Got /r/ Problems? A Phonetically Consistent Approach to /r/ Remediation™

Facts About /r/
- Can be consonantal (e.g. roll) or vowel-like (e.g. star)
- Consonantal /r/ and the initial 11 blends easier to evaluate and treat
- Vocalic /r/ is more complex because comprised of 2 sounds (the vowel + the /r/)
- Vocalic /r/ can be separated into 6 variations: [ar], [air], [er], [er], [er], and [ar]
- One of the most frequently misproduced sounds
- One of the last sounds to be mastered
- Post-vocalic /r/ is influenced by vowel (i.e. floor, car, lower)
- Regarded by SLPs as one of the most difficult disorders to correct
- Manner and place of articulation not easily described/categorized

Age to Begin Treatment
- Developmental: 7-8 years old
- Normative Sequence: muscles are mature around age seven and /r/ controlled vowels are taught in 2nd grade curriculum
- Consider the speech normalization boundary 65% (Shelburg, Kertaiokhos & Goucher, 1994) after this age much more difficult to remediate a sound.

Changing Nature of /r/

The Changing Nature of /r/

The phoneme /r/ in the word "CAR" (air final) is pronounced differently from the word "FOR" (air final) or the word "BUTTER" (air final).

However, the final /r/ phoneme in the word "ANCHOR" is pronounced the same as the /r/ phoneme in the word "BUTTER." This is because they are both phonetically /ar/ final words despite the spelling differences.

Categories of /r/
- Prevocalic, Initial, or Consonantal /r/ e.g. ring, run, race
- Initial /r/ Blends e.g. price, break, straight
- Vocalic /r/ or controlled e.g. door, star, skier
- Medial final /r/ e.g. gird, sour, barrel

/r/ Blends

[pr] pride [br] brought [tr] tried
[gr] great [sh] shrug [str] string
[sp] spring [th] thread

Vocalic Variations of /r/
- Ernie
  - buttercup
  - feather
- [ar] Erin
  - Ireland
  - fire
  - fair

Choosing Targets
- Choose sound most likely to correct - highest correct percentage below 98%
- Correct productions within sound class (i.e. [AR] initial correct, but [AR] final is not)
- Cognate pairs (i.e. great/crate)

Remediation Plan
- Base intervention on target selected
- Consistently focus only on target until corrected
- Choose appropriate elicitation strategies matched to target selection
- Use phonetically consistent probe lists

Ways To Produce /r/

Does Your Method of /r/ Treatment:
- Evaluate all variations of /r/?
- Evaluate /r/ in all word positions?
- Have phonetically consistent probe lists for treatment?
- Focus heavily on [ar] to exclusion of other phonemes?
- Provide a specific starting point for remediation?
- Provide measurable progress?
- Allow for targeting treatment on just the specific misproduced /r/?
- Establish/use natural tongue production?

Why Evaluate All Different Types of /r/?
- To find a starting point for treatment; research shows that almost all students can produce at least 1 type of /r/ (Curtis & Handy, 1999)
- To simplify treatment by determining a successful point of production
- To help strategies treatment by determining an intervention target based on the facilitating context
- To properly diagnose the problem: Are some word positions produced correctly, but not others?
- To plan evidence-based treatment: Allows for using effective and proven methods, adds accountability, and addresses No Child Left Behind Act

Elicitation Techniques
- Write target /r/ controlled vowel on board to increase student’s awareness that there are two or more sounds he/she needs to produce
- Use as many modalities as possible: visual, auditory and tactile cues
- Have student use a mirror so that she can see her own mouth. This eliminates any lip rounding and ensures that the student is producing both the /r/ plus the vowel
- Use phonetically consistent probe lists for production practice
- Shaping one /r/ into another: successfully produced prevocalic /r/ can be used to shape other /r/ variations: Example: ear-red slowly fade out red

Coarticulation
- Coarticulation: Use student’s success in one word position to help shape the other misarticulated word positions
- Technique: Elongate the sound. Stretch the /r/ controlled vowel (e.g. [er]) 2-3 seconds to ensure that both the vowel plus the /r/ are being pronounced.

Coarticulation: Use Final (flowER) to get Initial (ERnie) and then quickly phase out facilitative word through the whisper technique

Does a Phonetically-Consistent //r// Approach Work?
- 31 Students, 12 Speech-Language Pathologists from San Diego City Schools
- Ages 6-14 with average time in therapy of 1.66 years
- Single subject design
- 2 Baselines
- 6 month period (Jan. – July)
- 15 hours treatment. End 20 hours.
- Used screening tool targeting words, phrases and sentences. (See diagram on poster in the second column, bottom section.) Enabled researcher to logically choose intervention targets.

Moving On To Next Target (Sound or Word Position)
- Once a word position for target /r/ is mastered (criterion is 85% for 5 consecutive sessions at sentence level), readminister screening to assist in choosing the next target.
- Readminister advanced screening to choose next intervention target.

Improvement: Baseline to Final Performance

Start and Final Errors Out of 21 Types Tested

Study Results
- Generalization occurred for 100% of students
- 98% ended with 5 or fewer errors, 7 dismissed
- 4 out of 5 students corrected 5 or more /r/ errors
- SLTs surprised how well their students did and positive response to treatment
- Screening of words, phrases and sentences proved to be an excellent tool in choosing a target and determining present level of performance

Please visit our website at www.sayitrigh.org for materials and resources