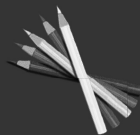


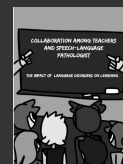
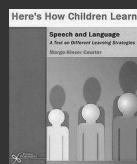
Can't Remediate that /R/? Try This Technique

85

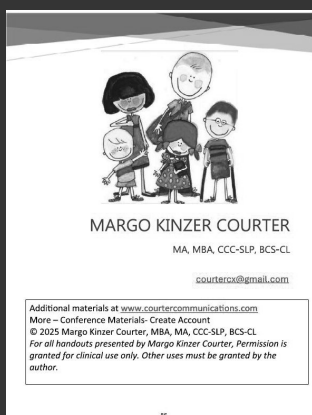


Margo Kinzer Courter, MBA, MA, CCC-SLP, BCS-CL

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

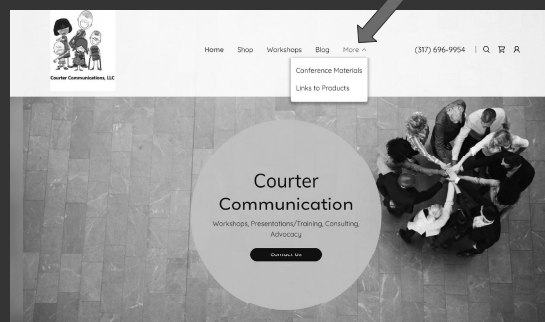


86

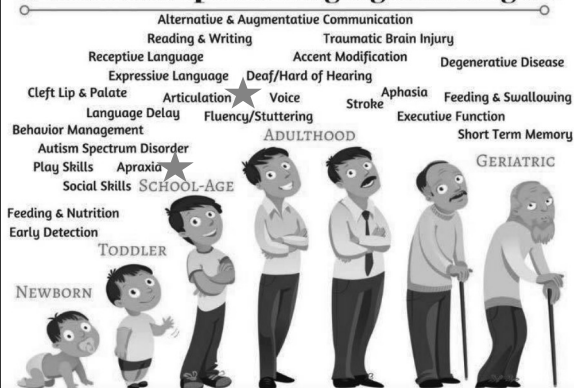


Margo's Website

Courter Communications, LLC - Workshops/Presentations, Consulting

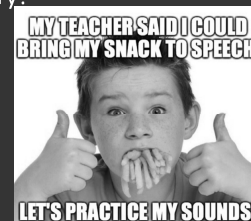


Who needs a Speech-Language Pathologist?



How are you doing with /r/?

- 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 many /r/s in English?



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



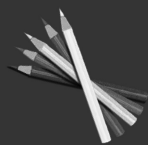
Learning Outcomes

At the end of this presentation, our goal is that you will be able to:

1. Better define working on /r/ from a motor planning approach
2. Describe strategies to finally remediate that tough /r/
3. Explain the therapy progression



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



Why is /R/ so Difficult?

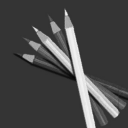
- Articulatory placement: Where is /r/ made?
 - [r] an approximate sound along the palate somewhere from the alveolar to post alveolar to palatovelar
- Not responded to our tried and true methods
 - following directions, auditory perception, attention, motor planning, etc
- Our attempt at instruction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

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

Motor Planning Theory and Speech Production

1. Initial Condition: Articulatory placement, voicing, prosody, intonation, phrasing
2. Motor Commands Needed: Timing and amplitude of production

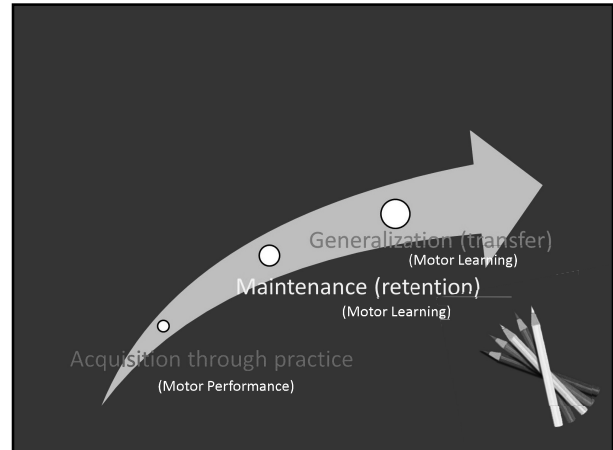
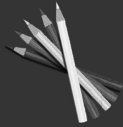


Motor Planning Theory and Speech Production

3. Sensory Consequences:

- Tongue and lip movement for production
- Tactile awareness of articulatory placement

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

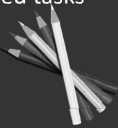


Motor Performance and Motor Learning

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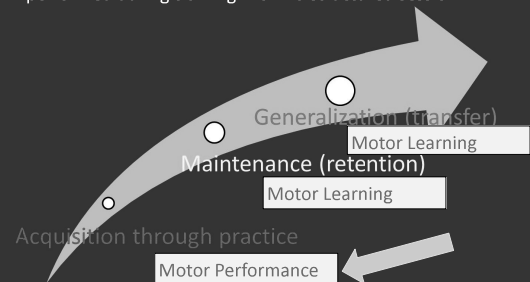
Principles of Motor Learning

- Set of processes that facilitate the acquisition and retention of motor skills
- Lead to a permanent change
- Generalizes to other related but untrained tasks



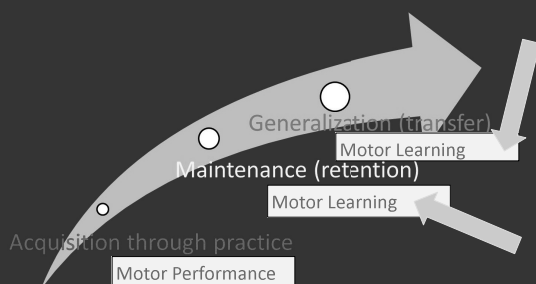
Motor Performance

The ability to perform a motor task and how the movement is performed during training within a structured session.



Motor Learning

The stages to automaticity.



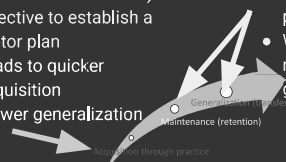
Practice Distribution

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).

Motor Planning Patterns

- Begin with single syllable words or patterns (consonant -vowel)
- le: initial /r/ - re, ri, re, rae, ra
- le: Vowel + /ar/ - bar, car, tar, far, par, star



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	

ear
ray
arrow
redo
roar
rope
rocket

ripped
respect
kangaroo
radio

Multisensory Cues

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

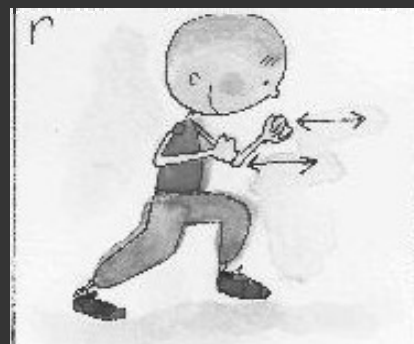
Sometimes you need to look at things from a different perspective.



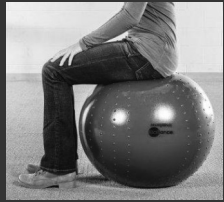
Tactile



Visual Cue



Kinesthetic



Prosodic Cues

Pitch

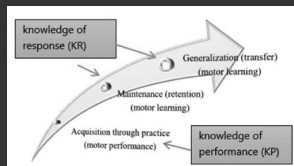
Loudness

Timing

Voice
Quality

Feedback: 2 Types

- Knowledge of Performance - detailed feedback about movements can lead to acquisition
- Knowledge of Results - less specific, general statement will facilitate motor learning



Immediate vs Delayed Feedback

- Immediate feedback - enhance skill acquisition
- Brief delay - enhance motor learning

Guiding principle: Practice at optimal level of difficulty while offering appropriate level of support

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

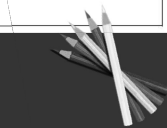
This screener is designed to assess /r/ from a motor planning approach. It is designed to use as a dynamic assessment to determine /r/ production without and with cueing to determine where to begin therapy and how the student responds to the cues utilized.

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	<input type="checkbox"/> Type of cue provided 1 st attempt <input type="checkbox"/> Type of cue provided 2 nd attempt <input type="checkbox"/> Inconsistent production <input type="checkbox"/> Prosody errors <input type="checkbox"/> Other
0 = incorrect	
1. Score initial production with eye contact as correct or incorrect.	
2. Score the cued production if 1 st attempt was not correct	
3. Score cued response as correct or incorrect.	

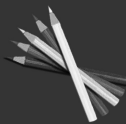


Stimulus	Attempt Score: 1 or 0	Notes
/ar/		
1. art		
2. bark		
3. car		
/er/		
4. earn		
5. learn		
6. her		
7. father		

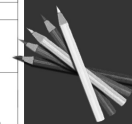
For Motor Planning, imitation is the most difficult



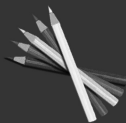
Stimulus	Attempt Score: 1 or 0	Notes
/air/		
8. air		
9. dairy		
10. share		
/ire/		
11. iron		
12. pliers		
13. fire		
/ear/		
14. ear		



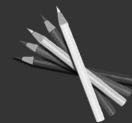
Stimulus	Attempt Score: 1 or 0	Notes
15. pyramid		
16. pier		
/or/		
17. orbit		
18. fort		
19. pour		
/our/		
20. hour		
21. ours		



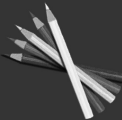
Stimulus	Attempt Score: 1 or 0	Notes
22. power		
/el/		
23. girl		
24. squirrel		
25. world		
/r/ initial		
26. read		
27. wrist		
28. red		



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

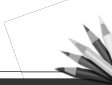


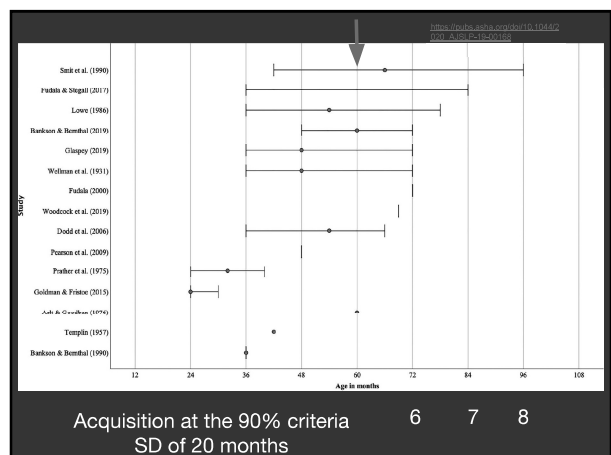
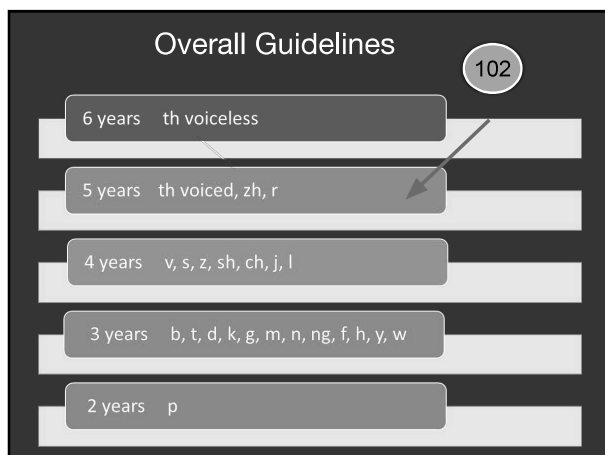
Stimulus	Attempt Score: 1 or 0	Notes
37. royal		
38. round		
<i>ix/ Interests</i>		
39. brush		
40. crown		
41. chess		
42. free		
43. green		



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

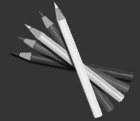


[illegible]

Overall Guidelines

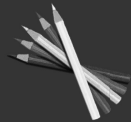
- Intensive therapy -shorter sessions/more days
“The principle of motor learning that has the greatest evidence supporting its use in children with CAS is that of treatment intensity—where a higher number of sessions and practice trials per session results in the greatest gains within one block of treatment. The minimum intensity that has been shown to work is two sessions a week (Namasivayam, Pukonen, Goshulak, et al., 2015; Thomas, McCabe, & Ballard, 2014) with 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).

Therapy Progression



If Probe Does Not Yield a Correct /R/

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

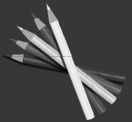


Ways to Elicit /R/

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

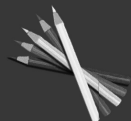
*** May try other consonants such as /sh/



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

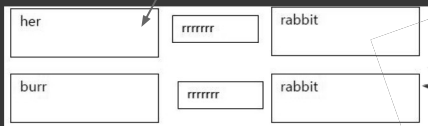
Reminder, if motor planning, asking a student to produce a bunched or retro flex /r/ based on verbal directions would be contraindicated



How to Begin to Remediate

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/

Example



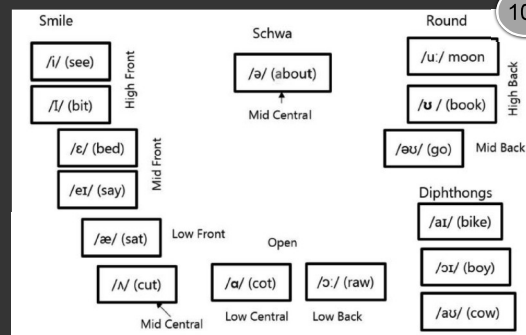
If /r/ is established by sliding from one phoneme to the /r/

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/

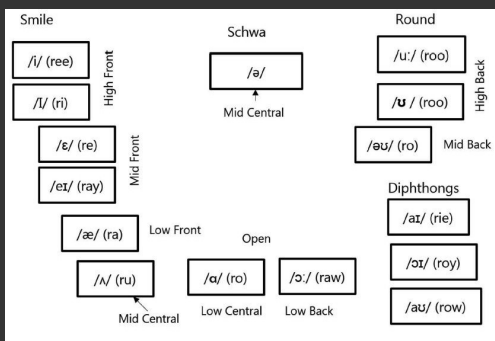
Example: Initial /r/

Therapist chose initial /r/ to target first

Step 1: Screen with Vowel Circle

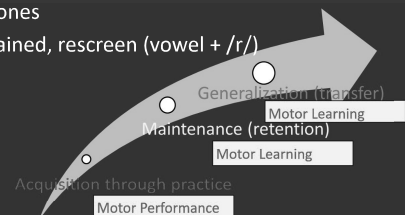


Example: CV Screening for /R/ initial



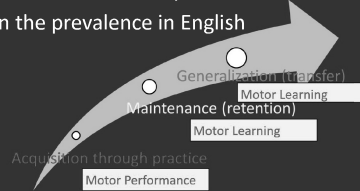
Premise

1. Student may be stimulable for one or some but not necessarily all
2. Target the ones that are correct (8-10 words)
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)

8-10 Target Words

read	wreath
reef	reach
reek	respect
real	redo
ream	
reap	



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

8-10 Target Words

reed	rid
reef	rig
reek	rim
real	rip
ream	(redo,
rib	ripped)

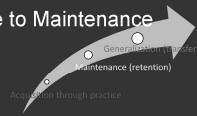


Therapy Progression from Practice to Maintenance



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



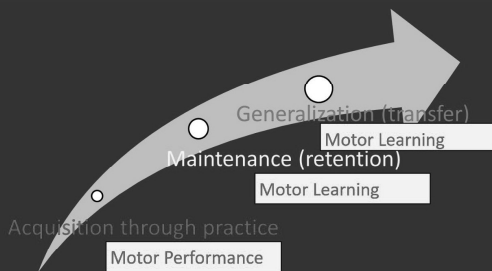
4. The student can repeat a targeted word 4 time.
5. The student can repeat a targeted word 5 time.
6. The student can repeat the targets rapidly with changing the word to another target (i.e.: ream, ream, ream, ream, ream)

Therapy Progression from Practice to Maintenance



7. The student can add another word (i.e.: ream, ream, ream, ream, ream, ream)
8. The student can alternate patterns (i.e.: ream, ream, ream, ream)

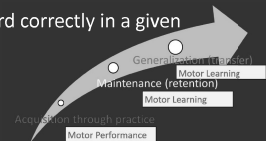
Therapy Progression from Maintenance to Generalization



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.

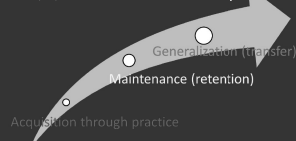
1. The student can produce the word with a carrier phrase. (re: one word + the target.
- Then, 2 word phrases + the target, etc.)
2. The student can produce the word correctly in a given sentence.



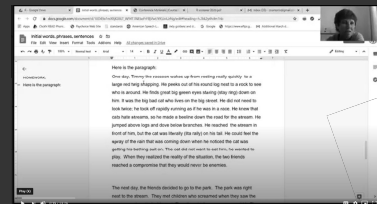
Therapy Progression from Maintenance to Generalization

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)



https://drive.google.com/file/d/1oIWR9Gx3sPPI8hkjaiw3eB_9ctpZaIK/view?usp=sharing



Next Step: /R/ Therapy Progression

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

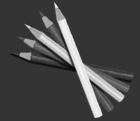
Moving to the Next /r/

- 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

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

h	rrrrrrr	rabbit
---	---------	--------



Goal

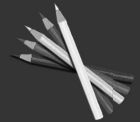
- Get the student to think about the mastered /r/
- May have to cover the /r/ of the new word
- Tap the student as soon as you hear the correct /r/ sound
- Once the student can say the new word without the mastered word, take the mastered word away, and move to multiple productions
- ***** Don't forget multisyllable words (over, mother, future, etc)
- ***** May have to practice these as nonsense one syllable words in order to move to multisyllable



Make Some Notes

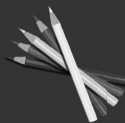
Time to move to the next /r/, rescreen all /r/s

- If the student is not stimulable when you rescreen, which /r/ will you move to and why?
- How will you use a mastered /r/ to get to the next /r/



Example using /ar/ to get to /r/

https://drive.google.com/file/d/1hPiD3v2Vqv9bFbFLqvqieVI_EOtWzgXA/view?usp=sharing



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.

arrrrrrr	eek
----------	-----

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

Long /ee/	Short /i/	Short /e/	Long /ae/	Short /a/
ar rrrrr	_ar rrrrr	_ar rrrrr	_ar rrrrr	_ar rrrrr
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	

Targets and Documentation

Maintenance

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

Targets and Documentation

Maintenance

2 repetitions maintained without cuing

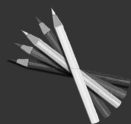
Read	Reef	Real	Ream	Reek	Reap	Respect	Reason	Really
++	++	++	++	++	++	++	++	++

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)

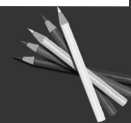
Read	reef	Real	Ream	reek
+++++	+++++	+++++	++ +++	+++++

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.

CIVIC1	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 _____			

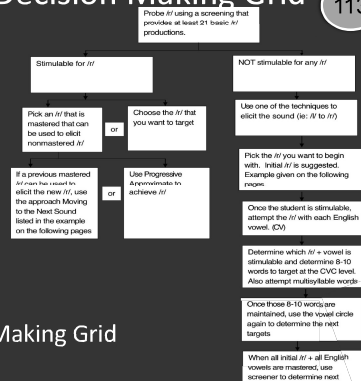
Next

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

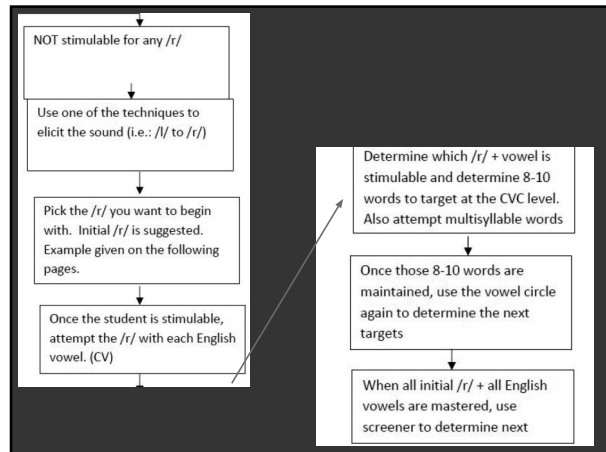
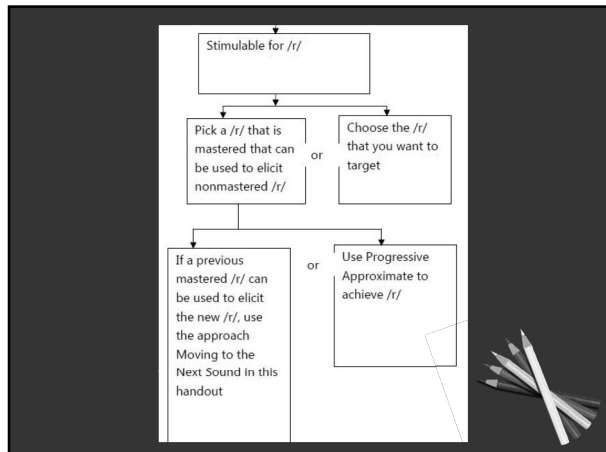
Next Steps

- Step 1:
Rescreen all /r/s
- Step 2:
Pick the next /r/ and follow the above steps

Decision Making Grid 113



Decision Making Grid



/r/ Patterns			
AR	ER	IR	UR
Initial	Initial	Initial	Initial
art	early	air	airport
army	earn	arm	airplane
arm	herb	army	air
arc	Eat	air	aired
Medial	Medial	Medial	Medial
harp	curtain	parents	cheer
hark	skirt	barefoot	married
harp	first	stereo	marathon
harp	hard	parrot	cherry
hark	turn	dairy	parachute
coat	team	hurry	arrow
start	curds	bury	caring
garlic	hurt	staring	
sparkle	concern		
heart	stir		
mailed	dirt		
guard	germs		
farm	Final		
yard	far, bar, sir, but, per, were,		
bart	our, stir, ger, jet, er, mer,		
care	ner, ter, ver,		
dart	where		
card	whisper		
yarn	never		
garbage	spider		
market	butter		
Final	parade		
par	turkey		
bar	together		
far	teacher		
tar	dinner		
car			

What is Good Enough?

Back to the Story of ...

Story of Austin

Story of Evan

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.*

Thanks For Joining Me!

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

PEANUTS

Charlie Brown: I wonder what SLPs make.

Snoopy: A difference. Peppermint Patty, they make a difference!

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