

# Chapter Twelve

## An Illustration

Ken Bleile

### Introduction

Resources in this book are used in countless different ways. This appendix illustrates how they function in one setting, a university affiliated school for students from preschool through high school. The illustration contains three parts:

- Clinical Perspective
- Evaluation
- Treatment

### Clinical Perspective

The author's treatment of speech disorders affecting late acquired sounds is based on three principle ideas:

1. The purpose of treatment for late acquired sounds is to help a student learn new ways of speaking and to unlearn old ones.

This idea is in complete agreement with Van Riper's common sense insight that the primary reason late acquired sounds are acquired late is that they are hard to pronounce. As the resource on a sound's definition indicates, what late acquired sounds share in common is that none are produced with the articulators touching throughout (as stop consonants and nasals are) or with the articulators relatively far apart (as glides and vowels are). Instead, late acquired sounds require a student to position the articulators not touching, not far apart, but somewhere in the middle, making the airflow variously stop and start (affricates), hiss (fricatives), flow over the sides of the tongue (laterals), or flow over an atypical tongue configuration ([r]).

2. Though problems with late acquired sounds result largely from difficulties with motor control of speech, therapy must engage the mind as well as the mouth. Factors such as motivation, intelligence, family support, attention, and desire to learn are at least equally important for clinical success as linguistic ones. For most students clinical success is more easily obtained if treatment:
  - Reflects the student's interests,
  - Encourages a high rate of success, and
  - Encourages self-monitoring and self-correction.

This idea recognizes that a speech problem does not exist independently from the person who has the problem. Attached to every speech problem is a real live person and the wishes and needs of that person must be taken into account for therapy to be successful. To give just one illustration of the diversity of the people attached to speech problems, one recent morning three students in the same grade and school received speech therapy, one after the other. The first was embarrassed by his speech problem, the second thought his speech problem sounded pretty cool, and the third didn't know he had a speech problem. Later that same day another was treated, teenage student with a severe [r] difficulty who desperately wanted speech help for an upcoming oral presentation in class. He promised to do anything to have better speech—except give up basketball practice for speech therapy. Radio address or not, basketball had a higher priority. The point is not to criticize this priority—only to emphasize that students bring far more than their linguistic system to the therapy setting. While students must be approached and accommodated on a person by person basis, three suggestions are helpful with most students: activities that reflect student interests are highly motivating, a high rate of success is reinforcing, and self-monitoring and self-correction increases a student's capacity to learn independently.

3 Therapy is successful only when a student uses what is learned outside the therapy setting. To promote generalization, therapy should:

- Be language-based,
- Employ class room materials, and
- Involve teachers and family whenever possible

This idea emphasizes that what is accomplished in the therapy setting is not the criterion of success or failure; what matters is what a student does in everyday life. The main strategy to encourage generalization is to practice the same linguistic units in therapy that a student uses in other settings. Practically, this means working whenever possible on speech in words and many times also in phrases, sentences, and stories. Incorporating classroom materials into speech therapy lessens the distance between the therapy room and the classroom, as well as providing a student additional educational support. The extent of possible teacher and parent involvement varies by setting and individual. In addition to promoting generalization, family and teachers have legal rights to know about services being provided to a student.

### **Evaluation**

Before beginning any type of therapy for late acquired sounds, it is important to understand how the sounds are defined, acquired, and the errors they are likely to undergo. Once this is done, therapy can proceed. Steps in the evaluation include referral, screening, and stimulability testing.

### ***Referral***

Typically, speech therapy for late-acquired sounds begins in second grade, around 7 years, approximately 2 years after 50% of children typically acquire these sounds; a student in an earlier grade receives a more phonological type of treatment. By second grade, a student typically has the attention skills to perform the simpler phonetic placement and shaping exercises and the reading and phonological awareness skills to perform most of the practice exercises. Beginning therapy at 7 years also allows a window of time before the onset of puberty, when changes in speech become more difficult to implement, both for social and developmental reasons.

### ***Screening***

After a referral is received, a student is first observed in a classroom or playground. Next, a student receives a short screening test either developed by the clinician or taken from items on standardized tests. In some situations, if a clinician felt sufficiently familiar with the student's speech, educational and educational history, a screening might be bypassed.

### ***Stimulability Testing***

Most often, the screening reveals one or several possible treatment sounds. The next step is stimulability testing, which reveals whether a student has any existing capacity to pronounce a sound. The stimulability screening tests are used for this purpose.

### **Treatment**

Treatment consists of three phases:

- Establish
- Practice
- Generalize

In the Establish phase a student learns to identify and produce a treatment sound. That new skill is stabilized and expanded in the Practice phase, and becomes a student's regular way of talking in the Generalize phase. Each phase contains identification and production activities and exercises.

A student moves through each phase at their own pace. To illustrate, a particular student may need several or more treatment sessions to establish a sound, while another student may find that phase easier, but require more practice sessions before moving on to generalization. Importantly, for all students activities in an earlier phase are continued in the next phase, typically as prompts and reminders. For example, a student in the Practice phase may make an error and the clinician would use tools introduced in the

establish phase as reminders to prompt a correct production. Similarly, activities and ideas introduced in the Establish and Practice phases are useful reminders and prompts for a student in the Generalize phase.

### ***Establish Phase***

The goal of this phase is to establish and expand the use of a treatment sound.

An evaluation typically yields one or more possible treatment sounds. A first step in the Establish phase is to decide how many sounds to treat. Sometimes a clinician works on one sound until it is completed, and other times may work on several sounds in the same session. The decision regarding how many sounds to teach depends more on scheduling and human factors than on linguistic ones. To illustrate, if a student has good attention skills, is making rapid progress, and is focused, a clinician may decide to treat several sounds in the same session. Other times, a clinician may weigh the factors and decide, given a student's personality and maturity, that working on one sound is best, and so may treat one sound in one session, another sound in the next session, or in some instances may decide to work on one sound from beginning to end (Establish to Generalize). No hard, fast rules exist to make these decisions. Instead, all of options are reasonable for an appropriate student. Also, a clinician may change his or her mind. For example, a clinician may start to treat several sounds in the same session, realize it will not work for a particular student, and switch to working on only one sound per session.

Another first step in the Establish phase is to decide whether to treat a stimulable sound.

If a student is stimulable for a sound, treatment in the Establish phase shifts to pronouncing it under a greater range of conditions. To illustrate, if a student is stimulable for [s] in imitation, treatment then shifts to pronouncing it when not imitated (see discussion that follows). If a student is not stimulable for a treatment sound, therapy in the Establish phase must first make it stimulable and then expand the conditions under which it is produced. A student typically is more successful with stimulable sounds in therapy than non-stimulable ones, which can greatly improve a student's motivation and focus. For this reason, stimulable sounds often, though not always, are selected for treatment. If a student's speech contains both stimulable and non-stimulable sounds, it is easier to work first on stimulable ones and then, once the student has experienced clinical success, shift treatment to the more challenging non-stimulable ones.

However, as mentioned in Chapter One, stimulability is not an absolute requirement to be a treatment sound. Though a non-stimulable sound may require longer to establish, circumstances exist when a clinician may perceive that the need for an improvement in speech outweighs other factors. Specifically, if a student or the family expresses a strong desire that treatment focus on a specific sound or if a student is nearing puberty, the stimulability criterion typically is waived and the is selected for treatment.

**Identification:** The identification goal for the Establish phase is to identify a treatment sound, have some way to refer to it, and know something about how it is produced. Treatment often proceeds more quickly in the other phases once this is accomplished. Metaphors, Touch cues, and Demonstrations often are extremely useful in meeting this goal.

**Production:** A stimulable sound is like an opening wedge into a student's ability to make a treatment sound. In the Establish phase the opening wedge is widened and stabilized through one or more of four ways, reflecting the four types of stimulability testing:

- Imitation
- Key environment
- Key Word
- Phonetic placement and shaping

In practice, these four possibilities are not always independent. To illustrate, a student may respond best to a key environment during imitation. In many cases, after a treatment sound is establish through phonetic placement and shaping techniques, its use is stabilized through use of either imitation, a key environment, or key word.

**Imitation:** For a student who is stimulable through imitation, establish a treatment sound by having him or her say a nonsense syllable or word immediately after your model. If a student is able to say a word, select that option. If a word appears too difficult, select the syllable option. For both options, select a stimuli that are phonetically simple. Suggestions listed in the section on key environment are useful guides for selecting stimuli. Once a treatment sound is established, have a student respond with longer amounts of time between the model and the repetition until a model no longer is required.

**Key environment:** Many times a student is stimulable for a treatment sound in a particular phonetic environment, but not in others. To illustrate, a student might say [s] before high front vowels such as [i], but not before back vowels such as [u]. Students vary in which phonetic environments are best to establish a treatment sound. The following illustrates “best bet” environments for [s], [l], and [r] in four phonetic environments: beginning of words, end of words, between vowels, and in consonant clusters.

#### 1. Beginning of Word

Establish before a high front vowel. Once established, expand the number of different vowels that follow. For a student that is strongly affected by the adjacent vowel, back high vowels are likely to be more challenging than front ones.

#### 2. End of Word

[s] is more likely to be established here than [l] and [r]. Establish after a high front vowel. Next, to make word initially, have the word final sound be followed by a word beginning with a vowel, such as “bus and.” This encourages the sound to “migrate” to start the following word, resulting in, for example, “bu sand.”

#### 3. Between vowels

[l] and [r] are more likely to be established here than [s], though for some students find [s] easier to make here, too. For all three consonants, establish between two high front vowels, as in *ili*. Once established, add different adjacent vowels. To expand to word initial position, have the student drop the first vowel, resulting in, for example, [li]. To expand to word final position, follow the same procedure, resulting in, for example, [il].

#### 4. Consonant clusters

For [s], establish after [t] as in “pizza” or the nonsense word [tʃi]. To expand the environments in which [s] occurs, have [tʃ] be followed by different vowels. To help expand [s] to syllable initial position, encourage the student to drop the [t]. For [l] and [r], establish after a consonant with a different place of production than [l] and [r] (most often, select [p] or [b]) followed by a high front vowel. Next, to help expand [l] and [r] ask the student to drop the initial consonant in the consonant cluster.

**Key word:** Some students are stimulable for a treatment sound in one or a few key words, but not others. Typically, a key word has special significance for a student, perhaps the name of a pet, a family member, or a movie hero. For a student who benefits from a key word approach, establish the word, providing the student practice in saying it and, equally important, learning to self-monitor sufficiently to identify that he or she is saying the sound correctly. Next, expand its usage through word games, altering vowels and consonants in the key word. For example, if a student can pronounce [r] in *race*, have him or her play a “make silly word” game, changing *race* into *rice*, [ris], and [rus].

**Phonetic placement and shaping:** Phonetic placement and shaping techniques are an extremely valuable body of clinical knowledge. While imitation, key environments, and key words often offer a quicker road to establish a treatment sound, phonetic placement and shaping techniques are invaluable with a student who is otherwise unstimulable. The older a student is, the more likely he or she can follow the necessary instructions. Establish a treatment sound using a phonetic placement or shaping technique that seems to best fit a student. Typically, this requires trial and error, trying different techniques, and evaluating which one seems to work best. Oftentimes, a few minute to five to ten minutes is sufficient to determine if a particular technique is likely to prove successful. Soon, a clinician develops a set of favorite techniques and these become the ones to try first. After a sound is established, imitation, key environments, and key words offer useful tools to expand its usage.

### ***Practice Phase***

In the second treatment phase a student practices what was learned in the Establish phase. A secondary goal of the Practice phase is training a student on activities for use in the Generalize phase. The Practice phase contains both identification and production treatment activities. All activities typically are carried out at the word level. The rationale for training at the word level is twofold,

- (1) Words, carefully selected, offer relatively simple phonetic contexts in which to teach a sound, and
- (2) Words, being the student's everyday means of communication, are used both in and outside of treatment, making them a critical bridge to generalization.

Additionally, as mentioned in the previous section, activities used in the Establish phase are carried over into the practice phase in the form of brief prompts

An important decision in the Practice phase concerns what constitutes a correct production. A sound should be well-established before proceeding to the Practice phase to avoid practicing a speech error—something the student probably already has lots of practice doing! Ideally, an established sound is entirely correct. An analogy might be: suppose a coach wants to teach a student a new tennis stroke. Ideally, the coach wants to establish the stroke perfectly and then engage in perfect practice. Sometimes, however, the ideal proves impossible, and a coach must be reconciled to a student practicing a stroke that is better than before, but still not perfect. The same is true for speech. For this reason, a “3,” “2,” “1” system usually works better than a “correct/incorrect” system (Highnam, 2004). A student's old speech pattern is a “3,” and the goal is to establish it as a “1” (perfect). However, in many instances a “3” does not automatically become “1,” and, instead, the student produces something like a “2”—a more correct version of the old pattern, but one still not perfect. Speech treatment contains many more “2”s than “1”s. While practicing a less than perfect sound the student learns to make it a “1” through self-reflection activities and prompts.

**Identification:** Though identification exercises appear to be types of discrimination or perception exercises, they are based on a different view of speech and in therapy are employed quite differently. Discrimination and speech perception exercises are based on the theory that in part a student's speech problem arises from faulty discrimination or speech perception. Within that view, a therapy program typically begins with discrimination practice. After discrimination of the treatment sound is achieved, the therapy program shifts to production activities.

In contrast, the idea that underlies identification exercises is that a student's problem is more in attention and focus than in failure of a mechanism to discriminate between sounds. Stated differently, speech is largely automatic, with sounds coming rapidly out the mouth, one after another, without a great deal of conscious thought. A student with a speech problem, like most other persons, is likely not to closely monitor his or her speech, even when what comes out the mouth differs considerably from the speech of the community. Identification exercises are little verbal taps on the shoulder, focusing the student's efforts on the task at hand. In essence, identification activities say to the student, “Remember what sound we are working on? Focus on what we are doing.” Identification exercises, in common with discrimination and speech perception exercises, are used frequently at the start of the treatment program, though their purpose is to focus the student rather than improve a faulty discrimination mechanism. In keeping with their value as reminders, identification exercises also are used as needed throughout treatment to refocus a student's attention.

The three basic types of identification exercises are employed:

1. *Identifying words with the treatment sound when all the words have the same number of syllables.*
2. *Identifying words with the treatment sound when two words rhyme.*
3. *Identifying words with the treatment sound when all the words rhyme.*

**Production:** Pronunciation exercises have two purposes:

- (1) Practice producing a treatment sound at the word level, and
- (2) Help a student learn to self-monitor and self-correct his or her speech.

Ability to make the sound in words and to self-monitor and self-correct speech are critical to success if a student is to generalize what is learned during treatment to everyday life.

The resource containing five types of pronunciation exercises are used in the Practice phase. The exercises are:

1. *Pronouncing treatment sound in imitated words.*
2. *Making self corrections of the treatment sound in multiple productions of the same word.*
3. *Inserting the deleted sound in words.*
4. *Pronouncing the treatment sound in rhymed words.*
5. *Contrasting old and new ways of making the treatment sound.*

Typically, a student responds best to several forms of practice. The others may then either be set aside or, more often, re-introduced later.

### ***Generalize Phase***

The challenge of the Establish phase is to focus a student on a treatment sound and to plant the ability to say the sound in the student's speech. The challenge of the Practice phase is to improve awareness and learn to pronounce, self-monitor, and self-correct. The challenge of the Generalize phase is to help a new way of saying a treatment sound become a student's regular way of talking. If therapy has proceeded well, many skills to do this already are in place-- during the Establish phase a student learned to identify and produce a treatment sound, and in the Practice phase a student learned to identify, produce, and self-monitor and self-correct at the word level. As previously, activities from both phases are continued in the generalize phase as prompts and reminders.

School books and other outside materials are used in the Generalize phase, including stories a student is reading, favorite stories from home, and articles from newspapers and magazines. These materials, because they are familiar and widely used, are easy to adapt for use by families, aides, and teachers. Many times their use also has the practical advantage of improving a student's academic and skills. Though the purpose of therapy is speech, nothing is wrong if in the process of learning speech a student also does better on classroom assignments or gives a better oral report. The identification and production exercises in Appendix A are used for this purpose.

In the author's clinical setting the bulk of therapy time is spent on the Generalize phase. Once a treatment sound is established, the Practice phase is used to introduce the various types of exercises, and then treatment shifts to the Generalize phase. That is, far more clinical time is spent on language activities than on practice exercises. Indeed, with some students the Practice phase may be virtually skipped, treatment proceeding from Establish to Generalize, with the exercises typically introduced in the Practice phase -- learning to self-monitor, practicing old and new ways of saying a sound, etc—being introduced during the course of language activities. Skipping the Practice phase speeds treatment along especially well with a student who either enjoys language and school activities, or, alternately, one is easily bored by practice exercises.

### **Summary**

This appendix illustrates *one way* care might be conceptualized and carried out. The approach is based on three interconnecting views about treatment for late-acquired sounds:

1. The purpose of treatment for late acquired sounds is to help a student learn new ways of speaking and to unlearn old ones.
2. Though problems with late acquired sounds lies largely in the motor control of speech, therapy must engage the mind as well as the mouth. Factors such as motivation, intelligence, family support, attention, and desire to learn are at least equally important for clinical success as linguistic ones. For most students clinical success is more easily obtained if you can:
  - Reflect the student's interests,
  - Encourage a high rate of success, and
  - Encourage self-monitoring and self-correction.

3. Therapy is successful only when a student uses what is learned outside the therapy setting. To promote generalization, therapy should:

- Be language-based,
- Employ class room materials, and
- Involve teachers and family whenever possible

The appendix will have served its purpose if it stimulates interest and discussion, clinicians find useful ideas to borrow and amend, and other clinicians are encouraged to describe their approaches to this fascinating and rewarding area of clinical care.