mer, ner, ter, ver, mixture whisper never spider butter purse turkey together teacher dinner	**Final** where square lair mare dare care stare share fair bear

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Appendix A: /r/ list

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We can apply this approach to any speech sounds!!

Motor Planning Patterns/Syllable Shapes

60

V/VV	(would not target vowels or VV outside of a syllable shape) USE THIS SPACE FOR DOCUMENTATION
C	(I would not typically target a consonant by itself outside of a syllable shape) USE THIS SPACE FOR DOCUMENTATION
CV	
VC	
VCV	
C1V1C1V1	
C1V1C1V2	
C1V1C2V2	
C1V1C1	
C1V1C2	
CVCVCV	
CVCV + CVC	

Multisensory Cues

25

- Prosodic Cues
- Tactile Cues
- Visual Cues
- Kinesthetic Cues

Step by Step Approach for All Speech Sounds

Step 1 Dynamic Assesment

- 1st time: No clues
- Add Multisensory Cues

Initial, Medial, & Final Position

- Use a variety of vowels
- If unable to produce CVC in final, go to VC
- Medial, go to VCV

Consider the complexity of the motor shape

- Coarticulation / Assimilation
- Accurate in one position with some vowels but not all

Use multisensory cues as needed

All Speech Sounds: Assessment

****

1. SLP must determine how the sound is in error

   EXAMPLE:

   a. frontal /s/: no tongue cupping. Student is attempting to stabilize with jaw.
   b. lateralized /s/: Student could be trying to stabilize with
      i. front tongue lift
      ii. mid tongue lift
      iii. back tongue lift

any of these blocks centralized air flow

/S/!

****

2. Student must have good oral resting posture in order to support stabilization and mobilization of the correct sound production.

   a. for correct /s/ production: sides of the tongue are anchored (for lateral bracing) with tongue tip up (or down)

Some reasons for:

****

Fronting

open bite: due to chronic digit sucking, pacifier, abnormal resting position, mouth breathing (nasal congestion, enlarged tonsils or adenoids or chronic lowered jaw

overjet: functional overjet - something pushed top front teeth forward (? finger sucking)

narrow dental arch

Some reasons for:

****

Lateral

narrow dental arch

enlarged tonsils and adenoids open mouth

their rule

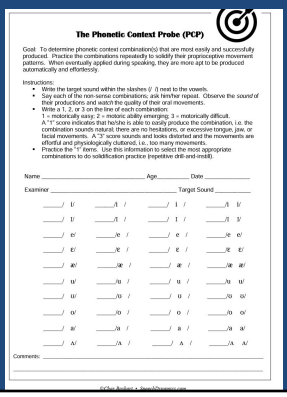
Great Resources

****

https://speechdynamics.com (Char Boshart)

https://speechdynamics.com/pages/forms-info

https://cdn.shopify.com/s/files/1/0284/0508/files/Bosharts_PCP_Form.pdf?4456



The Phonetic Context Probe (PCP)

Goal: To determine phonetic context combination(s) that are most easily and successfully produced. Practice the combinations repeatedly to solidify their proprioceptive movement patterns. When eventually applied during speaking, they are more apt to be produced automatically and effortlessly.

Instructions:

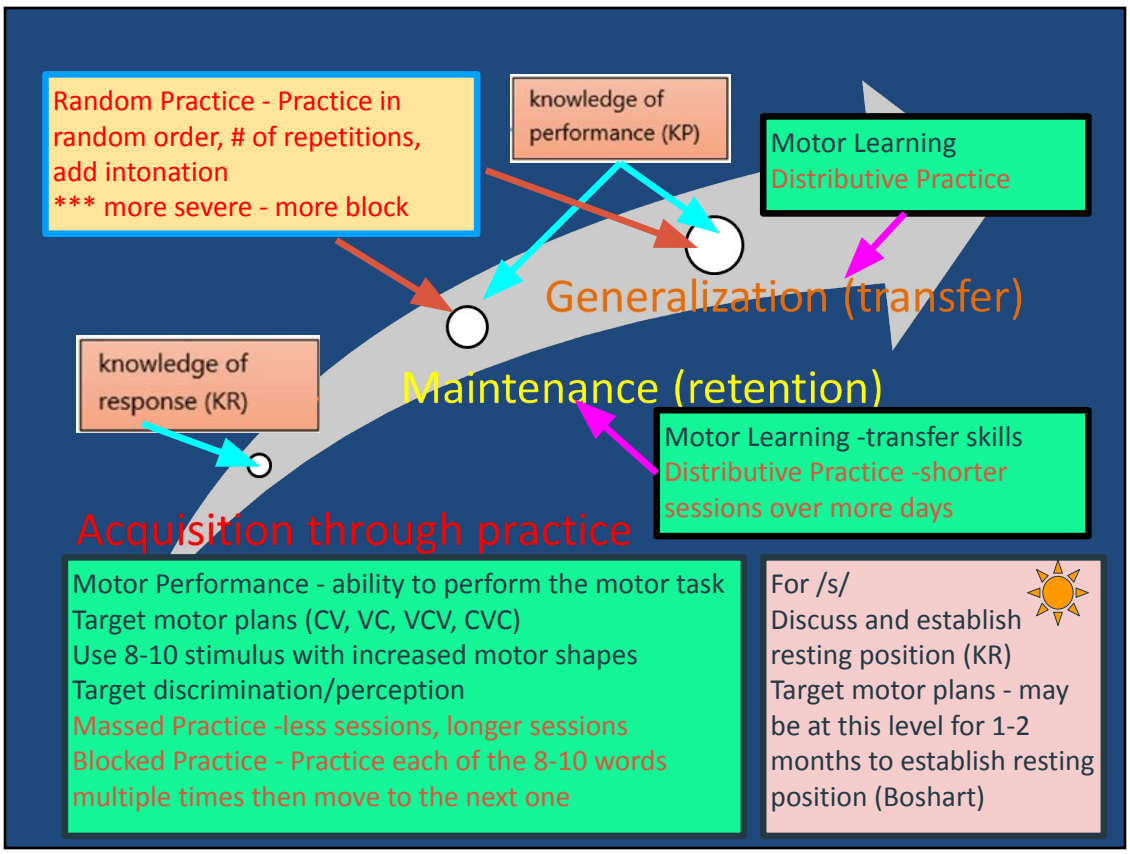
- Write the target sound within the slashes (/ /) next to the vowels.
- Say each of the non-sense combinations; ask him/her repeat. Observe the *sound* of their productions and watch the quality of their oral movements.
- Write a 1, 2, or 3 on the line of each combination:
  1 = motorically easy; 2 = motoric ability emerging; 3 = motorically difficult.
  A "1" score indicates that he/she is able to easily produce the combination, i.e. the combination sounds natural, there are no hesitations, or excessive tongue, jaw, or facial movements. A "2" score sounds and looks distorted and the movements are effortful and physiologically cluttered, i.e., too many movements.
- Practice the "1" items. Use this information to select the most appropriate combinations to do solidification practice (repetitive drill-and-instill).

Name _____ Age_____ Date _____

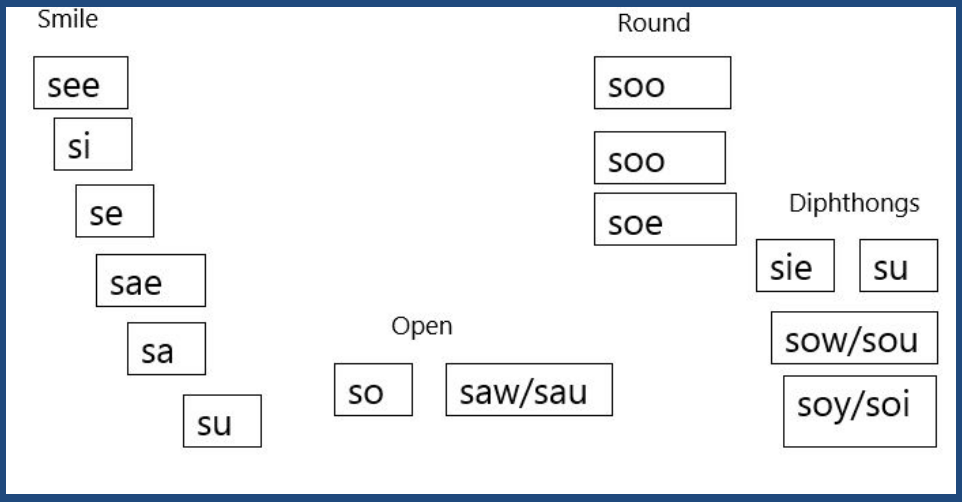
Examiner _____ Target Sound _____

_____/ i/	_____/i /	_____/ I /	_____/i i/
_____/ i/	_____/i /	_____/ I /	_____/i i/
_____/ e/	_____/e /	_____/ ɛ /	_____/e e/
_____/ ɛ/	_____/ɛ /	_____/ ɛ /	_____/ɛ ɛ/
_____/ æ/	_____/æ /	_____/ æ /	_____/æ æ/
_____/ u/	_____/u /	_____/ ʊ /	_____/u u/
_____/ u/	_____/u /	_____/ ʊ /	_____/u u/
_____/ o/	_____/o /	_____/ ɔ /	_____/o o/
_____/ ɑ/	_____/ɑ /	_____/ ɑ /	_____/ɑ ɑ/
_____/ ʌ/	_____/ʌ /	_____/ ʌ /	_____/ʌ ʌ/

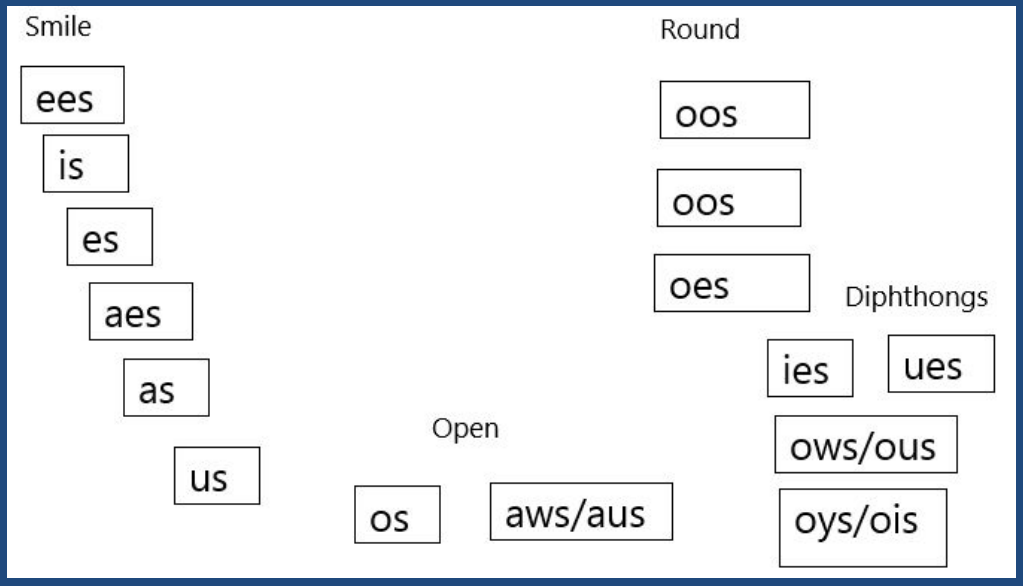
Comments: _____



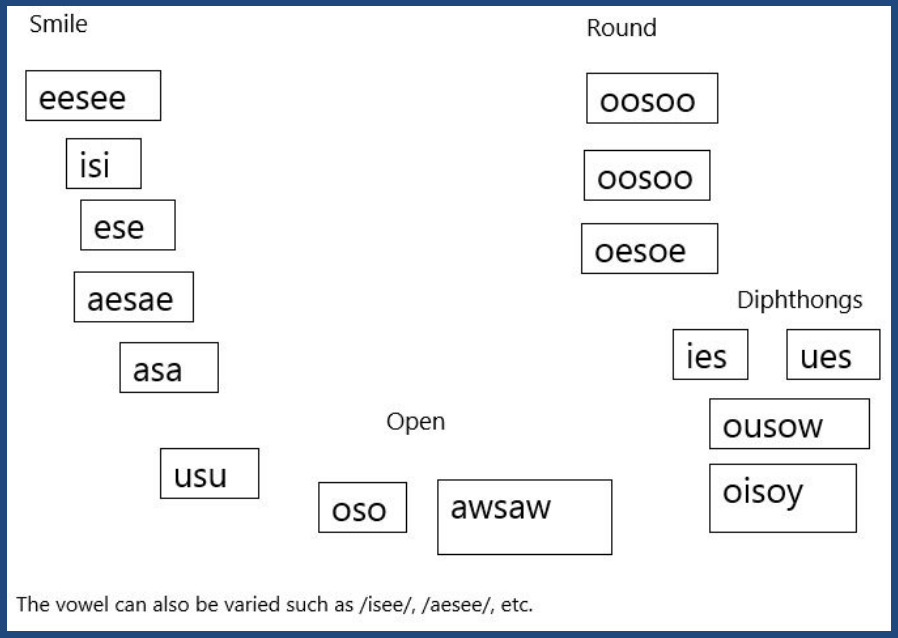
Example: /s/ Initial (CV)



Example: /s/ Final (VC)

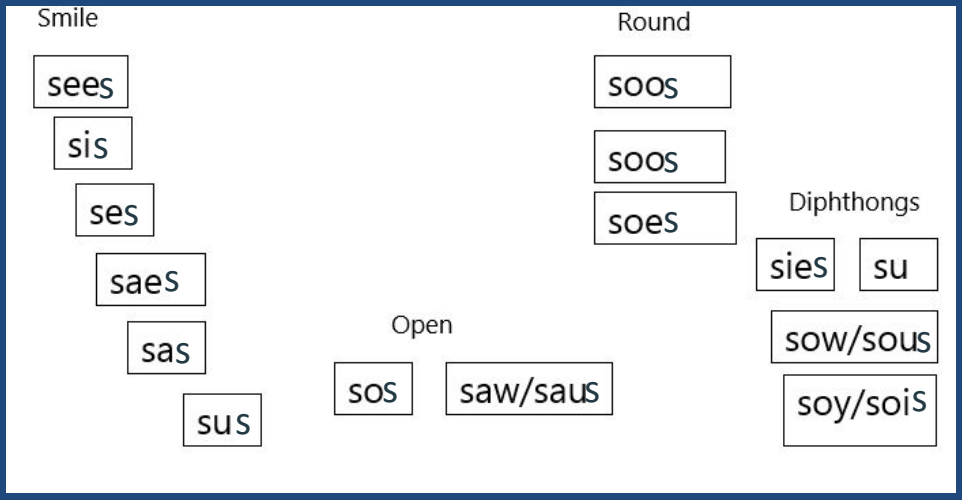


Example: /s/ Medial (VCV)



Example: /s/ in CVC

****



Step 2: Determine Starting Point

Determine which /s/ sounds are produced correctly or are most stimulable. If a student can produce some sounds at the vowel level, probe further with real words.

Example

1. Student can produce initial /s/ with vowels.
2. Probe with words remembering the complexity of the motor shape

Easier	More Difficult (1st syllable is CV)	Difficulty (1st syllable is C1V1C2)
solo (C1V1C2V1) city (C1V1C2V2) sorry semi sit (C1V1C2) soup sun seed seat sad	supply saving silent	safety (C1V1C2C3V2) simple

Let's Chat

Why would these words be more difficult?

scanner science	spectrum structure	sacrifice celebration civilization

Step 3: Practice to Maintenance

Practice

sit	soup	safe	semi	city	solo	silent	safety	science
+	+	+	+	+	+	+	+	+

Once the student can go through the cards without cues or errors, go to the next level.

Maintenance

2 Repetitions

The student can repeat each word two times without error or a need to cue.

Example (Errors still present. Stay at this level)

sit	soup	safe	semi	city	solo	silent
++	+-	+-	--			
	visual/tactile	visual/prosody	prosody visual			

In this scenario, you would continue to work at the 2 repetition level until the student can produce each word without assistance.

Example (Level maintained, move to 3 Repetitions)

sit	soup	safe	semi	city	solo	silent
++	++	++	++			

3 Repetitions

Again, stay at this level until the student can repeat each word three times without error or without cueing.

4 Repetitions

Again, stay at this level until the student can repeat each word four times without error or without cueing.

5 Repetitions

5 repetitions of each word (May have to get 2 repetitions, then 3, then 4 before the student can do 5)

Example (Errors still present. Stay at this level.)

sit	soup	safe	semi	city	solo	silent
+++++	++--+	---++	--+++	--+++	-----	-----
	visual/tactile	visual/ tactile/ prosody	prosody visual	visual tactile		

Example (Level maintained. Move to next level.)

sit	soup	safe	semi	city	solo	silent
+++++	+++++	+++++	+++++	+++++	+++++	+++++

Repeat Word 3 Times Then New Word

Once the student can do 5 repetitions **without cues or errors**, have the student repeat the same word three times then switch to another word.

	sit	sit	safe	safety	safety	safety
1 change						

change

Repeat Two Times, Change, Repeat Two Times, Change

Once the student can make the one change as the example above without cues or errors, then have the student make two changes. Repeat the same word a couple of times, then switch to a new word then switch again.

	sit	sit	safe	safe	safety	safety
2 changes						

change change

Alternating Patterns

An alternating pattern may be more difficult than the above patterns.

	sit	safe	sit	safe	sit	safe
alternate						

Once the student can successfully move between alternating patterns, the motor planning pattern should be maintained. The next motor planning pattern can be introduced as you target pivot phrases with the maintained pattern.

Step 4: Moving to the Next Position

Once the sound is maintained in the targeted position, determine if that sound position can be used to acquire other positions.

Example For Acquiring Final /s/

The student can now produce /s/ in the initial position of the word with more complex syllable shapes (ie: complex multisyllable words) and has maintained the speech sound in that position. Just as discussed for /r/, a cue word that has been most easily maintained can now be used to elicit the next position.

Example: To get to final /s/ Final

Smile

ees

is

es

aes

as

us

Open

os

aws/aus

Round

oos

oos

oes

Diphthongs

ies

ues

ows/ous

oys/ois

Step 1: Choose a cue word

Choose an initial /s/ word that student has demonstrated success in production most readily.

Step 2: Back to the vowel circle

ees

is

es

aes

as

us

os

safe

aws/aus

oos

oos

ies

ows/ous

oys/ois

safe

Step 3: Influence of Vowel

Determine if correct production of the final /s/ is influenced by the preceding vowel. If it is, choose 8-10 words using vowels that are easier for the student to produce.

Once these are maintained, reprobe all vowels.

Let's Chat

Now that initial and final /s/ are produced correctly, how will you target medial?

Step 4: Generalization

After maintenance of initial, medial, and final

Once initial, medial, and final /s/ are maintained, generalize all /s/ productions together.

One syllable	2 syllables	3 syllables	4 syllables
My _____	Open _____	Open the ___	Can I have ___
Help _____	Put on _____	Put on a ___	I don't want _____
No _____	Take off _____	Take off the ___	Help me open
Help _____	I want ____	I want a ____	
On _____	Help me _____	Help me on _____	
Hi _____	Begin ____		
Bye _____	Enjoy _____		
Blue _____			

***Speech Motor Chaining for /s/

Resources

Preston, J. L., Leece, M. C., & Storto, J. (2019). Tutorial: Speech Motor Chaining Treatment for school-age children with speech sound disorders. Language, Speech, and Hearing Services in Schools, 50(3), 343–355. https://doi.org/10.1044/2018_lshss-18-0081

https://pubs.asha.org/doi/10.1044/2018_LSHSS-18-0081?url_ver=Z39.88-2003&rfr_id=ori%3Arid%3Acrossref.org&rfr_dat=cr_pub++0pubmed

Syracuse University Research

https://speechproductionlab.syr.edu/smc-research/

Modern Speech Therapy Welcome to Speech Motor ChainingTM Evidence-Based Speech Sound Practice.

https://chaining.myspeechlink.com/Identity/Account/Login

·····/s/·····Speech·Motor·Chaining¶

*·5-6·correct·responses·before·moving·to·the·next·level¶
*·Failure·to·achieve·5-6·—·move·to·new·chain¶
*·A·chain·is·considered·mastered·when·consistent·over·two·sessions.¶
*·When·mastered:·move·to·new·chain·with·the·same·variant·(i.e.:·rot,·rotten·moves·to·rock,·rocket)¶

Sound/·Position¤	Syllable¤	Monosyllabic·Word¤	Multisyllabic·Word¤	Phrase·(may·try·shorter·then·longer)¤	Self-Generated·Sentence¤	¤
Score¤	¤	¤	¤	¤	¤	¤
/s/·onset¤	si¤	seen¤	scenery¤	beautiful·scenery¤	¤	¤
Score¤	¤	¤	¤	¤	¤	¤
/s/·onset¤	si¤	seize¤	season¤	four·seasons¤	¤	¤
Score¤	¤	¤	¤	¤	¤	¤
/s/·onset¤	sI¤	sis¤	Sister/system¤	system·failure¤	¤	¤
Score¤	¤	¤	¤	¤	¤	¤
/s/·onset¤	SI¤	sit¤	Baby·sitter¤	my·sister·the·babysitter¤	¤	¤
Score¤	¤	¤	¤	¤	¤	¤
/s/·coda¤	ɛs¤	rest¤	restful¤	a·restful·sleep¤	¤	¤
Score¤	¤	¤	¤	¤	¤	¤
/s/·coda¤	is¤	miss¤	missing¤	missing·teeth¤	¤	¤
Score¤	¤	¤	¤	¤	¤	¤
/s/·coda¤	is¤	fist¤	fistful¤	fistful·of·fur¤	¤	¤
Score¤	¤	¤	¤	¤	¤	¤
/s/·coda¤	ʌs¤	fuss¤	fussiness¤	fussiness·of·the·baby¤	¤	¤

What is Good Enough?

Back to the Story of …
Story of Austin
Story of Evan

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From ASHA

Termination Due to Lack of Progress

An apparent "lack of progress" is based on the assumption that the prescribed treatment goals, methods, data collection, and use are all appropriate for the individual with disabilities and their family. However, *it is possible that the perceived lack of progress is actually an indication that the procedures being implemented are not well-suited to the individual with disabilities. In other words, lack of progress might indicate that the intervention is a poor fit. It is important to examine whether the intervention itself is optimal for the individual, their family, and their other caregivers and educators.*

Pairing Speech Practice with Language Activities

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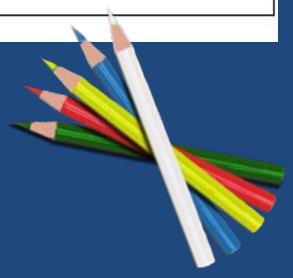
Since students with speech sound disorders are at greater risk for language and literacy development, consider using a language activity to target speech sounds.

Morphology Activity

Step 1: Choose 8-10 Stimulus

Initial /r/ Example

write (wrote, written, writing, writes)	redo (redoes, redoing, redid)
ride (rides, riding, ridden, rode)	rain (rainier, rainiest, rains, raining, rained)
roam (roams, roaming, roamed)	raincoat (raincoats, raincoat's)
rip (rips, ripped, ripping)	robin (robins, robin's)
run (runs, ran, running)	



Inflectional Targets

Today: She is writing about the rain.

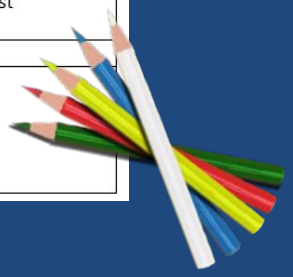
Today: She writes about the rain.
Yesterday: She wrote about the fun in the rain.
Tomorrow: She will write about the fun she had.
Possessive: She writes about the rain's puddles.
-er and –est: It is a rainier day than yesterday. It is the rainiest day of the year.
-en: She has written about her day in the rain.

Inflection /s/ and /z/ Example

Plural -s		
-s	**-z**	**-ez**
fruits	girls	buses
cats	boys	houses
ducks	friends	kisses
trucks	teachers	watches
books	balls	noses
cliffs	crayons	dresses
chefs	cars	bridges
	airplanes	

3rd Person Singular Verbs		-er	-est
-s	**-z**	bigger	biggest
walks	plays	larger	largest
eats	runs	smaller	smallest
drinks	sees	little	littlest
jumps	smiles	happier	happiest
hikes	cries	crazier	craziest
kicks			

Past Participle -en	
broken	forgotten
hidden	chosen
ridden	frozen
spoken	awoken
written	



Derivation Targets

Re: (to do again) redo, replay, remake, reread, rewrite, rejoin, repeat

-ment (condition of) refreshment, replacement

Syllabification: Example /R/

re	do	ment
un	play	able
	fold	
	read	
	fresh	
	place	

Key Takeaways: Step by Step Approach for All Speech Sounds

Step 1 Dynamic Assesment

- 1st time: No clues
- Add Multisensory Cues

Initial, Medial, & Final Position

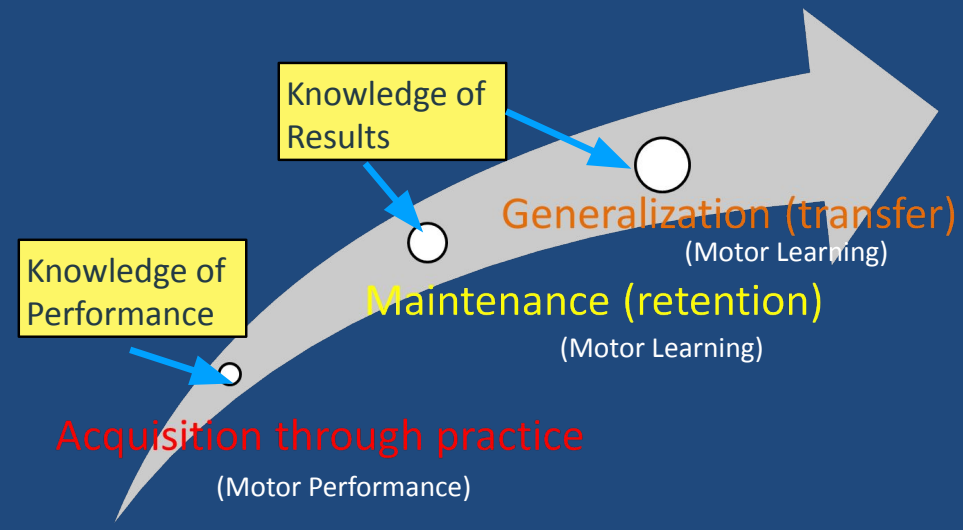
- Use a variety of vowels
- If unable to produce CVC in final, go to VC
- Medial, go to VCV

Consider the complexity of the motor shape

- Coarticulation / Assimilation
- Accurate in one position with some vowels but not all

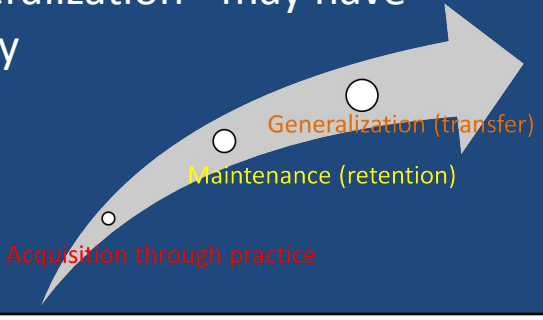
Use multisensory cues as needed

Key Takeaways



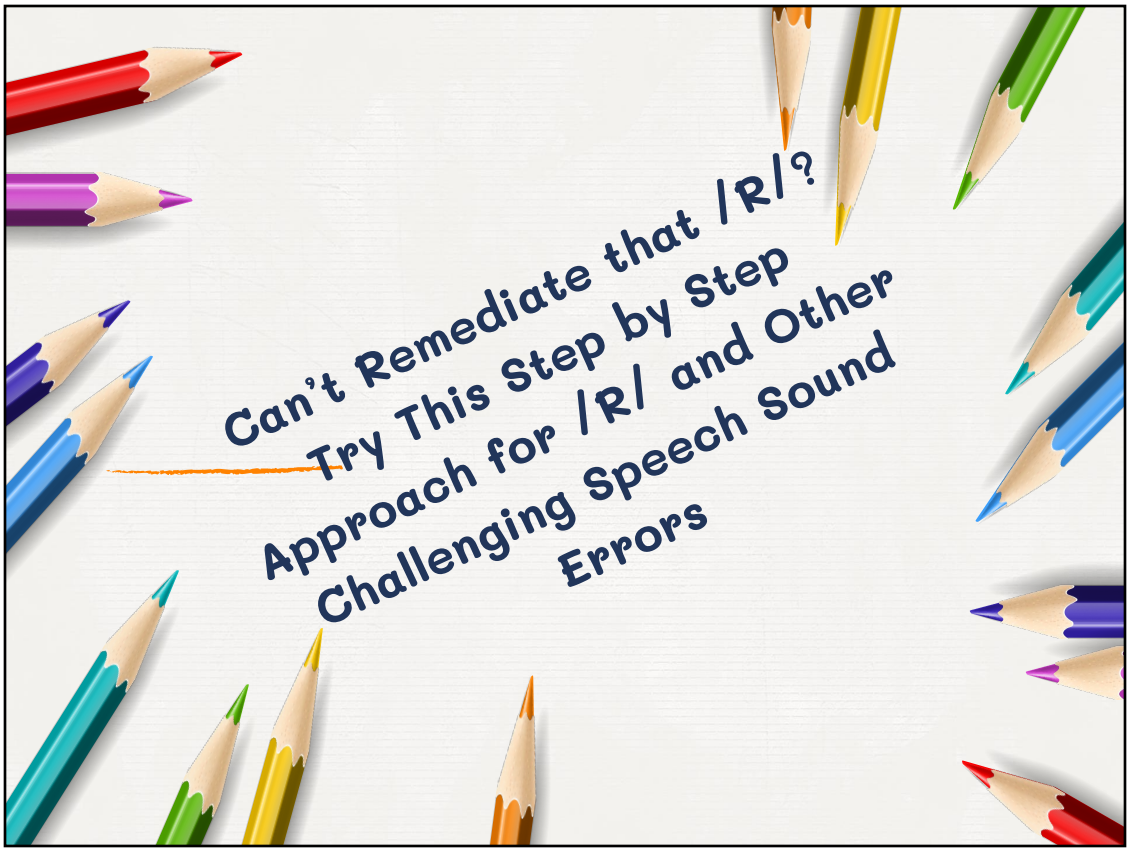
Key Takeaways

- Can't Remediate that /r/ and other speech sounds: Use a systematic step by step approach based on motor learning
- When difficulties arise with practice, maintenance, or generalization - may have progressed too quickly



Key Takeaways

- Goal: 3–5 times a week and 100 production trials per session
- Before discharge, determine if the treatment was the correct approach for a particular student (Story of Evan)

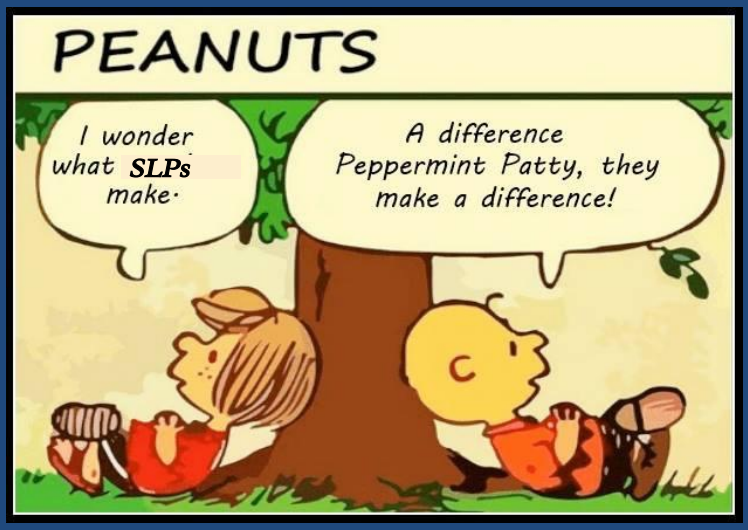


Objectives

- Define speech therapy from a motor planning perspective
- Provide a step by step approach for remediation of /r/
- Apply a motor planning approach to all speech sounds
- Discuss the link between persistent speech sound disorders and language

Thanks For Joining Me!

A special thanks for doing all you do for the students you serve!



To contact me or for therapy materials
www.courtercommunications.com