

Teaching Pronunciation with Confidence

A Resource for ESL/EFL Teachers and Learners



Agata Guskaroska, Zoe Zawadzki, John M. Levis,
Kate Challis, and Maksim Prikazchikov

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Iowa State University is located on the ancestral lands and territory of the Baxoje (bah-kho-dzhe), or Ioway Nation. The United States obtained the land from the Meskwaki and Sauk nations in the Treaty of 1842. We wish to recognize our obligations to this land and to the people who took care of it, as well as to the 17,000 Native people who live in Iowa today.

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Part I

Introduction

Chapter 1

Basics of Teaching Pronunciation

John M. Levis

Learning Objectives

- To describe what pronunciation features should be taught
- To explain why pronunciation should be taught
- To explore how pronunciation should be taught
- To explain how sounds are represented for pronunciation teaching

Outline

- **1.1 Introduction**
- **1.2 Elements of Pronunciation: The What of Pronunciation Teaching**
- **1.3 Pronunciation Teaching Goals: The Why of Pronunciation Teaching**
- **1.4 Successful Pronunciation Teaching: The How of Pronunciation Teaching**
- **1.5 Representing sounds in English**

1.1 Introduction

Pronunciation has long been part of teaching in ESL/EFL/ELF contexts, and it is possible to find a wide variety of teaching materials published throughout the 1900s and 2000s. These materials are mostly based on the goal of the adult language learner developing a native-like accent. We now know that developing a native-like accent is highly unlikely because of the influence of age (Scovel, 2000), changes in perception (Flege, 1995), and the influence of a speaker's identity (Zuengler, 1989). Fortunately, multiple studies have made it clear that foreign-accented speech does not stop a speaker from being understood (e.g., Munro & Derwing, 1995). This means that pronunciation is increasingly visible in English language teaching today for three reasons: a focus on intelligibility rather than native-like accents, evidence that teaching pronunciation works, and the desire for teachers to receive training on pronunciation.

Even though native-like pronunciation is unlikely for most adult learners, pronunciation remains the number one reason L2 speakers of English are not intelligible when speaking English. Jennifer Jenkins (2000), in her ground-breaking study of English as a Lingua Franca intelligibility, found that mispronunciations of consonants and vowels were the most likely causes of intelligibility when L2 speakers spoke with other L2 speakers. (Grammar and vocabulary choice were less likely to cause misunderstanding.) Beth Zielinski (2008), in her study of reduced intelligibility of Chinese, Vietnamese, and Korean speakers, found that mispronunciations in stressed syllables were particularly likely to cause trouble for L1 English listeners. Stress errors, which can also affect the clarity of English vowel pronunciation, seem particularly able to cause a loss of intelligibility (Benrabah, 1997; Field, 2005).

The second reason pronunciation is important is that we now have strong evidence that teaching pronunciation improves student performance. Lee, Jang and Plonsky (2015), in a meta-analysis of previous studies of pronunciation teaching, found that teaching pronunciation almost always

resulted in student improvement. This finding is especially important because we also know that just living in an environment where English is spoken typically results in improved pronunciation, but that improvement plateaus after 6-12 months (Thomson, Derwing, & Munro, 2024). As a result, explicit teaching of pronunciation is essential for improvement in the long run. Derwing et al. (2014), in a study of teaching pronunciation in a workplace (factory) environment, found that intelligibility improved for the adult workers in the study even though they had been in Canada for an average of 19 years. Without explicitly instruction, there would not have been improvement, but with instruction, it was possible for the learners to improve their ability to communicate.

A third reason for the growing visibility of pronunciation is that many teachers want help in learning how pronunciation can be taught. Workshops at conferences or books of activities are very helpful, but growth in pronunciation teaching expertise also requires knowing about appropriate goals for teaching, targets for pronunciation learning, and the ways that multiple activities can be put together to promote learning. In earlier decades, ESL/EFL training programs almost always included pronunciation as a key topic for training teachers, but the rise of the communicative approach to teaching also assumed that pronunciation would improve on its own if we just focused on communication (Levis & Sonsaat, 2017). It eventually became clear that this was not true, but by then, many teacher training programs no longer included pronunciation training, leaving many teachers to gain knowledge of pronunciation in a haphazard way. This book is meant to systematically help teachers who want to learn about the what, why, and how of pronunciation teaching and how it can help them ensure their learners' communicative success.

1.2 Elements of Pronunciation: The What of Pronunciation Teaching

English pronunciation is one of the most completely described areas in language teaching, and it has a long history of being accessible to teachers of many levels of expertise. Pronunciation involves the articulation of speech sounds, rhythm, and melody to communicate meaning. As such, pronunciation is a basic building block of speaking and listening skills. To speak, we have to pronounce, and to understand others, we have to understand and interpret their pronunciation. In learning a new language, especially as an adult, pronunciation inevitably includes small and large deviations from the ways that native speakers pronounce. The exact nature of these deviations is often influenced by the language(s) that the learner already knows. This is why we can notice that someone has a Spanish accent, a Japanese accent, an Indian accent, or many other distinctive accents that we may be familiar with. Deviations may also come because of the developmental processes of second language acquisition. People who already know one or more languages have become very, very good at hearing the important sound distinctions of their languages, but because different languages have different systems of phonemes (important sounds), learners may not be very good at hearing distinctions that are important in a new language. For example, French and English both have the bilabial stop sounds /p/ and /b/, but the ways that the /p/ and /b/ are actually pronounced is different in English than it is in French. As a result, the English pronunciation of /b/ may sound like /p/ to a French speaker, and a French /p/ will sound like a /b/ to an English speaker. So French and English speakers both have different parameters for what sounds like a /p/ and a /b/. Not only that, speakers of English who are learning French and vice versa have trouble paying attention to these new parameters because they have never needed to do so before.

At a basic level, pronunciation can be divided into segmentals and suprasegmentals. Segmentals include vowel and consonant sounds. There are

roughly 15 vowel sounds and 25 consonant sounds in American English, and different dialects of English have small but noticeable differences in how they pronounce vowels. These are among the most well-known aspects of English pronunciation. Sounds are represented imperfectly in the English spelling system, and it is common to mix up how we spell with the sounds. This is especially true with vowels. English has 5 or 6 vowel letters but almost 3 times as many vowel sounds. This means that our vowel letters have to do double or triple duty in representing sounds, and the results are not always easy to understand. For example, the <i> spelling can represent multiple sounds (such as *like*, *hit*, *unique*). Sometimes, English combines vowel letters, but these also do not transparently represent the same sound. The <ea> spelling is seen in the words *heart*, *speak*, *steak*, and *heard*, all of which are pronounced differently.

Suprasegmentals in English include word stress, rhythm, and intonation. Stress is a property of words, rhythm refers to stress in phrases, and intonation refers to the use of voice pitch to communicate meaning. The prefix 'supra' means 'above' or 'beyond the limits of,' so suprasegmentals are those aspects of pronunciation that stretch out above many segmentals. For example, the word *carrying* has three syllables, but its stress pattern strongly stresses the first syllable followed by two less stressed syllables. On the other hand, the word *replying* has a strong stress on the second syllable, and the first and third syllables are less strongly stressed. Pronouncing either word with the opposite stress pattern will make it harder to understand.

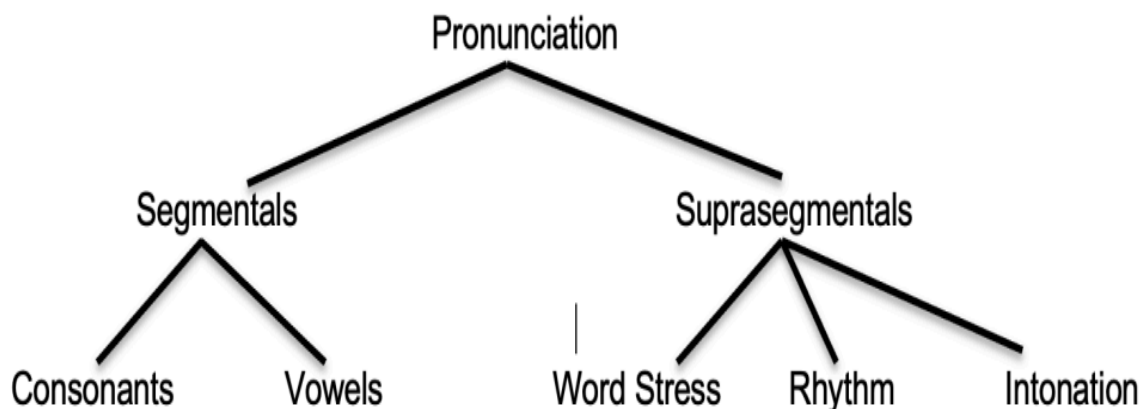


Figure 1. *Classification of pronunciation features*

Suprasegmentals, though carefully divided from segmentals on the chart, influence the way that segmentals are pronounced. This is especially true for vowel sounds in unstressed syllables. The second syllable in each of the words below is unstressed, and no matter how the vowel is spelled, it is pronounced similarly, with the unstressed vowel schwa (written as [ə]). Schwa is the most common vowel in English for vowels that are not stressed, constituting about one in every three vowels in spoken language (Woods, 1978).

ə	ə	ə	ə	əə	ə	ə
limit	bottom	fatal	lessen	uvula	ocean	noxious

Figure 2. *Examples of schwa vowels with different spellings. Note that vowel spellings are not always related to vowel sounds.*

1.3 Pronunciation Teaching Goals: The Why of Pronunciation Teaching

Traditionally, teaching pronunciation had the goal of helping language learners become native-like in their pronunciation, a goal that has been called the Nativeness Principle (Levis, 2005). This means that learners should be able to pronounce everything in the ways that a typical native speaker does. This goal is quite attractive to many learners because being native-like in pronunciation seems to guarantee effective communication in the new language.

Unfortunately, nativeness is exceedingly rare, especially for those who are learning a new language beyond childhood or in classroom environments. Age seems to limit the ability of most people to pick up on all the small details that signal whether someone is native in pronunciation. Native listeners are extraordinarily skillful in noticing that someone's pronunciation does not match the local way of speaking, and as a result, trying to achieve native-likeness will almost always fall short. However, because native-likeness does not directly affect whether speakers will be successful communicators (Munro & Derwing, 1995), L2 learners can improve their pronunciation and communication by attending to the Intelligibility Principle.

Regarding goals, the Intelligibility Principle stands in contrast to the Nativeness Principle. Instead of seeking to be perfect in every detail, the Intelligibility Principle says that it is important to be successful on a limited set of pronunciation features that listeners use to understand L2 speakers. This means that pronunciation teaching will be more successful if we prioritize the errors that are more likely to cause misunderstanding (loss of intelligibility). In other words, not all details of pronunciation are important for intelligibility. Some, like the voiced interdental fricative [ð] (as in *the, them, these, though*), rarely seem to cause unintelligibility. In addition, this same sound is not always pronounced as [ð] by all native speakers of English, and L1 English listeners mostly understand variant pronunciations. In contrast, in a mispronunciation that affects intelligibility, some L2 learners of English struggle to pronounce the

difference between /p/ and /b/ (e.g., *pat-bat*, *lap-lab*). In this case, the mispronunciation of /p/ and /b/ is much more likely to cause problems with intelligibility than the mispronunciation of [ð], and the Intelligibility Principle means that learners who have trouble with both will make much faster progress if /p/ and /b/ are prioritized.

Prioritizing intelligibility is important for all kinds of pronunciation features. For example, pronouncing word stress correctly is important in English because recognizing English words depends on recognizing the stress of the words. Word stress has been called the “islands of reliability” for listeners (Field, 2005), and both L1 and L2 listeners depend on these islands to navigate the stream of speech. This caused listeners in one study (Benrabah, 1997) to hear the word *upset* (stressed mistakenly on *up*) as *absent*. However, not all word stress errors cause a loss of intelligibility. For example, some L2 English speakers pronounce words like *CONcentrate* as *concentRATE*, moving the main stress from the beginning of the word to the end. Because all the vowels are pronounced the same in both cases, English-speaking listeners do not struggle with stress errors in these types of words. So word stress should be prioritized, but only the word stress errors that cause problems.

1.4 Successful Pronunciation Teaching: The How of Pronunciation Teaching

Not only does teaching pronunciation include knowledge of pronunciation features and priorities, it also involves an understanding of how to apply that knowledge to promote student learning. This includes understanding typical ways to make English pronunciation make sense to L2 learners, whether that involves explaining new sounds and sound differences, helping learners to perceive new sounds accurately, or helping them learn how to actually produce sounds when they are concentrating on pronunciation or on meaning. One of the most well-known and usable frameworks for teaching pronunciation is the Communicative Framework of Celce-Murcia, Brinton and Goodwin (2010). The

Communicative Framework has five components: Description and Analysis, Listening Discrimination, Controlled Production, Guided Production, and Communicative Production. The components can be used in any order, depending on the teacher's goals or methods of teaching, but they can also be used in the order they are presented.

Description and Analysis recognizes that adult learners need to know why they are doing what they are doing. Unlike L2 children or first language learners, adult learners, because of their age, usually do not do well with figuring out language patterns simply by being exposed to input. They need explanations. They need visual help, such as IPA charts, sagittal diagrams, or computer simulations of speech to help them control their articulators. They need to know how new sounds are different from or similar to the sounds they are making. As a result, the role of Description and Analysis in pronunciation teaching is central to improvement.

Listening Discrimination, the framework's second aspect, highlights perception's importance in pronunciation learning. From very young ages, we all become very well attuned to the important sounds (phonemes) of our native languages, and we become increasingly unattuned to small differences between our language's phonemes and how phonemes are pronounced in other languages. For example, English speakers recognize two phonemes, /t/ and /d/, which create different words such as *toe/dae* and *let/led*. Spanish also has /t/ and /d/ phonemes, but the ways that Spanish and English typically pronounce these sounds are different, as are the acoustic cues that allow native listeners in each language to process the sounds easily. And those differences are hard to hear for Spanish speakers learning English (or for English-speaking learners of Spanish).

Pronunciation is usually considered most important for speaking, and many teachers may be confused when we speak of listening discrimination as important for pronunciation. There are at least two reasons to pay attention to listening discrimination. First, many pronunciation problems occur because

new languages have sounds that are difficult to hear accurately. Language learners bring their previous languages and ways of hearing the sounds in those languages when they learn to pronounce a new language. This means they will often hear inaccurately and not notice small, important distinctions in the new language that don't exist in their existing languages. If they do not learn to notice and attend to these new differences, they are unlikely to ever pronounce them accurately. Second, part of pronunciation and part of intelligibility includes the listener being able to understand other speakers of the language in both careful and casual speech. Listening discrimination practice helps listeners communicate by noticing how other people's pronunciation is used. As learners get better at knowing which sounds exist and hearing them, they are more able to communicate both in speech and in listening.

Controlled, Guided, and Communicative production differ in how much L2 learners can concentrate on pronunciation forms and meaning when they speak the new language. Controlled production exercises (e.g., read-aloud, listen and repeat) offer the most opportunity to attend to pronunciation form because the learner does not have to provide language spontaneously. At the opposite extreme, communicative production exercises focus on the communication of meaning. In this type of language activity, it is quite difficult for L2 speakers to concentrate on pronunciation because meaning is their dominant goal. Guided production, or what some have called "bridging exercises", ask learners to attend to both pronunciation form and to meaning. In such exercises, meaning involves providing some language on one's own with other language provided by the exercise (e.g., information gap exercises) so that learners can also partially focus on pronunciation forms. This book combines Guided and Communicative exercise categories because the distinction between the two is not always clear, nor is it always important. Both categories focus on meaning, and the difference between the two has to do with the extent to which they also attend to form, which is always central to pronunciation teaching.

These are not the only types of pronunciation activities, of course, as any examination of pronunciation activity books will show. Pronunciation activities can include games, physical movement, awareness-building exercises, the use of visuals, a focus on identity, ultrasound, computerized feedback, and many other creative approaches to instruction. However, the communicative framework is a useful template for understanding that most learners benefit from instruction that helps their brain comprehend the pronunciation goal, helps their ears learn to hear new sound categories, and helps their mouth to make new and unfamiliar movements.

1.5 Representing Sounds in English

Literate people are used to associating written language patterns with the sounds that they represent in spoken language, but no language has a perfect match between its spoken form and its written form. Spoken language varies depending on dialect, speech style, and social differences between speakers, but written language, especially more formal written language, shows very little variation, allowing us to read and understand writers who live far away from us or even those who have lived in a different time altogether (e.g., Shakespeare).

For learning pronunciation from written forms, it would be ideal to have a 1-to-1 correspondence between the way words are spelled and how the letters in the word are pronounced. Languages that approach the ideal, such as Spanish and Turkish, are considered to have “transparent” orthographies (spelling systems). Yet even in the most careful style of speech, transparent orthographies are never perfect. For example, the Spanish sounds spelled with <b, d, g> are always pronounced with the expected stop sounds [b, d, g] at the beginning of words. But when they occur between two vowel sounds, as in the words *lobo*, *nada*, *agua*, the <b, d, g> spellings represent different sounds: [β, ð, γ], which are fricatives made in the same area of the mouth as the expected stop sounds.

For other languages, these mismatches between spelling and pronunciation

are much more frequent and make it difficult for L2 learners to know how an unfamiliar word should be pronounced. Languages like English, French, Irish Gaelic and Chinese have “opaque” orthographies that do not closely approach the 1-to-1 ideal that is helpful for using spelling systems for pronunciation learning. For example, the <ea> digraph in the words *bear*, *beard*, *heard*, *heart*, and *speak* are all pronounced as different vowels. In another example, the letter <c> has three different sounds in *care*, *race*, and *racial*. This mismatch (or multi-match) between spelling and sound is seen in a long poem called “The Chaos,” the first verse of which is reproduced below. In almost every line, there are (underlined) similar spellings that have different pronunciations. Sometimes, the same letters reflect different sounds, and sometimes, different letters reflect the same sound.

Dearest creature in creation. [kɹiɪʃə / kɹiɪʃən]

Study English pronunciation.

I will teach you in my verse [vɜːs]

Sounds like corpse, corps, horse, and worse. [kɔːps / kɔː / hɔːs / wɜːs]

I will keep you, Suzy, busy, [suːzi / bɪzi]

Make your head with heat grow dizzy. [hed / hit]

Tear in eye, your dress will tear. [tiː / tɛɪ]

So shall I! Oh hear my prayer.

In other words, navigating new spelling systems often gets in the way of accurate pronunciation. This seems especially true for English spelling. Even though English spelling is hard to navigate when learning to pronounce new words, it can be extremely helpful for learners to have a different writing system that reflects the ideal of 1-to-1 spelling and sound.

There are different ways to represent sounds, including symbols used by dictionaries. These symbols are often meant for native speakers and can sometimes be quite confusing for language learners. Merriam-Webster, for example, uses the symbol *ā* for the vowels in *eight* / *ate* and *ä* for the vowels in *cot* and *bother*. We will not use these symbols in this book. Instead, we will use symbols from the International Phonetic Alphabet, or IPA. The IPA is best known for its symbols used to represent consonant sounds and vowel sounds. Any single language has only a small subset of the possible sounds that are known to be meaning distinguishers in all languages in the world. North American English, for example, has about 25 consonant phonemes and 15 vowel phonemes. Spanish, on the other hand, has around 17 consonant phonemes and just 5 vowel phonemes.

Consonant Sounds

Most consonant sounds in the world's languages, and all consonants in English, can be described by a combination of three characteristics: What touches in the mouth (i.e., place of articulation), how air from the lungs is released (i.e., manner of articulation), and what happens in the vocal folds (that is, whether sounds are voiced or voiceless). For example, in the consonant chart below, the /p/ has the characteristics of being bilabial, voiceless, and a stop (the air is stopped before it is released). It differs from /b/ in voicing and from /m/ in voicing and manner of articulation (the air in /m/ is released through the nose, making /m/ a nasal sound).

Table 1.1 Consonants Classification

MANNER	VOICING	Bilabial	Labiodental	Interdental	Alveolar	Palatal	Velar	Glotal
Stop	Voiceless	p			t		k	ʔ
Stop	Voiced	b			d		g	
Fricative	Voiceless		f	θ	s	ʃ		h
Fricative	Voiced		v	ð	z	ʒ		
Affricate	Voiceless					tʃ		
Affricate	Voiced					dʒ		
Nasal	Voiced	m			n		ŋ	
Lateral (Liquid)	Voiced				l			
Rhotic (Liquid)	Voiced					r (ɹ)		
Glide	Voiced	w				j	(w)	

Some sounds in the chart have parentheses around them. These are sounds that are noticeable markers of accent but are not meaningful. For example, [ɹ] is a tap sound (it touches behind the teeth very quickly) that is spelled by the <t> in *kitty* and <d> in *ladder*. In standard pronunciation for British English, on the other hand, the <t> in *kitty* is pronounced like a [t] and the <d> in *ladder* is pronounced as [d], where the tongue touches behind the teeth for a longer period of time. The glottal, or [ʔ] sound, on the other hand, can be heard at the beginning of each syllable in “uh, oh!” and for the <t> spellings in words like *cotton* and *button*.

Vowel Sounds

The spelling and sound mismatch is particularly large for English for vowels. Written English has five (or six, counting <y>, which usually behaves like the letter <i> when it is a vowel) vowel letters, but North American English has around 15 vowel sounds. Descriptions of British English describe closer to 20 vowel sounds. In addition, the written symbols <a, e, i, o, u> are used for different sounds than the same-looking phonetic symbols. Having only five vowel letters to represent 15 vowel sounds means that English spelling also doubles up on vowel letters to represent sounds. For example, the spellings <ea>, <ou>, <ai, ay>, and <oo> are frequent in English spelling, but like single letters, they also represent different sounds.

Spelled symbol	Sound Values
<ea>	speak [i], steak [eɪ], heart [ɑ], heard [ɜr]
<ou>	rough [ʌ], bough [aʊ], cough [ɑ] or [ɔ], coupon [u], though [oʊ]
<ai>, <ay>	maid [eɪ], plaid [æ], said [ɛ], Hawai'i [aɪ], play [eɪ]
<oo>	cook [ʊ], food [u], blood [ʌ]

The vowel sounds connected to English spelling are also affected by stress patterns. Words of two syllables or more usually have at least one unstressed syllable, and overwhelmingly, these unstressed vowels are pronounced with the same vowel sound. This sound is called schwa, and it is represented by the symbol [ə] which sounds like “uhh”, the sound made when people don’t know what to say. The schwa sound can be spelled with any vowel letter or combination of letters. For example, schwa occurs in the second (unstressed) syllables of each of the following words: *common*, *toxic*, *minus*, *petal*, *noxious*, *pellet*, *nation*, *ocean*. Mismatches between letters and sounds and the effect of stress make it important for us to have symbols that directly represent vowel

sounds in English. These symbols are shown in the special phonetics chart for vowels below. Vowels have different features than consonants, so they need a different chart that shows where the tongue is (Front, Central, Back), how open the jaw is (High, Mid, Low), and whether the lips are rounded (in English, the back vowel /u/, /ʊ/, /oʊ/, /ɔ/, and /ɔɪ/ are rounded).

	FRONT	CENTRAL	BACK
HIGH	/i/ feed /ɪ/ fib		/u/ boot /ʊ/ book
MID	/eɪ/ fade /ɛ/ fed	/ɜr/ /ər/ curd <u>keeper</u> /ʌ/ /ə/ cut <u>a</u> bout	/oʊ/ boat
LOW	/æ/ fad		/ɔ/ bought (can also be said /ɑ/) /ɑ/ cot (can also be said / ɔ/)
Diphthongs		/aɪ/ cried /aʊ/ cloud	/ɔɪ/ boy

There is one final important issue to mention for North American English: the *cot-caught merger*. The vowels in *cot* (/ɑ/) and *caught* (/ɔ/) were historically distinguished from each other in North America. For some dialects, they still are. But for at least half of the US population, there is no difference in pronunciation for these words, with /ɑ/ the usual pronunciation. In Canada,

there is also no difference, but /ɔ/ is the normal pronunciation. Fortunately, this merger almost never causes misunderstandings, so it is fine for language learners to use whichever vowel is most comfortable for them.

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Chapter 2

Pronunciation in Language Teaching

John M. Levis

Learning Objectives

- To explain why certain features should take priority
- To describe why spelling has both promise and peril for teaching pronunciation
- To explore how pronunciation varies by position and dialect
- To argue that variation is an essential part of pronunciation teaching
- To focus on important constant, vowel, and stress variations between American and British English

Outline

- **2.1 Priorities**
- **2.2 Orthography**
- **2.3 Variation**
- **2.4 American and British English variation**
- **2.5 Conclusion**
- **2.6 References**

2.1 Priorities

Setting priorities for pronunciation teaching and learning starts with communication. Pronunciation is a servant skill to the communicative abilities of speaking and listening, and any consideration of pronunciation success must be in the context of how well it helps learners to speak so that they are understood by a wide range of listeners and to listen so that they understand a wide range of speakers. By speakers, we mean both native speakers of English and those who speak English as an additional language. This focus on communication is in line with what Suzanne Firth (1992) called "the Zoom principle." Pronunciation should start with a consideration of general spoken language skills (which serve broader goals of communicative competence) before zeroing in on specific features.

This view of pronunciation learning is also informed by the concepts

of accentedness, intelligibility, and comprehensibility, first established as three partially related aspects of spoken language by Murray Munro and Tracey Derwing (1995). All three concepts are related to pronunciation, but not in the same way. Accentedness is most closely connected to pronunciation, and it is defined as the difference between someone's speech and a reference accent (e.g., Standard North American English as spoken in a particular area). Native speakers of English, like native speakers of any language, are incredibly skilled at noticing differences in pronunciation that distinguish speakers who are not "from here" (wherever "here" is). Accentedness is affected by differences, however minor, in vowel and consonant sounds, stress and rhythm, and speech melody marked by pitch variations. In one study that demonstrated how attuned listeners are to differences in accentedness, Munro, Derwing, and Burgess (2010) showed that listeners were able to identify accented speech when the content was masked (listeners couldn't hear any sounds or words clearly) and played backward. In terms of pronunciation teaching, this means that even the smallest deviation in speech (which is evident in almost any L2 speaker's production) can be heard as an increase in accentedness.

Fortunately, the fact that accentedness is almost unhideable is not a problem for pronunciation teaching. Many aspects of pronunciation contribute to accentedness but do not affect a listener's ability to understand or impair a speaker's ability to communicate. Even native speakers communicating with native speakers from other dialect areas are usually able to communicate successfully despite variations in pronunciation. In other words, they find each other intelligible and comprehensible most of the time, and when there are

problems in understanding, they are as likely to come from vocabulary, grammar, and unspoken cultural rules of conversation as from pronunciation.

The variations in pronunciation that are evident in L2 speech are much greater and more unexpected than those found in L1 speech, and some of these differences can lead to a lack of understanding (a loss of intelligibility) or make the listener have to work much harder to understand the L2 speaker (a loss of comprehensibility).

Problems with intelligibility or comprehensibility are much more serious than increased accentedness because they are much more likely to impact communication.

Intelligibility

There is wide agreement that the appropriate goal for pronunciation teaching and learning should be intelligibility, not accentedness.

Levis (2005) calls these two approaches to pronunciation the Intelligibility Principle and the Nativeness Principle. The Intelligibility Principle says that the things that should be prioritized in teaching and learning are pronunciation features that are most likely to cause someone not to be understood or to make listeners work very hard to understand a speaker. The Nativeness Principle, on the other hand, says that priorities for pronunciation teaching should be anything that marks someone as being nonnative. Because so few adult learners ever become nativelike in pronunciation, this means that almost any aspect of speech could be prioritized regardless of whether it affects understanding. It is our view that trying to become nativelike is almost never the appropriate goal for L2 learners

because it is nearly impossible and unnecessary for communication. In contrast, prioritizing those features that have been shown to affect intelligibility or to promote improvement in comprehensibility is the best way to improve communication skills. Such improvement includes, at the very least, teaching with an eye to functional load and prioritizing suprasegmentals.

Functional load

Vowel and consonant mispronunciations often, but not always, cause trouble with intelligibility. A speaker who pronounces *path* as *bath*, for example, may leave listeners to work hard to understand what is being said. In other cases, mispronunciations can be impossible to understand. In one example, a graduate student, in a talk about satellites, said that it was important to have *zurist power*. He meant *thrust*, but the listeners never understood the word, even though it was repeated 10 times during the talk. How do we know when mispronunciations are likely to cause trouble?

One promising way to decide which vowels and consonants are important is through the use of functional load. Functional load is a measure of the amount of work that is done by two phonemes in distinguishing words in a language. For example, it is important to look at sounds that learners have trouble with, such as /l/-/r/ and /f/-/θ/. But these two pairs of sounds are not equally valuable for pronunciation training. If we think about how many words differ only in the sounds /l/ and /r/ in English, it is easy to come up with many minimal pairs such as *lead/read*, *collect/correct*, *fell/fair*, *red/led*, *fallen/foreign*, etc. (There are a lot more, actually,, and many are quite

common words in English!) If we want to come up with minimal pairs for /f/ and /θ/, it is much more challenging because there are only a few possible minimal pairs (e.g., *fought/thought*, *free/three*). The /l/-/r/ minimal pair is said to have high functional load (FL) because the two sounds distinguish many words (leading to lots of opportunities for misunderstanding), while /f/ and /θ/ represent a low FL pair of sounds, with few opportunities for misunderstanding in speech.

Catford (1987), for American English, and Brown (1988), for British English, both offer lists of contrasting sounds along with their functional load calculations. Not all of these sound pairs are mistakes that learners actually make (e.g., /k/-/h/ is a high FL pair of sounds, but it is rare as a pronunciation problem), but many involve problems that are quite common for learners of various L2 backgrounds. Research has repeatedly shown that high FL sound pairs impact comprehensibility and accentedness more than low FL sound pairs. The first study, by Munro and Derwing (2006), showed that high FL errors affected comprehensibility and accentedness significantly more than low FL errors and that multiple high FL errors increased accentedness ratings but that multiple low FL errors did not. Other studies have shown similar results, with the additional finding that increased numbers of errors can also cause lower comprehensibility ratings even for low FL errors (Alnafisah et al., 2022) and that lower evaluations of free speech are correlated with higher numbers of high FL errors.

FL thus promises to help pronunciation teachers prioritize the types of mistakes that they include in classroom instruction. If a group of

learners have both high and low FL problems, emphasis on high FL errors should lead to greater improvement in how L2 speakers are understood (Munro & Derwing, 2006). On the other hand, ignoring low FL errors is unlikely to cause problems with understanding. As teachers, we rarely have the time or resources to work on all the pronunciation errors that our students have, and functional load allows us to set priorities for vowel and consonant errors.

Suprasegmentals

In 1987, Maureen McNerney and David Mendelsohn wrote an article for a Canadian government publication that advocated a focus on suprasegmentals as most appropriate for the best improvement in pronunciation in the short term. Their advocacy fit well within the strong emphasis on suprasegmentals that occurred during the 1980s. Books by Rita Worg and Joanne Kenworthy, also published in 1987, provided a wide range of innovative, communicative activities for suprasegmentals. Because they affected pronunciation at the sentence level and discourse level (that is, beyond the sentence level), suprasegmentals were seen as a good fit for communicative approaches to language teaching. It was sometime after this that research demonstrated that emphasizing suprasegmentals actually did improve comprehensibility in spontaneous speech. In the first study that unambiguously showed that suprasegmentals were special, Derwing, Munro, and Wiebe (1998) examined three classes of English learners in Canada. Over the course of the semester, the first received the normal instruction for their class (with no special attention to pronunciation), the second received instruction on segmentals, and the third was taught with a global approach

emphasizing suprasegmentals. In controlled tasks (e.g., reading aloud), both the segmental and suprasegmental groups improved their comprehensibility, but only the suprasegmental group showed improved comprehensibility in spontaneous speech. Since we communicate by speaking spontaneously, not reading aloud, the study shows a superiority for suprasegmental instruction. The same study was replicated by Zhang and Yuan (2020) in China, with nearly the same results. Gordon and Darcy (2016), in a related study with classes of learners in an Intensive English program in the United States, also found that instruction on suprasegmentals was superior to instruction on segmentals in terms of effects on comprehensibility. Finally, in an exploration of self-study focused on suprasegmentals, Foote and McDonough (2017) had advanced learners shadow sitcom scenes over eight weeks, paying particular attention to global features (suprasegmentals and fluency) in their shadowing. The results? In agreement with the other studies, the comprehensibility of spontaneous speech improved

Not only are suprasegmentals in general important for improved intelligibility, but individual suprasegmentals are as well. Misplaced word stress, like mispronounced vowels and consonants, can make words unintelligible. Benrabah (1997), in a study of misplaced word stress by Algerian, Indian and Nigerian speakers, found that British English-speaking listeners relied on stress patterns to interpret what was said. The word *writTEN*, for example, with stress on the second syllable, was heard as *reTAIN*. This tendency to rely on word stress to identify words was also evident in Beth Zielinski's (2008) study of Chinese, Korean and Vietnamese speech, in which stressed syllables were the most likely locations of reduced intelligibility. Misplaced

stress does not only affect native English-speaking listeners, but also nonnative listeners, according to a study by Field (2005), in which misplaced stress affected both groups equally. Fortunately, word stress seems to be quite teachable in classroom-based studies, by calling attention to stress rules (Sadat-Tehrani (2017), in relation to the development of practice strategies (Sardegna, 2022), and by practicing word stress in conjunction with physical actions (Murphy, 2004).

Prominence is another suprasegmental that is important for intelligibility and comprehensibility. Laura Hahn (2004) used a matched-guise approach to studying the connection of prominence and intelligibility. A bilingual Korean-English teaching assistant delivered the same short lecture in three guises: one with English-like prominence patterns, one with prominence patterns that contained mistakes, and one without prominence patterns but rather with Korean-like suprasegmentals. Native English-speaking undergraduate student listeners recalled the most information when they heard the lecture with English-like prominence patterns and the least when the prominence patterns contained mistakes.

Other researchers have also argued that prominence is essential for intelligibility for L2 listeners as well. Jennifer Jenkins (2000), in her study of communication between L2 speakers, established that prominence was the only suprasegmental feature that was important for international intelligibility. Like word stress, prominence is also teachable, and its effects on comprehensibility are noticeable even after a short amount of instruction. Levis and Muller Levis (2018) demonstrated this for teaching contrastive

prominence for intermediate-level learners of English, who, after 150 minutes of instruction over three weeks, showed improved comprehensibility when producing spontaneous speech in which contrastive prominence was essential to meaning. In another recent study, practice with a corpus of academic English led to better perception and production of prominence (Hirschi & Kang, 2024).

Finally, intonation also affects how well listeners understand speakers. Pickering (2001) examined the English classroom speech of American English and Chinese teaching assistants who differed in the patterns of rising and falling intonation. Chinese TAs used a greater proportion of falling intonation patterns, and listeners found them harder to understand and more distant and unapproachable. Pickering suggested the unexpectedly large numbers of falling contours made listeners think the lectures continued too much information. In another study by Sereno, Lammers and Jongman (2016), when English sentences were acoustically changed to have Korean intonation, listeners found them harder to transcribe correctly (a clear indication that their intelligibility was worse for the listeners).

2.2 Orthography and Pronunciation

Language learners almost always learn pronunciation, at least to some extent, through the use of the written language. This means that they have to negotiate the way that the spelling system (i.e., the orthography) of the L2 connects written symbols to sounds. In any language, this will be a challenge because literate learners already know another orthography very well and unconsciously assume that

the new orthography follows a logic similar to the one they are used to reading. This is almost never the case, of course.

In looking at the connection between orthography and pronunciation, it is helpful to see that some orthographies are harder to employ for pronunciation teaching. Orthographies fall on a continuum between transparent and opaque. Transparent orthographies are those in which each letter mostly represents a single sound (though no language is perfectly transparent). Opaque orthographies, on the other hand, have a complex relationship between spelling and sound. It should come as no surprise that English spelling is opaque, making it difficult for most language learners to use for pronunciation learning.

The peril of orthography

Research on orthography and pronunciation learning has come into its own since 2009. In general, we know that a learner's first language orthography continues to affect how even advanced L2 speakers perceive and produce the pronunciation of the L2. Orthography can affect learners in simple ways, such as happens with the presence of silent letters in English (e.g., *half*, *calf*, *salmon*) or areas in which word stress affects how similar spellings are pronounced (e.g., *retain*, *Britain*; *table*, *vegetable*). Orthography can also affect learners' pronunciation more systematically when they expect English to behave like their L1 orthography. This can be illustrated using one connection between pronunciation and orthography that has repeatedly been explored by Bene Bassetti (2023).

Her studies report on geminate consonants. Italian has a phonemic distinction between single and double consonant sounds, but English does not. Both languages, however, have single and double consonant letters. Double consonant sounds are also called geminate consonants. Italian orthography also represents double consonant sounds with double letters. So in the author's family name, *Bassetti*, there is a double [s] and a double [t], both of which will be pronounced in Italian. In contrast, an English speaker pronouncing her name will only pronounce one [s] and one [t] because English spelling regularly uses double letters for single sounds. This causes a great deal of confusion for Italian learners of English, who expect double consonant letters to be pronounced with a double consonant sound (that is, a geminate). When faced with spellings like *finish* and *Finnish*, Italian learners believe that they are pronounced differently because *Finnish* has two <n> letters. They also pronounce them differently, with a single [n] and double [nn]. They also are more likely to hear a difference in pronunciation when they see the spelling, even though the English pronunciation of the two words is identical. Bassetti's research also shows that this effect of orthography is quite resistant to instruction. Even after being taught that doubled letters in English spelling represent only one sound, Italian learners of English continue to make the same mistakes.

The promise of orthography

Despite the peril of orthography, connections between spelling and sound have to be addressed, if only because it is almost impossible to teach pronunciation (or indeed any aspect of language) without

written representations of sounds and words. Writing out words or sentences is essential for most controlled production exercises, and even if we try to teach with minimal connections to written language, learners will find that they have to be able to connect the written language code to the pronunciation of new words or wonder how words that they know only from writing are pronounced.

English's opaque orthography is systematic, though indirectly connected to sounds. Some influential linguists, such as Chomsky and Halle (1968), in their famous book, the *Sound Pattern of English*, argued that the spelling system of English was ideal because English spelling is morphologically not phonologically organized. In other words, English preserves the visual identity of words through spelling patterns of related words that may be pronounced differently, as in the <cav> of *cave*, *cavity*, *excavate*, where <cav> means "hole" or <electric> in *electrical*, *electricity*, *electrician*, where the final <c> spelling remains visually consistent but inconsistent in pronunciation.

A number of influential teachers have used spelling to help learn pronunciation. Judy Gilbert (2001) teaches vowel sounds according to whether the vowel letters say their name, what she calls "alphabet vowels," <a, e, i, o u> sounding like [eɪ, i, aɪ, əʊ, ju]. English speakers usually are taught to think of these vowels as "long vowels." The short vowels, on the other hand, Gilbert calls "relative vowels," in which <a, e, i, o u> spellings represent [æ, ɛ, ɪ, ɑ, ʌ].

Spelling	Alphabet (long) vowels	Relative (short) vowels
<a>	hate [eɪ]	hat [æ]
<e>	mete [i]	met [ɛ]
<i>	fine [aɪ]	fin [ɪ]
<o>	code [əʊ]	cod [ɑ]
<u>	chute [u]	shut [ʌ]

A more complete treatment of English spelling and pronunciation can be found in the work of Wayne Dickerson, for whom spelling is a resource used to teach language learners how to predict the pronunciation of words and sentences they have never heard but perhaps only know from reading. In a 2015 chapter, Dickerson presents principles for using spelling based on a lifetime of research into spelling-pronunciation connections. Dickerson argues that pronunciation is most effectively taught using the “3 Ps” of perception, production and prediction. But his primary contribution to the field is in the use of prediction to help improve perception and production. One of his pronunciation textbooks, *Speechcraft*, published together with Laura Hahn (1998), uses spelling patterns to help make the prediction of sounds, word stress, and prominence accessible to teachers and learners.

2.3 Variation

Positional variation

With pronunciation teaching, we often assume that language representations are unvarying. We talk about the /p/ sound, the /t/ sound, the /r/ sound, or the /æ/ sound, but each of these phonemes has variations that are quite noticeably different. Native speakers of American English unconsciously treat the variations for each of these phonemes as representing the same sound. Still, the phoneme boundaries and the dialect variations for the sounds are often quite troubling to language learners, who do not bring native phonological intuitions to the sounds of English. Some variations in these phonemes are listed below.

/p/	/t/	/r/	/æ/	/ɑ/ – /ɔ/
pit [p ^h]	take [t ^h]	right [r]	cat [æ]	horse [ɔ]
spit [p]	stake [t]	tar []	man [eə]	caught [ɑ] or [ɔ]
tip [p̥]	late [t̃]	bird [ɜ]		cot [ɑ] or [ɔ]
	later [r]			
	button [ʔ]			

The /r/ also has dialect variations for the post-vocalic /r/, in which the sound is not pronounced outside of the lengthening of the

preceding vowel. /æ/ may be pronounced as [ɛ] in some dialects of American English when it is in a word before /g/ or /ŋ/, such as *bag* or *bank*. Teachers need to be aware of these variations in their own speech to recognize where they differ from the prescriptive statements about sounds in teaching materials. They also need to be aware of such variations so that they do not require learners to produce distinctions that are not important in the speech of others in the area they are teaching. For example, the last column above shows a merger in our part of the US and in Canada. Some of our authors merge these two phonemes, others do not, but we all agree that teaching the distinction is not important because not even native speakers seem to care about distinguishing these two sounds.

Dialectal variation

A better-known type of variation is that which is associated with dialects. For example, the /æ/ is pronounced with a pure monophthong in Canadian English, but in most varieties of American English is often pronounced with a raised diphthong, [eə]. Both are normal for many educated speakers. The vowels in the *cot-caught* merger, well described in North American English varieties, are merged to a single sound [ɑ] for much of American English, but to [ɔ] for some varieties of American English and Canadian English. Moreover, few North American English speakers ever find the lack of distinction troubling in the speech of other native speakers. Both of these sounds are distinct, however, in British English varieties.

Dialects of English largely differ from each other in the realization of

vowels. The monophthong vowels of cities in the Inland North (e.g., Buffalo, Cleveland, Detroit, Chicago, Milwaukee) have shifted in a chain shift from what they sounded like 70 years ago. So words like *buses* now sound like *bosses*, *Dawn* like *Don*, and *block* like *black* to speakers from other dialect areas (Labov, 2002). Another example comes from the US South, an area with nearly 70 million speakers, where tense and lax vowels have been shifting such that *heat* sounds like *hit* and vice versa (to speakers from other areas) and *late* sounds like *let*.

What does variation mean for teaching pronunciation?

Variation is important for teachers because it is important for learners. In teaching pronunciation, there are some models of English speech that are well-represented in pronunciation materials (primarily Standard British and General American), but other models are not (such as Scottish English, Irish English, Australian English, New Zealand English, or Southern US English). This lack of representation can lead to the assumption that speakers who pronounce differently are also pronouncing wrongly. English teachers who speak varieties of English that are different from the varieties represented in published materials may assume that their pronunciation is wrong and that they need to model something they don't actually speak. It is our belief that this attitude that some language models are good and others are deficient is fundamentally wrong. Teachers can only model the variety they speak while being aware of the pronunciation of other models. In doing so, a pronunciation teacher can become a tour guide to the wonderful

variations in English speech and can allow learners to make their own choices about intelligible pronunciation.

In addition, a prescriptive attitude about correct pronunciation can disadvantage nonnative teachers. We know that both native and nonnative teachers can be equally effective when teaching pronunciation (Levis et al., 2016) and that training is a more important qualification than nativeness, especially in a world with a ubiquity of Englishes. Part of this training should include knowledge of variation and which variations are important to insist on (e.g., positional variation) and which are not (e.g., dialect variation). Levis (1999, p. 16) provides some guidelines for addressing variations in pronunciation.

1. Teachers should be aware of the most common systematic variations of pronunciation in common educated dialects of English.
2. Teachers should be encouraged to model their own dialect but should allow students to use any acceptable variation in pronunciation.
3. Students should have access to more pronunciation models than they can get from the teacher or the textbook alone.

2.4 American and British English variations

The two major varieties modeled in published pronunciation materials are British and American English. British English

pronunciation is often referred to as Received Pronunciation (RP) or Standard Southern British English (SSBE). This is a non-regional variety, and even though as few as 3% of the population of the UK actually speaks this variety (Upton, 2015), it dominates how British English is viewed around the world. The UK has many other varieties with their own pronunciation systems, and these varieties represent the great majority of speakers in the UK. The rise of Estuary English, a hybrid of RP and Cockney (Rosewarne, 1984, 1994), continues to be associated with the greater London area and Southeastern England and is perhaps what many outsiders now identify with British English pronunciation.

American English pronunciation, or what is often referred to as General American (GA), is also a non-regional variety, even though it is associated mostly with the pronunciation of the American midwest and west. About half of the speakers in the US (and Canada) speak some version of GA. Other well-known varieties in the US are Southern US English (actually a wide variety of pronunciation systems that share some distinctive features), New York English, and Boston English, among others. These varieties are identifiable because they have pronunciation variations that are culturally stereotyped (such as the monophthong [a] for [aɪ] in words like *ride* and *night*, or the non-rhotic pronunciation used by many New Yorkers or Bostonians).

There are more differences between British English and GA pronunciation than can be addressed in even a full book, but some are important enough for teachers to be aware of. These include vowel differences, consonant differences, and word stress

differences. More differences can be found in Celce-Murcia et al. (2010).

Consonants

/r/

The pronunciation of /r/ is one of the most important varietal differences between American and British English. AmE is largely a rhotic variety, whereas BrE is largely non-rhotic. This means that in postvocalic position (e.g., *car*, *form*, *care*), BrE speakers do not say the /r/, but AmE speakers do. In BrE, however, post-vocalic /r/ will be pronounced if the following word starts with a vowel (e.g., *care about*), whereas AmE /r/ is always pronounced. (Note: Not all British English varieties are non-rhotic, nor are all AmE varieties rhotic, so these generalizations refer primarily to the varieties found in most published materials for pronunciation teaching.)

BrE also has an intrusive /r/ that appears when a word ends with schwa, as in *vodka* or *Cuba*. Thus *vodka and tonic* would be pronounced [vɒdkə-ntənɪk], with a rhotic quality to the schwa. Some AmE non-rhotic varieties do the same thing. Former President John F. Kennedy, a non-rhotic speaker, pronounced *Cuba* as [kjubə] and *idea* as [aɪdiə].

A common variation of /r/ in BrE is to use a labio-dental approximant [ʋ], which is not quite a [w] or [r]. The late Oliver Sacks, a prominent neurologist, used this pronunciation. This link illustrates Sacks's pronunciation: [Oliver Sacks Ted Talk](#). Listen for the words with <r> and you will notice the [ʋ] pronunciation.

/l/

Another difference between BrE and AmE pronunciation is found in the pronunciation of dark /l/, as in words like *fall*, *whole*, *build*. Dark (or velarized) /l/ or [ɫ], is a co-articulated allophone of the /l/ phoneme. That means it has both an alveolar lateral articulation using the front of the tongue, like regular or bright /l/ (as in *laugh*, *lot*, *lift*) and a velar approximant articulation, in which the back of the tongue is raised to the velar area (like the co-articulation of [w]). It is very common in BrE that the front articulation does not occur while the velar articulation does. As a result, *fall* may be pronounced as [fɒ^w], *whole* as [ho^w], and *build* as [bɪ^wd]. This pronunciation is sometimes referred to as /l/-vocalization. /l/-vocalization is also the normal pronunciation in Southern US English, but is not common in other areas of the US or Canada. There are very few arguments for the importance of dark /l/ for pronunciation teaching. Jenkins (2000), in her study of English as a Lingua Franca pronunciation, says flatly that this allophone should not be taught because it does not affect intelligibility. Most pronunciation teachers likewise give this sound very low priority, seeing it as affecting accentedness only.

Vowels

There are also notable differences in the inventory of vowels in BrE and AmE. GA usually is listed as having around 15 vowel phonemes, while BrE has around 20. The difference in number has to do with two areas on the vowel chart: low back vowels and vowels before /r/. There are also many dialect-specific differences that reflect

different choices of vowels, such as the first vowel sound in *process*. In BrE, the vowel is [ɒ] while AmE prefers [ɑ].

Low (back) vowels

In BrE, there are three low-back vowel phonemes: /ɑ/, /ɒ/ and /ɔ/. /ɑ/ is the vowel in *father*, /ɒ/ in *cot*, and /ɔ/ is found in *caught*. /ɒ/ and /ɔ/ are both rounded vowels, with /ɒ/ being lower than /ɔ/ (that is, /ɒ/ is pronounced with a more open jaw). In AmE, /ɔ/ does not really exist except as an allophone before /r/, as in words like *horse* and *four*. AmE materials, however, use /ɔ/ as the symbol for the rounded low-back vowel, even though most speakers with this low-rounded vowel actually use /ɒ/ (a rounded low-back vowel).

Many GA speakers actually only have one low-back vowel, /ɑ/, rather than the three found in BrE. A key difference between GA and Canadian English is that Canadian English pronunciation uses only /ɒ/. So both GA and Canadian English pronunciations have a single low-back vowel, just not the same vowel.

Another difference between BrE and AmE is found with low vowels. In many borrowed words, such as *drama*, *pasta*, *macho*, and *mafia*, the vowel in BrE is more front in the mouth, closer to [æ] or [a], while AmE speakers prefer [ɑ]. Canadian English speakers pattern with the BrE pronunciations rather than with AmE. Finally, there are other words such as *bath* and *dance* in which AmE speakers prefer [æ] while BrE use [ɑ]. These are well-known variations between the varieties.

Word Example	BrE	AmE	CnE
father	[ɛə]	[ɑ]	[ɒ]
cot	[ɒ]	[ɑ]	[ɒ]
caught	[ɒ]	[ɑ]	[ɒ]
pasta	[æ] / [a]	[ɑ]	[æ] / [a]
bath	[ɑ]	[æ]	[æ]

r-vowels

Another area in which BrE descriptions have vowels that AmE does not are with vowels before post-vocalic /r/, as in *square*, *near*, *force*, *cure*. Recall that BrE is a non-rhotic variety, so tense vowels before /r/ are pronounced as lax diphthongs with a centralized (schwa) offglide or simply pronounced as a lengthened vowel. In AmE, a rhotic variety, the distinction between tense and lax vowels is also neutralized but the /r/ is pronounced. Most importantly, BrE descriptions describe these vowels as separate phonemes, but American English does not.

Word Example	BrE	AmE
Square	[ɛə]	[ɛr]
Near	[ɪə]	[ɪr]
Force	[ɔ]	[ɔr]
Cure	[ʊə]	[ʊr]

Word stress

An often-noticed area of difference between British and American English is in word stress. British English speakers say *BALlet* while Americans prefer *balLET*, and American English prefers *FRUState* to the British stress pattern *frusTRATE*. Americans say *CORollary*, a difference from the British *coROLLary*, and the British *adVERTisement* differs from the American *adverTISEment*. Although these differences in stress seem extremely common, Berg (1999) found that such differences only make up a little more than 1% of words the two varieties share. In addition, many of the differences reflect clear patterns. Recent French borrowings, for example, are usually pronounced with initial stress in British English (e.g., *GArage*) but with final stress in American English (*gaRAGE*). In contrast, two-syllable -ate words like *frustrate* and *donate* have initial stress in American English but final stress in British English. In another example, words with a final -ary have initial stress in American English but are stressed before the -ary suffix in British English. Berg's article includes an appendix of all stress differences he found, and it is striking how many of these are place names (e.g., *Baghdad*)

and compounds (e.g., *halftime*), likely with no changes in vowel quality and thus the likelihood that intelligibility will not be affected.

2.5 Conclusion

For successful pronunciation teaching, teachers need to understand the content they are teaching (the phonetics and phonology of English), but they also need to understand how to set priorities. It is rare for even enthusiastic teachers and learners to have unlimited time to work on pronunciation, and in most instructional contexts, there is very little time afforded for pronunciation teaching. This means that teachers need to know what pronunciation features are likely to lead to communicative improvement, and then target their teaching toward these features. This is what we mean by an intelligibility-based approach. Pronunciation is an essential skill in oral communication, but not all pronunciation errors are equally important in promoting oral communication. It makes little sense in most circumstances to work on errors that will not lead to more successful L2 communication. It makes a lot of sense to work on errors that will.

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Part II

Segmentals

English Sounds

English sounds, also known as **segmentals**, are the heart of traditional pronunciation teaching (Levis, 2018). Clear pronunciation of vowels and consonants is crucial for producing intelligible speech. The next two chapters will provide an overview of vowel and consonant sounds. Guided by the *Intelligibility principle* (Levis, 2005), the chapters will discuss the basic characteristics of the sounds (also known as segmentals) and ways that teachers can help learners be better understood.

Please note that this chapter will cover the General American (GA) English sound system. This is not because other varieties of English are less important, but rather because GA is an important model, and it is the sound system the authors work with.

Chapter 3

Vowels

Agata Guskaroska

Learning Objectives

- To define vowels and their characteristics
- To explore innovative ways to teach vowel pronunciation to students
- To introduce teachers to minimal pairs and ways to use them in the classroom
- To provide exercises for most commonly mispronounced vowels

Outline

- 3.1 What are vowels?
- 3.2 Why are they important in English speech?
- 3.3 Are some vowels more important than others?
- 3.4 How to approach teaching vowels?
- 3.5 Technology Corner
- 3.6 Activities
- 3.7 References

3.1 What are vowels?

Vowels are sounds that are produced with no air blockage from the tongue, lips, or throat. They differ from each other based on tongue movement, lip rounding, and tenseness. Based on the tongue position in the mouth, vowels can be classified as *high*, *mid*, or *low*; and *front*, *central*, or *back*. Figure 3.1 below, representing the mouth, shows the most common sounds of GA English.

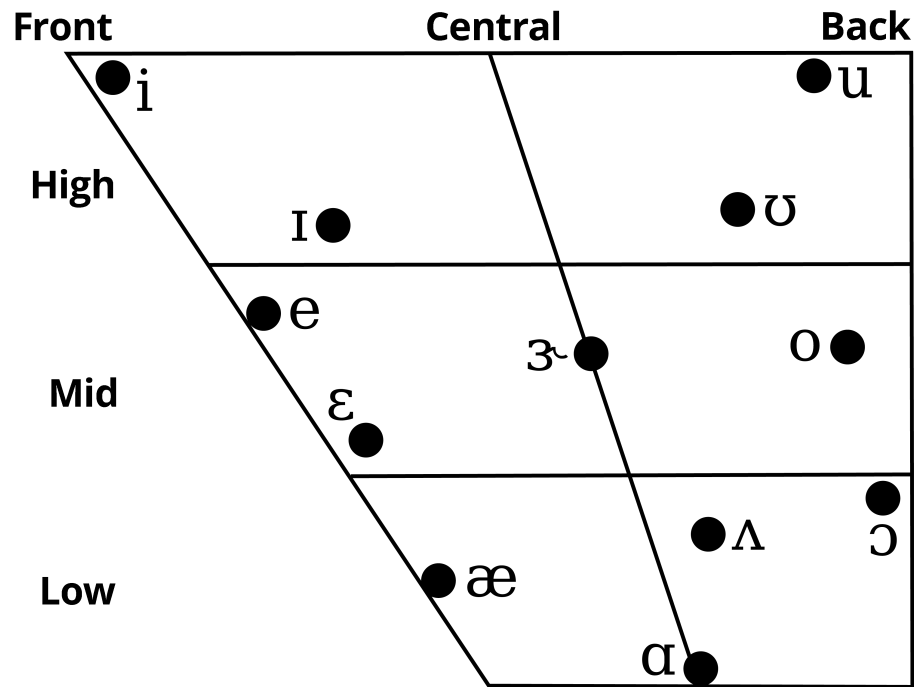


Figure 3.1 Vowel chart for American English. (Source Information)

Vowels differ based on whether they are produced with rounded or unrounded lips while producing the sound. Four back vowels in English (/ʊ/, /u/, /o/, and /ɔ/) are pronounced with different degrees of lip rounding. The rest of the vowels in GA English are unrounded.

Last but not least, vowels differ based on the tension of the tongue, neck, and jaw muscles. This distinction is important because it is the main difference between certain GA vowels. For example, the sounds /ɪ/ and /i/ in **chip** — ɪ and **cheap** — i, have similar tongue positions and lip shapes, but /ɪ/ is a lax vowel while /i/ is tense.

Most vowels are pure and have only one sound, but some vowels contain two sounds in which the sound begins as one vowel and

moves toward another. These sounds are called **diphthongs**. The most common diphthongs in GA (illustrated in Figure 3.2 below) are /aʊ/ (**town** — ː), /aɪ/ (**light** — ː), /eɪ/ (**play** — ː), /oʊ/ (**slow** — ː), /ɔɪ/ (**toy** — ː). Many learners have only pure vowels in their languages instead of diphthongs; therefore, they tend to pronounce two pure vowels for these sounds.

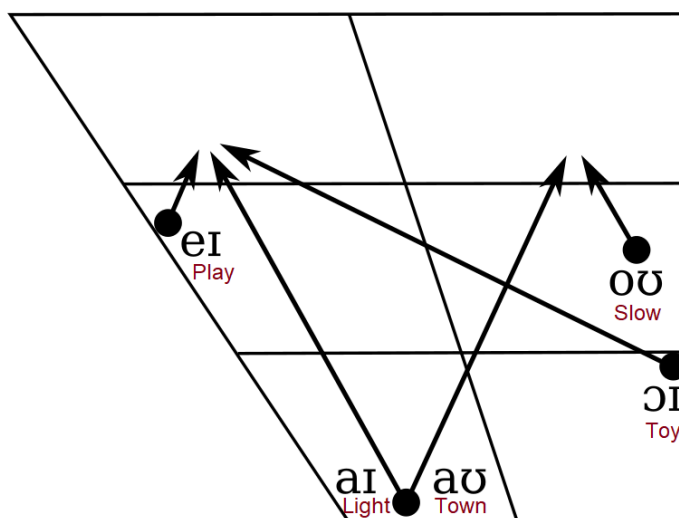


Figure 3.2 Diphthongs chart (Source Information)

It should be noted that there are some differences in vowel pronunciation that are affected by several factors, such as the sounds they occur next to, and suprasegmental features, such as word stress, and phrasal prominence. For example, vowels tend to be longer before voiced consonants (**mad** vs **mat**), and in a primary stressed syllable (**comPUter**). For example, the sound schwa (/ə/), the most common vowel in the English language, is dependent on stress, a suprasegmental, i.e. the non-realization of word stress

(Levis, 2018). You can read more about word stress and vowel reduction [here](#). (hyperlink to Stress chapter).

Regional variations

Vowels are pronounced differently in various regions across North America. They may also differ depending on a speaker's socio-economic status. While you may not dive into the details on this topic, it's important to raise your students' awareness that differences exist. Some well-known variations are listed below, but not all speakers in particular areas will sound the same.

Figure 3.3: Regional variations of vowel pronunciation

Word	GA	Southern	New York	Chicago	Toronto
cot	[ɑ]	[ɑ]	[ɑ]	[ɑ]	[ɔ]
caught	[ɑ]	[ɔ]	[ɔ]	[ɑ]	[ɔ]
pen	[ɛ]	[ɪ]	[ɛ]	[ʌ]	[ɛ]
pin	[ɪ]	[ɪ]	[ɪ]	[ɪ]	[ɪ]
oil	[ɔɪ]	[oʊ]	[ɔɪ]	[ɔɪ]	[ɔɪ]
tide	[aɪ]	[a:]	[aɪ]	[aɪ]	[aɪ]
man	[ɛə]	[ɛə]	[ɛə]	[ɛə]	[æ]

3.2 Why are they important in English speech?

Vowels are a crucial part of the sound system in a language.

Mispronouncing vowels, such as confusing 'ship'  with 'sheep'  or 'bit'  with 'beat,'  may lead to unintelligible speech or certain words being mistaken for

another word. Therefore, we may say that vowels are important because:

- They are crucial for understanding and being understood;
- They have a direct impact on the quality of our communication;
- Speech can be hard to understand not only because of individual sound mispronunciations but also combinations of vowel mistakes in words, phrases, and sentences (Levis, 2019).

3.3 Are some vowels more important than others?

It's worth noting that not all vowels are created equal. Research shows that certain vowels hold greater importance and occur more frequently than others and should be prioritized in teaching. This idea is rooted in the concept of "*functional load*." Some vowels appear more frequently in words that are similar, such as minimal pairs [hover box description: *Minimal pairs are two words that vary by only a single sound and are commonly used in pronunciation teaching*], and that can cause problems in communication. Figure 3.4 below provides an overview of vowel contrasts with the highest functional load (adapted from Catford, 1987). Those in **bold** print are errors that are common for a variety of languages.

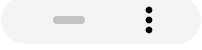
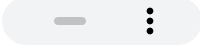
Table 3.4 Functional load: Vowels

Functional load	%
[bit/bat]	[100]
[beet/bit]	[95]
[bought/boat]	[88]
[bit/but]	[85]
[cat/cot]	[76]
[cat/cut]	[68]
[bit/bet]	[54]

The teachers can decide what vowel contrasts they need to prioritize in their context. Additionally, the learner's L1 background may influence the degree of difficulty they may encounter with certain vowels. For example, a learner from a Spanish L1 background may struggle to distinguish /i/ and /ɪ/ because there is only one /i/ sound in their L1. Teachers should keep these factors in mind to facilitate more effective pronunciation instruction.

3.4 How to approach teaching vowels

It's important to be aware that people can mispronounce vowels in various ways: substitute, delete, distort, or add them. This process may largely vary depending on the learner's level of L2 knowledge, their aptitude, and their L1.

One common way to teach vowels is by using sounds that appear in **minimal pairs**. Minimal pairs are two words that vary by only a single sound and are commonly used in pronunciation teaching. When the learner compares the two words, for example, *fill*  and *feel* , they have the opportunity to listen to the two contrasting sounds in the same or similar context. Vowel perception training has been found useful in the literature to help learners distinguish between challenging contrasting sounds. You can start by using humorous examples to spark learners' interest, for example, using the video ProFUNciation Fails [[link to this part](#)].

To further enhance vowel instruction, consider incorporating visual aids such as tongue and lip diagrams and encourage extensive listening practice to raise learners' awareness of vowel distinction. Other valuable approaches could be encouraging peer feedback, self-assessment, and computer-based training. Computer-based perceptual training seems to be particularly effective with learners. In the sections below, we provide some technology resources and a number of activities that can be used to teach vowels.

3.5 Technology Corner

Perception

- **The Color Vowel Chart:** This tool is an interactive vowel chart where learners can hear the pronunciation of vowels ([Copyright information](#))
- **English Accent Coach:** This tool can be used for consonant and vowel perception training;
- **YouGlish:** The learner can type any word and hear how it is spoken by real people and in context;
- **Tools for Clear Speech:** This website provides articulations, descriptions, and examples of sounds.

Production

- **Google Pronunciation:** to find this tool, the learner needs to google the *target word* and type *pronunciation*, for example, “leave pronunciation.” In the lower right corner, they should be able to locate the “practice” button, an ASR-based function that gives feedback on pronunciation.
- **Google Translate:** to use Google Translate, or similar ASR-dictation tools, the learner can use the voice-to-speech function to dictate into the document. Based on the transcription, the learner can identify whether the ASR

was able to understand, detect, and transcribe the words correctly.

3.6 Activities

Description and Analysis

/æ/ and /ɛ/

To produce the /æ/ sound:

Put your tongue low and toward the front of your mouth. Keep your lips and mouth relaxed. Make your vocal cords vibrate while holding your tongue in this position.

To produce the /ɛ/ sound:

This vowel is a mid-front vowel. Place your tongue at a middle height in your mouth and move it toward the front. Keep the muscles of your lips and mouth relaxed. Generate vibrations in your vocal cords while keeping your mouth in this position.

Remember, the /æ/ sound is lower in your mouth than the /ɛ/ sound.

Listening Discrimination

Exercise 3-1.

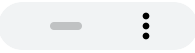
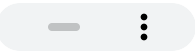
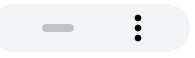
Directions: Listen to the lists of words for each sound.

/æ/ sound:

- cat ☐ ⋮
- mat ☐ ⋮
- bag ☐ ⋮
- hat ☐ ⋮
- fast ☐ ⋮
- black ☐ ⋮
- dance ☐ ⋮
- stamp ☐ ⋮
- plant ☐ ⋮
- sand ☐ ⋮

/ɛ/ sound:

- bed ☐ ⋮
- red ☐ ⋮
- pen ☐ ⋮
- bell ☐ ⋮
- met ☐ ⋮
- head ☐ ⋮
- dress ☐ ⋮

- desk 
- shell 
- step 

Exercise 3-2. Same or different?

Directions: Listen to the words and guess whether they are the same or different.

Exercise 3-3. Word 1 or Word 2?

Directions: Listen to the words and select the one that the speaker said **first**.

Exercise 3-4. Which word is different: 1, 2, or 3?

Directions: Select the word that sounds different.

Controlled Production

Exercise 3-5.

Directions: Listen to each of the sentences. Select the word you hear.

Exercise 3-6. Practice pronouncing these words and get feedback!

Directions: Record yourself pronouncing these words.

Guided & Communicative Production

Exercise 3-7. Practice & Discuss

Directions: You have won a \$ 1,000 shopping certificate which can be sent on any of the following items as long as your total does not exceed \$1,000. Choose from the following items. What will you buy?



**The world's best translator
\$950.00**



**A chess set
\$10.00**



**A lifetime supply of
hamburgers & french fries
\$500.00**



**A tennis racquet
\$50.00**



**The world's best tennis coach
\$900.00**



**A fancy red sports car
(for one month)
\$500.00**



**Ten fancy neckties
\$300.00**



**A friendly pet
\$200.00**



**A grand piano
\$600.00**

Figure 3.3. What would you buy? (Source Information)

Description and Analysis

/i/ and /ɪ/

To produce the /ɪ/ sound:

The /ɪ/ vowel is a high-front sound. Put your tongue high and toward the front in your mouth. Keep your lips relaxed and slightly open. Make your vocal cords vibrate while holding your mouth in this position.

To produce the /i/ sound:

The /i/ vowel is a high-front sound. Place your tongue high and toward the front in your mouth. Tense your lips and slightly stretch the corners of your mouth apart. Keep your lips only slightly open. Generate vibrations in your vocal cords while maintaining this mouth position.

Listening Discrimination

Exercise 3-8.

Directions: Listen to the list of words for each sound.

- sneakers-snickers — ⋮
- lick-leak — ⋮
- list-least — ⋮

- ream-rim — ∴
- feel-fill — ∴
- heat-hit — ∴
- each-itch — ∴
- rid-read — ∴
- pitches-peaches — ∴
- bead-bid — ∴
- ship-sheep — ∴
- meat-mitt — ∴

Exercise 3-9. Same or different?

Directions: Listen to the words and guess whether they are the same or different.

Exercise 3-10. Word 1 or Word 2?

Directions: Listen to the word and select the one that speaker said.

Exercise 3-11. Which word is different: 1, 2, or 3?

Directions: Select the word that sounds different.

Controlled Production

Exercise 3-12. Practice words with – /ɪ/ and get feedback!

Directions: Record yourself saying these words.

Guided & Communicative Production

Exercise 3-13. Practice & Discuss.

The Windy City

Chicago is located on the southern end of **Lake Michigan** and is known as the “Windy City”. It’s one of the biggest cities in America. The city itself has a population of about 3 million, but another 3 million people live in the suburbs around Chicago. The inner city has many famous buildings, including **the Chicago Theatre** and **the Willis (formerly Sears) Tower**, which is the tallest building in the world. The **Field Museum of Natural History** is also in Chicago. Because of its many points of interest, Chicago is a nice place to visit. However, I wouldn’t want to live there.

After you have read the text about Chicago, select the images that contain words that are mentioned in the text.

Now discuss the questions with your classmates. If you’re practicing alone, use the voice-to-text feature to get immediate feedback on your speech.

Description and Analysis

/ɑ/ – /ʌ/

To produce the /ʌ/ sound:

The /ʌ/ vowel is a mid-central sound. This means your tongue is mostly relaxed and in the center of your mouth, not too far forward or back. Keep your tongue at a middle height in your mouth and let your lips be partially open. Vibrate your vocal cords and push air from your mouth.

To produce the /ɑ/ sound:

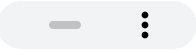
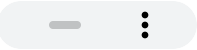
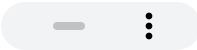
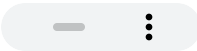
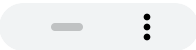
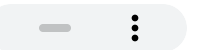
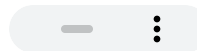
The /ɑ/ vowel is a low-back sound. Place your tongue low in your mouth and move it toward the back. Open your mouth wider than for /ʌ/ or /o/. Vibrate your vocal cords and push air from your mouth.

Listening Discrimination

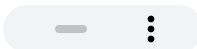
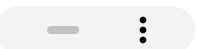
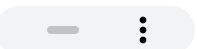
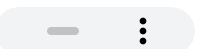
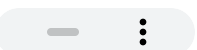
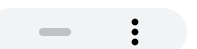
Exercise 3-14.

Directions: Listen to a list of words for each sound.

/ʌ/ sound:

- run 
- jump 
- sun 
- bus 
- fun 
- mud 
- luck 

/ɑ/ sound:

- wrong 
- hot 
- want 
- boss 
- not 
- stop 

Exercise 3-15. Same or different?

Directions: Listen to the words and guess whether they are the same or different.

Exercise 3-16. Dictation. /ʌ/ or /ɑ/?

Directions:

Controlled Production

Exercise 3-17. Practice

Directions: Listen to the sentence. Record yourself saying the highlighted words to get feedback!

Exercise 3-18. Strip Story

Directions:

Guided & Communicative Production

Exercise 3-19. Discussion

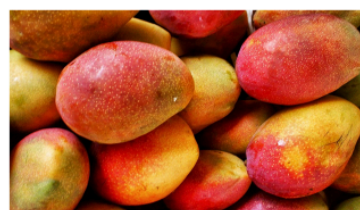
Directions: You have a \$1,000 gift certificate. What would you buy and why? Choose your top three answers and discuss with a partner.



Watch



Sunglasses



Mango



Luxury car



Laptop



Vacation

Figure 3.4 Gift certificate collage (*Source Information*)

3.7 References

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Chapter 4

Consonants

Agata Guskaroska

Learning Objectives

- To define consonants and their characteristics
- To explore innovative ways to teach consonant pronunciation to students
- To introduce teachers to minimal pairs and ways to use them in the classroom
- To provide exercises for most commonly mispronounced vowels

Outline

- **4.1 What are consonants?**
- **4.2 Why are they important in English speech?**
- **4.3 Are some consonants more important than others?**
- **4.4 How to approach teaching consonants?**
- **4.5 Technology Corner**
- **4.6 Activities**
- **4.7 References**

4.1 What are consonants?

Consonants are sounds that are produced with narrowing in the mouth, which causes some obstruction of air stream. They differ from each other based on place and manner of articulation and voicing. Figure 4.1 below illustrates this classification of the consonants in GA English.

Table 4.1 Consonants classification

MANNER	VOICING	Bilabial	Labiodental	Interdental	Alveolar	Palatal	Velar	Glotal
Stop	Voiceless	p			t		k	ʔ
Stop	Voiced	b			d		g	
Fricative	Voiceless		f	θ	s	ʃ		h
Fricative	Voiced		v	ð	z	ʒ		
Affricate	Voiceless					tʃ		
Affricate	Voiced					dʒ		
Nasal	Voiced	m			n		ŋ	
Lateral (Liquid)	Voiced				l			
Rhotic (Liquid)	Voiced					r [ɹ]		
Glide	Voiced	w				j	(w)	

Place of articulation

Place of articulation refers to the position in the mouth where the airstream is

obstructed. The various places of articulation are labeled in the mouth diagram below (Figure 4.2). There are seven classifications of consonants according to place of articulation:

- **Bilabial** (sounds made with the lips). These include sounds like /p/ (as in “pen” — ÷), /b/ (as in “bat” — ÷);
- **Labiodental** (sounds made with the lips and the teeth). These include sounds like /f/ (as in “fan” — ÷), /v/ (as in “van” — ÷)
- **Interdental** (sounds made with the tongue between the teeth). These include sounds like /θ/ (as in “think” — ÷), /ð/ (as in “this” — ÷);
- **Alveolar** (sounds made with the tongue touching the alveolar ridge). These include sounds like /t/ (as in “top” — ÷), /d/ (as in “dog” — ÷);
- **Palatal** (sounds made with the blade of the tongue approaching the hard palate). These include sounds like /ʃ/ (as in “shoe” — ÷), /ʒ/ (as in “measure” — ÷);
- **Velar** (sounds made with the back part of the tongue rising to touch the velum). These include sounds like /k/ (as in “cat” — ÷), /g/ (as in “go” — ÷);
- **Glottal** (sounds produced by obstructing airflow in the vocal tract or, more precisely, the glottis). These include sounds like /h/ (as in “hat” — ÷)

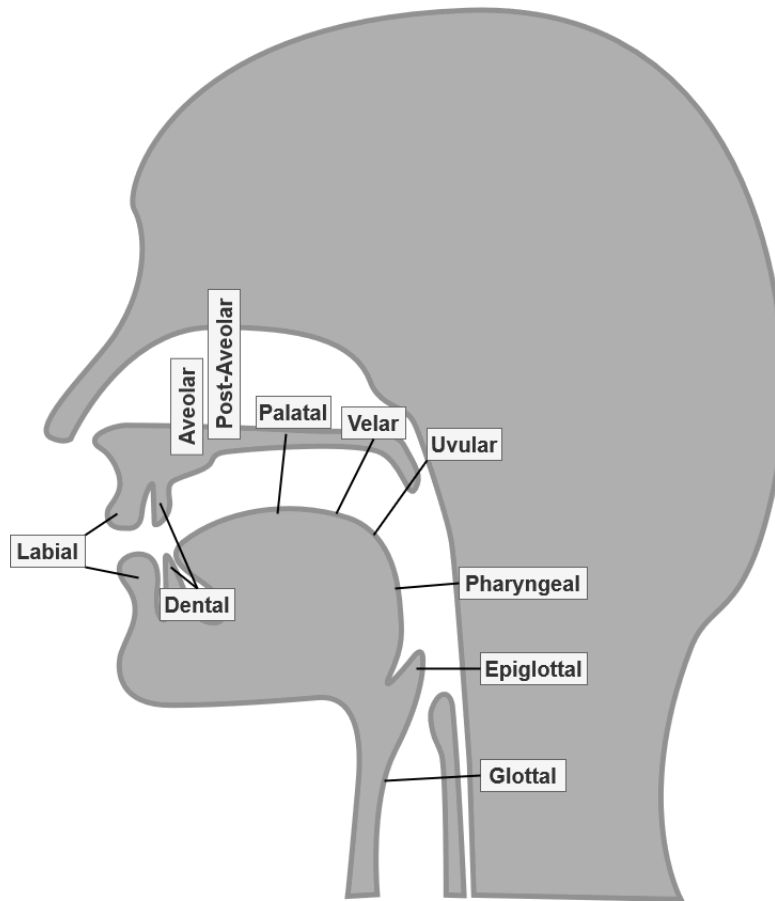


Figure 4.1 Mouth Diagram (Source Information)

Manner of articulation

Manner of articulation means how we make sounds by blocking the air in different ways. There are several different ways that the air can be obstructed:

- **Stops** (sounds where you fully block the air). These include sounds like /p/, /b/, /t/, /d/, /k/, and /g/.
- **Fricatives** (sounds with a partial blockage or friction of air). These include sounds like /f/, /v/, /s/, /z/, /ʃ/, and /ʒ/.
- **Affricates** (a mix of stops and fricatives). This category includes sounds like /tʃ/ (as in “ch” in “chat” — ː) and /dʒ/ (as in “j” in “jump” — ː).

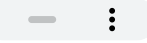
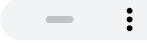
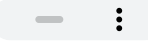
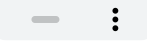
- **Nasals** (sounds produced through the nose): These include sounds like /m/, /n/, and /ŋ/.
- **Liquids** (in the pronunciation of these sounds, the air passes in a somewhat fluid manner). These include sounds like /l/ and /r/.
- **Glides**: (also known as semi-vowels, involve a continuous and fluid movement of the tongue and lips). These include sounds like /w/ and /j/.

Voicing

Finally, **voicing** refers to the way the vocal cords vibrate when a sound is pronounced. For example, the sounds /s/ and /z/ have the same place and manner of articulation, but the difference is only in the voicing. This can be noticed by putting your fingers at the Adam's Apple while pronouncing the sounds /s/ and /z/. When pronouncing the voiced sound /z/, you should be able to feel the vibration of the vocal cords. As the figure illustrates, all the stops, fricatives, and affricates have voiced and voiceless pairs. On the other hand, all the nasals, liquids, glides, and vowels are voiced. The voicing of consonants is important because some learners often confuse some of the voiced/voiceless pairs, for example, /p/-/b/ or /s/-/z/.

4.2 Why are they important in English speech?

Consonants are an important part of the sound system in a language.

Mispronouncing consonants, such as confusing 'light'  with 'right'  or 'pig'  with 'big' , may lead to speech that is difficult to understand or certain words being mistaken for another word. One of the most noticeable things about pronunciation is the mispronunciation of consonants. Therefore, we may say that consonants are important because:

- Proper pronunciation of consonants ensures that words are understood correctly, leading to effective communication;

- Consonants often create minimal pairs, where a change in a single consonant can alter the meaning of a word. Mastering consonant sounds prevents confusion and unintelligible speech;
- Consonants play a role in forming grammatical structures, and their correct pronunciation is crucial for accurate grammatical construction. For example, some errors may include dropping the -s or -ed inflection for forming verb tenses;
- Speech can be hard to understand because of individual sound mispronunciations and combinations of consonant or consonant clusters mistakes in words, phrases, and sentences.

4.3 Are some consonants more important than others?

Similar to the vowels, not all consonants are created equal. Research shows that certain consonants hold greater importance, occur more frequently than others, and should be prioritized in teaching. As a reminder, this idea is rooted in the concept of “*functional load*.” Some consonants appear more frequently in words that are similar, such as minimal pairs [hover description: *Minimal pairs are two words that vary by only a single sound and are commonly used in pronunciation teaching*], which can cause communication problems. The table below provides an overview of specific consonant contrasts with the highest functional load ranked from highest to lowest (adapted from Levis, 2019). For a full table, see Levis (2019).

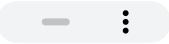
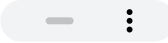
Figure 4.3. Functional load: consonants

Consonants	Examples	Consonants	Examples
[p-b]	pat-bat	[b-v]	rebel-revel
[p-f]	pat-fat	[f-v]	file-vile
[n-l]	night-light	[ð-z]	clothing-closing
[l-r]	fall-fore	[s-/ʃ/]	sea-she
[t-d]	tip-dip	[n-ŋ]	sin-sing
[w-v]	wet-vet		
[s-z]	singer-zinger		

Same as the consonants, the teachers can decide what consonant contrasts they need to prioritize in their context. The learner's L1 background may play a crucial role in the pronunciation issues the learners are facing. For example, a learner from a Korean L1 background may struggle to distinguish /l/ and /r/ because the Korean language does not have a distinct /l/ and /r/ contrast as separate phonemes. Instead, Korean includes a sound that is somewhat in between the English /l/ and /r/. Teachers should consider these factors to facilitate more effective pronunciation instruction. If they have learners from mixed backgrounds in an ESL setting, the teachers can include the most commonly mispronounced sounds in general to address most of the learners' issues.

4.4 How to approach teaching consonants?

Teaching consonants requires understanding potential mispronunciations, which may involve substitutions, deletions, distortions, or additions. The extent of these errors can be influenced by factors such as the learner's level, aptitude, and L1.

A widely effective strategy in consonant instruction is using minimal pairs, similar to the approach used in teaching vowels. Minimal pairs consist of two words that differ by a single sound and are frequently included in pronunciation teaching. For instance, comparing words like “pat”  and “bat”  allows learners to distinguish subtle differences in consonant sounds within a similar context. Using humorous examples, such as YouTube videos of mispronunciation, can engage learners, help them understand the potential consequences of consonant mispronunciations, and make the process enjoyable.

To further support consonant instruction, incorporating visual aids that include lip shape and tongue position can provide learners with a tangible reference for correct articulation. Additionally, encouraging extensive perception and listening practice is crucial for raising awareness of consonant distinctions. The exercises in this chapter provide several opportunities for learners to practice their perception with immediate feedback. In addition, giving and receiving feedback on sound production is very important for awareness raising. Besides the Automated Speech Recognition (ASR) feedback provided with the exercises within this book, feedback from instructors and peers, as well as recording their own pronunciation for self-assessment can be effective. With the advanced development of technology, computer-based training has shown effectiveness, making it a favorable method for consonant instruction.

In the following sections, we introduce technology resources and a variety of activities designed to facilitate the teaching of consonants, promoting a comprehensive and engaging learning experience.

4.5 Technology Corner

Perception

- **The Accent Coach:** This tool can be used for consonant and vowel perception training;
- **YouGlish:** The learner can type any word and hear how it is spoken by real people and in context;
- **Tools for Clear Speech:** this website provides articulations description and examples of sounds.

Production

- **Google Pronunciation:** to find this tool, the learner needs to google the *target word* and type *pronunciation*, for example, “leave pronunciation.” In the lower right corner, they should be able to locate the “practice” button, an ASR-based function that gives feedback on pronunciation.
- **Google Translate:** to use Google Translate, or similar ASR-dictation tools, the learner can use the voice-to-speech function to dictate into the document. Based on the transcription, the learner can identify whether the ASR was able to understand, detect, and transcribe the words correctly.

4.6 Activities – Communicative Framework

/p/, /b/, /v/

Description and Analysis

To say the /p/ sound:

To make the /p/ sound, close your lips and push air out through your mouth. Don't touch your teeth to your lips. Hold it back briefly, then let it go with a little puff of air. Don't vibrate your vocal cords when you make this sound.

To say the /b/ sound:

To make the /b/ sound, close your lips and press them together. Let your vocal cords vibrate, and push air out of your mouth against your closed lips. Release the air all at once while keeping your vocal cords vibrating.

***Remember:** The only difference between /p/ and /b/ is the **vibration** of the vocal cords.

To say the /v/ sound:

For the /v/ sound, touch the bottom edges of your upper teeth to the inside of your lower lip. Let your vocal cords vibrate, and push air out of your mouth, making it pass between your teeth and lower lip. You should feel some resistance (friction).

***Remember:** The difference between /b/ and /v/ is the position of the lips and the way the air flows in the pronunciation of these sounds.

Listening Discrimination

Exercise 4-1. Listening

Directions: Listen to the lists of words for each sound.

/p/ – /b/

- big pig ☐ ☐
- buy pie ☐ ☐
- by pie ☐ ☐
- bear pair ☐ ☐
- bet pet ☐ ☐

/b/ – /v/

- ban van ☐ ☐
- bat vat ☐ ☐
- beer veer ☐ ☐
- boat vote ☐ ☐
- bowl vole ☐ ☐

Exercise 4-2. Same or different?

Directions: Listen to the words and guess whether they are the same or different.

/p/ – /b/

Exercise 4-3. Word 1/ or Word 2?

Directions: Listen to the word and guess which one the speaker said.

Exercise 4-4. Which word is different: 1, 2, or 3?

Directions: Select the word that sounds different

Controlled Production

Exercise 4-5. Practice pronouncing these words and get feedback!

Directions: Listen to each of the phrases. Record yourself saying these words and get feedback.

Exercise 4-6. Sentence Matching

Directions: Drag and drop the sentences to find the matching sentence.

Guided & Communicative Production

Exercise 4-7. Create a story

Directions:

Exercise 4-8. Story practice

Directions: Read the story and record your answer. Then listen to your speech and reflect on your pronunciation of the words that contain the sounds /b/, /v/ and /p/.

David Evans is a student at Harvard University. Harvard is a very well-known university, but because it's a private university it's very expensive. David will have a vacation in November. He plans to travel to Virginia to visit a friend from Harvard. His friend lives in the Shenandoah Valley, and there are some very beautiful views there. Davis and his friend will drive back to Harvard together when the vacation is over.

/l/, /r/, /n/

Description and Analysis

To say the /l/ sound:

Put the tip of your tongue on the roof of your mouth, just behind your teeth. Make your vocal cords vibrate and let the air move around the sides of your tongue. If the /l/ is at the end of a word, lift the back of your tongue a bit without touching the top of your mouth.

To say the /r/ sound:

When making the /r/ sound, make sure the tip of your tongue doesn't touch the roof of your mouth. If it does touch, it might sound like an /l/ instead. Pull your tongue back to the center of your mouth and point the tip up a bit. Let your vocal cords vibrate, and let the air flow around and over your tongue.

To say the /n/ sound:

Position the front part of your tongue on the roof of your mouth, just behind your teeth. Ensure that the tip and sides of your tongue touch the roof of your mouth. Then, activate your vocal cords to create vibration. Make sure that no air escapes through your mouth; instead, it should all exit through your nose. You can confirm this by pinching your nose shut while making the sound – it should sound high-pitched and nasal.

Listening Discrimination

Exercise 4-9. Listening

Directions: Listen to the list of words for each sound.

/l/ – /r/

- late – rate
- lime – rhyme
- liver – river
- alive – arrive
- glue – grew
- play – pray
- glass – grass
- blight – bright

/l/ – /n/

- lap – nap
- light – night
- lip – nip
- lick – nick
- lace – nace
- lure – nure
- lock – knock
- loom – noon
- late – nate

Exercise 4-10. Same or different?

Directions: Listen to the words and guess whether they are the same or different.

Exercise 4-11. Word 1 or Word 2?

Directions: Listen to the word and select the one that has the /r/ sound.

Exercise 4-12. Which word is different: 1, 2, or 3?

Directions: Select the word that sounds different.

Controlled Production

Exercise 4-13. Practice pronouncing these phrases!

Directions: Listen to each of the phrases. Record yourself saying these words and get feedback.

Exercise 4-14. Practice pronouncing these words and phrases!

Directions: Listen to each of the phrases. Record yourself saying these words and get feedback.

Exercise 4-15. Practice pronouncing the words below.

Directions: Listen to each of the phrases. Record yourself saying these word and get feedback.

Guided & Communicative Production

Exercise 4-16. Flashcards

Directions: Look at the pictures and tell which animal you see. Listen to the answer and turn the dialog card and. Which animal is your favorite one? Discuss with a partner.

/θ/ – /s/

Description and Analysis

To produce the /θ/ sound:

Put the tip of your tongue between your top and bottom teeth. Blow air out

gently between your tongue and teeth. You should feel some resistance. Remember not to use your vocal cords for this sound.

To produce the /s/ sound:

Put your tongue close to the roof of your mouth, just behind your top teeth. Don't touch your teeth. Blow air out while keeping your tongue in that position. You might feel some resistance. Don't vibrate your vocal cords when making this sound.

Listening Discrimination

Exercise 4-16. Same or different?

Directions: Listen to the word and guess whether they are the same or different.

Exercise 4-17. Word 1/ or Word 2?

Directions: Listen to the words and guess which one the speaker said.

Exercise 4-18. Which word is different, 1, 2, or 3?

Directions: Select the word that sounds different.

Controlled Production

Exercise 4-19. Practice pronouncing these words and phrases.

Directions: Record yourself saying these words and get feedback.

Exercise 4-20. Practice pronouncing the words below.

Directions: Record yourself saying these words and get feedback

Guided & Communicative Production

Exercise 4-21. Flashcards

Directions: Look at the pictures and tell which item you see. Turn the dialog card and listen to the answer. Which one is your favorite item? Why? Discuss with a partner.

/s/- /z/

Description and Analysis

To produce the /z/ sound:

Put the front part of your tongue (just behind the tip) near the roof of your mouth, behind your teeth. Leave a small gap between your tongue and the roof of your mouth. Make your vocal cords vibrate (like a buzzing sound). Push air out gently between your tongue and the roof of your mouth. You should feel some resistance.

***Remember**, the only difference between /s/ and /z/ is the vibration of the vocal cords.

Listening Discrimination

Exercise 4-21. Same or different?

Directions: Listen to the words and guess whether they are the same or different.

Exercise 4-22. Word 1 or Word 2?

Directions: Listen to the words and select the one the speaker said.

Exercise 4-23. Which word is different: 1, 2, or 3?

Controlled Production

Exercise 4-24. Practice pronouncing these words and phrases

Directions: Listen to each of the phrases. Pronounce the words and get feedback.

Exercise 4-25. Practice pronouncing the words below.

Directions: Listen to each of the phrases. Pronounce the words and get feedback.

Guided & Communicative Production

Exercise 4-26. Practice with a partner.

Directions: You have a \$1,000 gift certificate. What would you buy and why? Choose your top three answers and discuss with a partner.



Pizza oven



Sunglasses



Fuzzy slippers



Sneakers



Stainless steel water bottle



Smartphone

Figure 4.2 Gift certificate collage 2 ([Source Information](#))

/ð/ – /z/

Description and Analysis

To produce the /ð/ sound:

Put the tip of your tongue between your top and bottom teeth. Blow air out

gently between your tongue and teeth. You should feel some resistance. Vibrate your vocal cords.

Listening Discrimination

Exercise 4-27. Same or different?

Listen to the words and guess whether they are the same or different.

Exercise 4-28. Word 1 or Word 2?

Directions: Listen to the word and select the one that the speaker said.

Exercise 4-29. Which word is different: 1, 2, or 3?

Directions: Select the word that sounds different.

Controlled Production

Exercise 4-30. Practice pronouncing these words and phrases!

Directions: Listen to each of the phrases. Record yourself saying the words to get feedback.

Exercise 4-31. Practice pronouncing the words below.

Directions: Record yourself pronouncing these words.

Guided & Communicative Production

Exercise 4-32. Role Play

Directions:

You are an undergraduate student. You are very interested in the following

three courses, but they have time conflict. You were thinking over and over what you should choose last night, but you have not decided yet. You have to decide by Thursday, so you decided to see your academic advisor, Dr. Smith, to ask her advice.

Anthropology 103 (Introduction to cultural anthropology)

Theme of the course: English variety in North America

Tuesday, Thursday 3:00-4:30

Mathematics 133 (New Theory and method of mathematics)

Tuesday, Thursday 3:00-4:30

Health Studies 113 (Introduction to public health)

Tuesday Thursday 2:30-4:00

4.7 References

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Chapter 5

-ed and -s/-'s Endings

John M. Levis

Learning Objectives

- To understand how <ed> and <s/'s> grammatical suffixes are pronounced
- To understand why the pronunciation of these endings can affect intelligibility
- To explore how to teach the <ed> and <s/'s> endings

Outline

- **5.1 Pronouncing ed and s/'s morphemes**
- **5.2 ed endings**
- **5.3 s/'s endings**
- **5.4 Activities for ed endings**
- **5.5 Activities for s/'s endings**
- **5.6 References**

5.1 Pronouncing ed and s/'s morphemes

Segmentals are a key feature for intelligibility as are suprasegmentals. But some aspects of pronunciation teaching do not neatly fit into either segmental or suprasegmental categories. Among these are the <ed> and <s/'s> morpheme categories, both representing multiple morphemes with different grammatical meanings. Despite their differences in grammar, the <ed> endings each have identical pronunciations. The same is the case for <s/'s>. Mispronunciations of these different morphemes are important because the mispronunciations can confuse grammatical meanings in English. Each morpheme is pronounced with short endings and a long ending, which are determined by the final sound of the root word. The long endings result in the addition of a syllable (e.g., *float+ed*, *fuse+s*), and the short endings are marked by the addition of an extra consonant sound but not an extra syllable (e.g., *laugh+ed*, *love+s*). These short endings can result in consonant clusters that are difficult to pronounce for some learners, leading them to either not pronounce the grammatical endings or to insert a vowel where it should not be.

Mispronunciation of the <ed> and <s/'s> morphemes may also occur because the endings represent grammatical inflections that are not all acquired at the same rate or with the same ultimate success. In early studies of child language (Berko, 1958), the 3rd person -s morpheme was produced correctly less than 60% of the time by 1st-grade children (i.e., 6 years old), and the long endings for the plural and possessive morphemes were far less successfully acquired by 1st grade than the short endings. Similarly, the long endings for the -

ed past forms were delayed in comparison to the production of the short forms. A study of adult language learners (Bailey et al., 1974) found that plural <s> was much more successfully learned than possessive and 3rd person singular present <s>.

This complex aspect of <ed> pronunciation can be difficult for L2 learners, including those with Spanish as an L1 (Davila, 2018) and Somali as an L1 (Koffi, 2010). Similarly, morphemes that indicate plural, possession, and 3rd person singular present tense verbs (all spelled with final <s/'s> or <es>) also have three different pronunciations depending on the final sounds of the root. The three pronunciations are explained in many grammar books and most published pronunciation materials, assuming that L2 learners need to pronounce all three endings accurately to be understood. This section of the book explains how the pronunciation of the <ed> and <s/'s> endings can be taught to learners who struggle with this aspect of English.

5.2 ed endings

The <ed> endings have been widely studied outside of pronunciation teaching. They reflect several meanings.

1. past tense endings, as in: *he walked, she smiled, they waited*
2. past participial endings, as in: *They've reached the limit, She's waited an hour already, He's been married before*
3. participial adjectives, as in: *a wrecked car, an unmarried woman, a respected authority*

The <ed> endings in English have three pronunciations: one that is long (it has an inserted vowel and therefore adds a syllable to the root word) and two that are short (there is no inserted vowel, but rather an alveolar stop that tends to match the voicing of the preceding segment). This is how the <ed> endings are described in nearly all pronunciation and grammar books.

Long Ending for ed

- [əd] after [t] or [d] (e.g., *waited* — ː , *loaded* — ː , *wanted* — ː , *landed* — ː)

Short Endings for ed

- [t] after voiceless consonants (e.g., *laughed* — ː , *walked* — ː , *clapped* — ː)
- [d] after voiced consonants and vowels (e.g., *loved* — ː , *rubbed* — ː , *played* — ː)

The pronunciation of the <ed> endings depends upon the phonetic character of the preceding segment. If /t/ or /d/ precedes <ed>, the ending is pronounced [əd] (the “long” ending). If a sound other than /t/ or /d/ precedes, the <ed> ending is pronounced as /t/ or /d/ (the “short” ending) because its pronunciation assimilates in voicing to the previous sound. The voiceless stop /t/ follows voiceless consonants. After voiced consonants and vowels, speakers voice the following stop, pronouncing it [d].

Even though this three-way distinction is evident in words in isolation, there is strong evidence that a three-way distinction is not important for L2 pronunciation. There is evidence that distinguishing two pronunciations rather than three (Dickerson, 1990) is equally effective in pedagogy (Bruetten, Mouw & Perkins, 1986). This would mean that in communicating the meaning of the <ed> ending, it is sufficient to make a two-way distinction between the addition of an extra syllable ([əd]) and the addition of an extra sound ([t] or [d]). In other words, whether someone says exactly [t] or [d] when pronouncing the extra sound seems less important to listeners than whether the morpheme is present and signals the grammatical information.

Why is this the case? First, the <ed> endings represent morphological rather than phonological distinctions. Even though /t/ and /d/ represent phonemes in English, in the <ed> endings, they simply express the same grammatical meaning. Both are prone to deletion in certain linguistic environments (*loved to talk, kicked the ball*), and the [d] can devoice before silence or some voiceless sounds (*the person I've always loved to talk to, followed five people*).

Thus in correcting our students' pronunciation, we are concerned primarily with the presence of the ending and the correct choice of the short or the long ending. The voicing differences of the two short endings are typically not important. (Note that some varieties of English even say *dreamt* and *spelt* rather than *dreamed* and *spelled*). In those few cases where it seems to make a difference (for example, "played" may sound like "plate" if the /d/ is devoiced), make sure that the students are either voicing that consonant fully or

better, lengthening the preceding vowel to indicate that a voiced sound follows. (This is what actually happens phonetically in many cases.)

Another aspect of pronunciation for <ed> endings is that they often result in complex syllable codas, such as in *laughed* — ÷ [ft], *bridged* — ÷ [dʒd], and *benched* — ÷ [ntʃt]. Like all complex syllable codas, deletion of the final [t] or [d] may occur in casual speech when followed by additional consonants (e.g., *bridged the gap*), but deletion of morpheme endings is more likely if a final [t] or [d] represents a phoneme, e.g., *swift stop*. We also know that <ed> endings do not always occur as the only clue to tense but that they also may occur with time adverbials such as *yesterday of last week*, which makes it easier for listeners to identify (Bell et al., 2015).

For intermediate and advanced students, illustrate the long and short endings together. (The outline below uses this approach.) For less advanced students, start with the short ending and practice that before introducing the long ending. Although most students find the long ending easier to pronounce than the short ending, they also tend to overuse the long ending, pronouncing /əd/ whenever they see the letters <ed>. In an attempt to counteract this tendency, we emphasize the short ending and teach it first before working on the long ending.

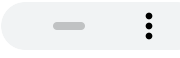
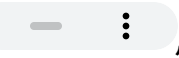
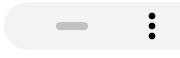
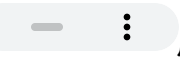
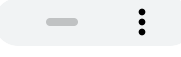
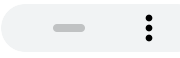
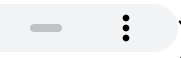
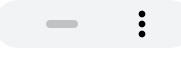
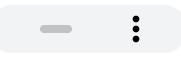
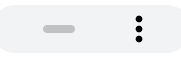
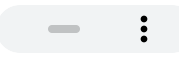
5.3 s/'s endings

The <s/'s> endings are also a commonly included feature in English

pronunciation teaching materials. Like the <ed> endings, they reflect three different inflectional morphemes. As such, they communicate important grammatical information: the regular plural ending (e.g., *hat/hats, seed/seeds, page/pages*), the possessive marker (e.g., *Jack's, Ellen's, Max's*), and the verbal inflection for 3rd person singular present tense (e.g., *he walks, Jill goes, it washes*).

We have only modest evidence of whether these morphemes are equally difficult for L2 learners. For example, Luk and Shirai's (2009) review article found that plural endings were easier than possessives for Spanish speakers, but that speakers of Thai and Korean found possessive endings easier. Other evidence we have (especially from writing) is that the 3rd person verbal ending is very challenging. In writing, even advanced L2 learners can forget to use this -s ending consistently, suggesting that it will also be challenging in speech, in which online processing makes errors more likely.

The <s/'s> endings (they can also be spelled <es>), despite their distinct grammatical meanings, have the same three pronunciations that are phonologically conditioned.

1. [əz] after sibilant sounds [s], [z], [ʒ], [dʒ], [tʃ], and [ʃ] (e.g., *buses* , *loses* , *garages* , *washes* , *churches* , *judge's* )
2. [s] after voiceless consonants (e.g., *hits* , *caps* , *Jack's* )
3. [z] after voiced consonants and vowels (e.g., *dogs* , *loves* , *goes* , *Jim's* )

Like the <ed> endings (which also have three phonologically conditioned pronunciations), a three-way distinction does not appear to be very important in how the endings are pronounced. Instead, what seems to be important is a two-way distinction between the addition of an extra syllable ([əz]) and the addition of an extra sound ([s] or [z]). Whether someone says exactly [s] or [z] at the end of the word seems less important to listeners as long as one of these two sounds is present. Because the sounds reflect morphemes, not phonemes, this difference in language structure means that exact pronunciations are less important than signaling the meaning of the morpheme. In addition, because the difference between [s] and [z] is conditioned by the voicing of the previous segment (voiceless sounds continue to [s] and voiced sounds continue to [z]), the voicing or voicelessness of the ending has a redundant cue to what listeners hear.

5.4 Activities for ed endings

Description and Analysis

Exercise 5-1. Describing the <ed> endings

Directions: Use lists of words on the blackboard to help students discover that the choice of ending is predictable (long ending after /t/ and /d/, short ending elsewhere). Use words representing the various environments in which the endings occur. For example,

SHORT [t]	SHORT [d]	LONG [əd]
picked	played	waited
wished	dreamed	rested
touched	grabbed	invited
missed	loved	added
laughed	refused	ended
dropped	warned	avoided

“Look at the words with the short and long endings. Which spellings in the long ending words can tell you that there will be an extra syllable?”

“Look at the short ending words. Do any of them end with a /t/ or /d/ sound?”

Discovery

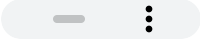
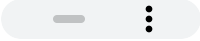
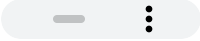
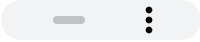
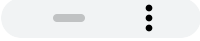
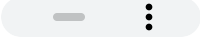
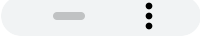
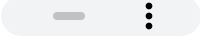
“When the verb ends with the sound /t/ or the sound /d/, the <ed> ending is long. In all other cases, the <ed> ending is short”

Listening Discrimination

Exercise 5-2. Past or present?

Directions: Read aloud or play a recording of the sentences. Ask students to identify if the verb tense in the sentence is ‘past tense’

(that is, does it have <ed> or 'present tense' (that is, is there no <ed> ending).

Phrase	Past/Present
I walk around the park every day. 	Present
They worked out of town. 	Past
We dance on the weekend. 	Present
I jogged on Monday. 	Past
I cook new meals once a week. 	Present
I traveled to France in the summer. 	Past
We arrived at midnight. 	Past
I play a game called squash. 	Present

Exercise 5-3. Long or short endings

Directions: Read aloud or play a recording of each word. Ask students to identify if the verb tense in the word has a short ending (pronounced [t] or [d]) or a long ending (pronounced with an extra syllable, [əd]).

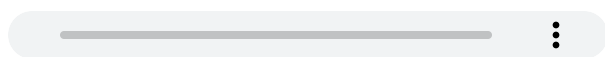
Word	Short or Long?
wished  	Short
looked  	Short
shopped  	Short
skated  	Long
played  	Short
requested  	Long
watched  	Short
deposited  	Long
wanted  	Long

Controlled Production

Exercise 5-4. Repeat

Directions: Ask students to repeat the word, phrase, or sentence with the short ending after you, or to listen to the recording and repeat. Ask them to pay attention to how the ending of the <ed> ending is pronounced.

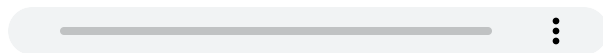
backed	saved a lot	I called a friend last night.
failed	played a game	We played a really fun game.
arrived	worked all night	She smiled at him.
studied	crashed his car	They studied until 11:00.
played	laughed at her joke	They answered all the questions.
worked	watched a new show	
	She talked about her trip.	



Exercise 5-5. Repeat (mixed endings)

Directions: Ask students to repeat the word or phrase with the short or long ending after you or to listen to the recording and repeat. Ask them to pay attention to how the ending of the <ed> ending is pronounced.

needed	followed	laughed
wanted	kicked	failed
invited	spelled	wished
counted	arrived	worked
attended	smiled	talked
needed some help	invited their friends	worked and talked
wanted to travel	followed the car	arrived early



Exercise 5-6. Opposites

Directions: The teacher writes the words in the right column on a whiteboard or a piece of paper for the students to see. (Make sure the students understand each word.) Then the teacher reads each word in the left column and asks students to identify the word that has an opposite meaning.

Cue word	Board word
loved	exercised
ended	succeeded
agreed	hated
left	arrived
subtracted	laughed
frowned	heated
cooled	smiled
played	worked
failed	started
rested	disagreed
cried	added

Exercise 5-7. Reading (mixed endings)

Directions: Have students identify the <ed> endings in the reading about Keith making bread at home. They should decide how each <ed> ending is pronounced (with a short ending or a long ending.). Then they should read the passage aloud. For a class, the teacher can ask the students to read particular sentences.

(1) Keith decided to make some bread. (2) He looked up a good recipe online, watched some YouTube videos, and then copied the

recipe. (3) He followed the directions carefully. (4) First, he measured the flour and poured the milk into the bowl. (5) Then he mixed the milk and flour until it was ready to be kneaded. (6) Then he floured his hands and kneaded the dough. (7) After he finished that, he turned on the oven, placed the dough in the oven, and waited for it to rise. (8) When the dough had doubled in size, he removed it from the oven, punched it down, and allowed it to rise again. (9) He then punched it down again, and it was ready to be baked. (10) When enough time had passed, Keith removed the bread from the oven, buttered it, and invited his friends to try some.

Exercise 5-8. Changing sentences to past tense

Directions: The teacher reads the sentences in the present tense. The student changes each sentence so that it is in past tense, with an <ed> ending. (Note: The past tense sentences are provided so the teacher can easily monitor if the student said the sentence correctly.)

Example: John walks around the park. → John walked around the park.

Teacher	He attends his first class at 11.
John waits for the bus in the morning.	He picks up lunch at a food truck.
The bus arrives at 9:00.	He visits his teacher's office hours.
John checks his phone as he rides.	He returns home around 6.
He studies at the library with friends.	He cooks dinner and watches a show

on TV.

He attended his first class at 11.

Student

He picked up lunch at a food truck.

John waited for the bus in the morning.

He visited his teacher's office hours.

The bus arrived at 9:00.

He returned home around 6.

John checked his phone as he rides.

He cooked dinner and watched a show
on TV.

He studied at the library with friends.

Guided / Communicative Production

Exercise 5-9. Questions

Directions: The teacher asks different students questions about what they have done. The student answers in a complete sentence using "I've never ____" or "Yes, I've ____" (add information). Tell the truth.
Alternative: Have students ask each other the questions in pairs.

Have you ever:

- shopped at a really nice mall?
- visited California?
- traveled on a cruise?
- watched a soccer match in person?
- cheated on an assignment for a class?

- attended a live opera performance?
- competed in a tennis or golf tournament?
- played on a sports team?
- mailed a physical letter to someone?

Question 5-10. Narrating a story

Directions: Ask students to tell a story about something surprising that happened to them in the past month. Start with the words, “One day last month... or One day last week... or Yesterday”

5.5. Activities for s/'s endings

Most activities for the <s/'s> endings are related to awareness raising and to controlled production. This section also includes some listening discrimination exercises and some guided activities.

Description and Analysis

Exercise 5-11. Describing the <s/'s> endings.

Directions: Read or play a recording of the words in each column. Ask students to pay attention to the <s> endings for each word and to describe how the <s> ending is pronounced. In Column A, the <s> endings are all short endings, and in Column B, they are all long endings (with an extra vowel sound before the final <s>).

A	B
stops	relaxes
sleeps	loses
writes	washes
speaks	misses
reads	changes
walks	buzzes
runs	watches
rests	dances

1. Listen to each column's ending sounds. How are they different?
2. How are the root words spelled in B?
3. What are the pronunciations for the different -s endings?

_____ ⋮

_____ ⋮

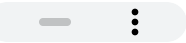
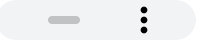
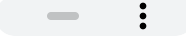
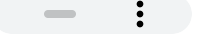
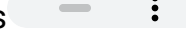
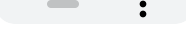
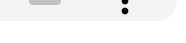
Listening Discrimination

Exercise 5-12. Short and long <s/'s> endings

Directions: The teacher reads each word aloud and asks students to

identify if the word has a short or long ending. (Note: The answers are given to the teacher so that it is easy to give feedback.)

Examples: chart (short), houses (long)

Word	Short or long?
roses 	long
colleges 	long
shoes 	short
oranges 	long
glasses 	long
papers 	short
tables 	short
cups 	short

Exercise 5-13. Short <s/'s> ending?

Directions: The teacher reads or plays each word. The students identify whether the <s> ending is short (Yes) or long (No). Answer Yes or No

Examples: teachers (yes), roses (no)

Word	Short? Yes or No
dishes — ∴	No
classes — ∴	No
keys — ∴	Yes
apples — ∴	Yes
windows — ∴	Yes
sentences — ∴	No
buses — ∴	No
nouns — ∴	Yes

Exercise 5-14. Yes or No?

Directions: The teacher reads each phrase containing an <s> ending. Students identify whether the <s/'s> ending has a long ending (with an extra syllable) by answering “Yes” (a long ending) or “No” (not a long ending).

Examples: teaches a class (Yes), learns a lot (No)

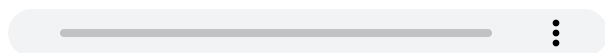
Phrase	Long ending?
watches the bird — ∴	Yes
comfy chairs — ∴	No
library books — ∴	No
boxes of junk — ∴	Yes
stop for buses — ∴	Yes
newer lightbulbs — ∴	No
small counties — ∴	No
catches a cold — ∴	Yes
broken dishes — ∴	Yes
red and pink roses — ∴	Yes

Controlled Production

Exercise 5-15. Repeat the words with <s/'s> endings

Directions: Students repeat the words in columns A and B after the teacher or the recording. Alternative: Students read the words aloud.

Short	Long
sees	dozes
students	classes
books	boxes
tables	faces
plays	oranges
trees	quizzes
apples	revises



Exercise 5-16. Appropriate Response

Directions: The teacher says each of the foods and asks student(s) to tell whether they like the food or not. Students should answer “I like _____” or “I don’t like _____” (Tell the truth). Extension: Ask students why they like or don’t like particular foods.

- Beans and legumes
- Peaches
- Apples
- Oranges
- Onions
- Sandwiches
- Potatoes

- Mushrooms
- Hamburgers
- Pizzas
- French Fries
- Chocolate Chip cookies

Exercise 5-17. Sentence completion

Directions: The words should be written on the board in two columns. Ask students to create a sentence using a word from Column 1, the correct form of the verb BE, and an adjective from Column 2. Tell them that their sentences should make sense.

Example: Most of my classes are kind of boring.

Column 1	Column 2
classes	pretty
nurses	clean
glasses	expensive
houses	old
roses	late
buses	boring
quizzes	new
boxes	easy
oranges	nice
watches	big
courses	interesting

Exercise 5-18. Singulars and Plurals

Directions: The teacher reads each sentence in the Singular column. Students change the sentence so that the subject of each sentence is plural, not singular. (Note: This type of exercise usually requires that the <s> ending of the verb becomes an <s> ending on the subject.)

Example: The book reads like a story. The books read like a story.

Singular	Plural
The chair needs to be fixed.	The chairs need to be fixed.
The key's on my desk.	The keys are on my desk.
The picture's quite nice.	The pictures are quite nice.
The student's in the classroom.	The students are in the classroom.
The teacher's not here yet.	The teachers are not here yet.
The card's in my wallet.	The cards are in my wallet.
The car's not in the garage.	The cars are not in the garage.
The new road's almost finished.	The new roads are almost finished.

Exercise 5-19. Phrase Reading (From *W. B. Dickerson*)

Directions: Students should read each line aloud. One word in each

phrase has a short ending and one has a long ending. The “and” in each phrase should sound more like “un” (without the [d] sound).

opens and closes	pushes and pulls
throws and catches	hits and misses
porches and lawns	bushes and trees
teaches and learns	colleges and universities
doctors and nurses	diseases and cures
apples and oranges	peaches and pears
cartons and cases	bags and boxes
eyes and noses	faces and hands
raises and lowers	rises and falls
words and phrases	notes and messages
washes and dries	shirts and dresses
rags and riches	nephews and nieces
judges and juries	checks and balances
chapters and verses	pages and lines
memorizes and repeats	parts and pieces

Extension of Exercise 5-19: Create sentences with the phrases.
Read the sentences aloud.

Example: There are lots of *bags and boxes* in the basement.

We have to practice the pronunciation of *words and phrases* in this class.

Guided Production

Exercise 5-20. If Sentences

Directions: Put the grammatical frame on the whiteboard. Ask students to create an “if” sentence following the exThey should make sure to say an -s ending on the main verbs. Then they should finish the sentence with a sentence of their own by choosing an appropriate second phrase to go with the one in the “if” clause.

If a student _____,
he/she/they_____.

Example:

want to write better; take a writing class

If a student *wants to write better*, she *should take a writing class*.

First phrase	Second phrase
want to know the meaning of a word	exchange it for the right one
buy the wrong textbook	look for it on the computer
have no clean clothes to wear	watch TV
run out of money	do laundry
need to find information in the library	apologize as soon as possible
want cheap entertainment	watch the news
make a teacher angry	call their family
want to know what today's news is	look it up in a dictionary
need to lose some weight	exercise at the gym
break a roommate's stuff	buy something to replace it

Exercise 5-21. Narrating a daily routine

Kate is a mom with 5 kids. She also takes classes at the university.

Because she is very organized, everyday she does the same things because it helps to have a schedule for her and the rest of the family.

Directions: Using the information below, describe Kate's daily schedule to another student.

Time	Task
5 am	get up, take a shower, get dressed, make tea
6 am	wake kids up, get them started
6:30 am	get food out for breakfast
7 am	get kids ready for school, check their bags
7:30 am	have breakfast with her husband
8 am	get ready to go to school
2 pm	go home
3 pm	greet her kids when they return from school
4 pm	make sure they are doing their homework
6 pm	get everyone to help with dinner and then clean up

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Part III

Suprasegmentals

Chapter 6

Word Stress

Zoe Zawadzki

Learning Objectives

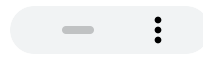
- To define word stress and its characteristics
- To demonstrate why word stress is important
- To explore how to teach word stress
- To understand how word stress can be represented when written
- To provide exercises for word stress

Outline

- 6.1 What is word stress?
- 6.2 Why is it important in English speech?
- 6.3 How can we represent word stress when teaching?
- 6.4 How to approach teaching word stress?
- 6.5 Technology Corner
- 6.6 Activities
- 6.7 References

6.1 What is word stress?

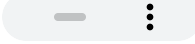
Word stress occurs when a syllable, or syllables, are emphasized in a word when pronouncing it. It is considered to be a suprasegmental feature, but in English, it also affects vowels. Often, when a syllable is unstressed, the vowel changes and becomes a schwa (the unstressed vowel). For example, in the word “guarantee” (/gʊr.ən.ti/)

 the vowel in the second syllable becomes unstressed.

However, the vowel is also affected in a stressed syllable because the vowels in those syllables tend to be lengthened. This is a technical way of thinking about word stress. An alternative that many pronunciation materials use is to think of the vowel in the stressed syllable as being “longer, louder, and higher in pitch” (Celce-Murcia et al., 2010, p. 184).

Schwa: This is a reduced vowel that is represented in IPA as /ə/. Schwa is the most common vowel, accounting for approximately 35% of vowels that occur. It is a mid-central vowel and is always reduced. Any pure vowel can be reduced to /ə/ (Woods, 2005). However, it may not always be reduced, even in an unstressed syllable. It is less likely for a vowel that is r-colored (followed by /r/) or in a closed syllable (ending in a consonant) to be reduced. Diphthongs also typically are not reduced.

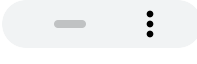
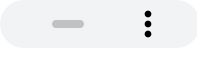
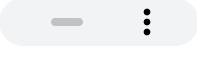
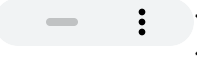
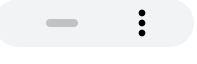
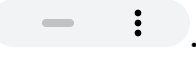
Word stress occurs in words with more than one syllable. It is a feature that occurs at the syllable level, with certain syllables being stressed and others being unstressed. Words that have one syllable do not have word stress. Words that have 3, 4, or more syllables can have multiple stressed syllables, with a primary stressed syllable and a secondary stressed syllable. For example, in the word “phenomenon”, the second syllable, ‘no’ has primary stress and the fourth syllable, ‘non’, has secondary stress (phe.**NO**.me.NON)

. It is important to make sure students are aware of this so they don’t confuse secondary stress for primary stress.

6.2 Why is it important in English Speech pronunciation?

Word stress is not the same across languages. In some languages,

such as English, Dutch, and Spanish, stress conveys meaning, whereas other languages, such as French, do not rely on stress to convey meaning. Another way to think of this distinction is that there are fixed-stress and free-stress languages. English is a free-stress language meaning that stress can be placed on any syllable in the word, whereas fixed-stress languages have one syllable that is always stressed (i.e., the penultimate syllable in Polish). When listeners come from a language such as French or Polish where the stress is fixed and it does not convey meaning, they are likely to have difficulties with perceiving, and therefore producing, word stress in English.

Additionally, word stress is important because it can impact a speaker's intelligibility and comprehensibility. For example, if a speaker stresses the second syllable instead of the first syllable in "publish", (**PUB**.lish  instead of pub.**LISH** ) it might take the listener a moment to understand the intended word. Making this mistake may even change the part of speech of the word, for example, the word "perfect" is an adjective when the first syllable is stressed and a verb when the second syllable is stressed (adj.- **PER**.fect  ; verb- per.**FECT** ). The degree of the loss of intelligibility can also be affected by the direction of misstressing, with rightward misstressing impacting intelligibility more (Ghosh & Levis, 2021). For example, if a speaker says ce.**LE**.brate  instead of **CE**.le.brate .

This word could be impacted by the speaker thinking of the word "celebrity", which would affect both the stress and vowels resulting in pronouncing celebrate as /sə.ˈleɪ.bɪet/. However, it is not simply a

matter of if the correct syllable is stressed or not. Not de-stressing the unstressed syllables can also have an impact. Producing a full vowel instead of a reduced vowel will impact intelligibility. For example, if a student says the word “optional” as /**ap**.**f****ɪ**.**nal**/ instead of /**ap**.**f****ə**.**nəl**/ they might not be understood, or if they are, then it might take some effort by the listener to understand them.

Regional variations:

Varieties of English, such as General American and British, may have words that differ based on stress. However, only about 1% of words vary in pronunciation based on stress (Berg, 1999).

Stress commonly varies in words that end in -ate, -ess, -ist, -ive, -ly, and -ory, compounds, and zero-derived words. Zero-derived words are those that are created from an existing word that doesn't change its form but changes part of speech (e.g. record as a noun and verb).

Lexical type (proper vs. common noun) and origin (French vs. non-French) may also affect stress between the two varieties.

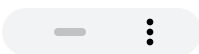
6.3 How can we represent word stress when teaching?

One way of representing word stress is by having stressed syllables represented with capitals. Secondary stress might have capitals and a smaller font size. Notice how primary stress is in capitals and bigger than the secondary stress, which is also in capitals.

Example: PRE.si.DEN.tial

In this book, primary stress is represented with capitals and is bold while secondary stress is represented with capitals that are not bold.

Example: PRE.si.**DEN**.tial



In other resources, you might see words with circles above the syllables to represent stress. Note that the primary stress is the biggest circle and the secondary stress is smaller than that, but still bigger than the unstressed syllables.

● ● ● ●
Pre.si.den.tial

If you're using IPA in your classroom, then stress can be represented with a straight apostrophe to indicate primary stress and a straight comma to indicate secondary stress. These diacritics are placed before the stressed syllable. These diacritics may also be used when using standard orthography.

Example: /prezə'dentʃəl/

It is up to you how you represent word stress for your students, but make sure that you are consistent. You might also want to consider ease. The circles look really nice, but it is much easier to use capitals.

6.4 How to approach teaching word stress?

When teaching word stress, it's impossible to ignore the rules. There are many rules, so many in fact, that a whole book can be made out of them (e.g. Fudge, 1984; Poldauf, 1984). However, considering how many rules there are, it can be overwhelming to try and memorize all of them, especially when it is based on affixes. Therefore, we will present a prediction system that was created by Dickerson (2004). As a reminder, words that are only one syllable do not have stress. Therefore, these rules only apply to multisyllabic words. According to this prediction system, the stress falls on one of two syllables: the key syllable or the left syllable. The key syllable is directly left of an ending and the left syllable is directly left of the key syllable. There are only four rules to remember with this system.

Rule 1:

The Key Syllable is stressed when a word ends in a consonant followed by an i+vowel such as -ia, -io, -iu, and -ien. Keep in mind there could be more letters following the i+vowel for example,

pre.si.**DEN**.tial, co.**MMO**.tion, **GE**.nius, con.tri.**BU**.tion, **CON**.science.

— :

Rule 2:

Adjectives that end in -al, and -ous and adjectives/nouns ending in -ant, -ance, -ancy, -ent, and -ence should be stressed on the left syllable if the key syllable is spelled with a vowel or a vowel followed by a consonant. For example, **FED**.e.ral, **MAR**.ve.lous, **EL**.e.gant, **VI**.gi.lance, **VA**.can.cy, and **PRE**.ce.dence.

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Rule 3:

Words that have 3 or more syllables and end in -y, -ate, -ated, -ator, -ating, -acy, and -acies have left stress. This means that the key needs to be found and then the syllable to the left of that is stressed. For example, **COM**.pa.ny, **FOR**.tu.nate, **OB**.li.ga.ted, **A**.lli.ga.tor, **A**.ccu.ra.cy, **FA**.lla.ci.es

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Rule 4:

Words that end in -ary, -ery, -ory, -ive, -ure, -ative, -atory, and -ature should have key stress if the left has a prefix or part of a prefix such as de-, per-, ob-, and ex-. Otherwise, the left syllable should be stressed. Examples of words with a prefix: de.**BA**.u.che.ry, o.**BLI**.ga.to.ry, per.**SUA**.sive. ex.**PEN**.sive. Examples of words without a prefix: **AU**.di.to.ry, **PLE**.na.ry

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6.5 Technology Corner

Perception

- **YouGlish:** The learner can type any word to hear how it is spoken paying close attention to their word stress;
- **Tools for Clear Speech:** This website gives learners an overview of word stress with some additional rules and exercises

Production

- **AmPitch:** This website allows users to speak and shows the amplitude and pitch which can be helpful in identifying where the speaker is placing stress;
- **Praat:** This free to download computer program shows both the waveform and spectrogram (and pitch can be added) of recorded speech, therefore, this is also helpful for identifying where stress is placed by the speaker. However, a word of caution as this tool has a bit of a learning curve for unfamiliar users.

6.6 Activities

Description and Analysis

Listening discrimination

Exercise 6-1. Same or different?

Directions: Guess if the word is stressed the same or different. Select the correct option.

Controlled Practice

Exercise 6-2. Which vowel is stressed?

Directions: Mark the main stress of the word. Select the stressed vowel.



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://iastate.pressbooks.pub/teachingpronunciation/?p=477#h5p-94>

Guided and communicative practice: Word Forms

Pronunciation feature: Changing word stress on etymologically related words.

English word stress is connected to the suffixes on related words. Thus, a word may be stressed in one way on a particular word form,

while it is stressed on a different syllable when it has a different suffix.

Exercise 6-3. Filling the table

Directions: Work with another student. Fill in each blank and decide on the stress of each related word. Say each word.

Example	Noun	Verb	Adjective
period	Periodicity		Periodic
ecónomy	Economy/economics		
eléctric		Electrify	
álcohol	Alcoholic		Alcoholic
pérson			
máior		Major	
méthod			
phótograph	Photography, photographer		
Japán			Japanese
ábsent		Absent	
philósophy			Philosophical
méchanism			

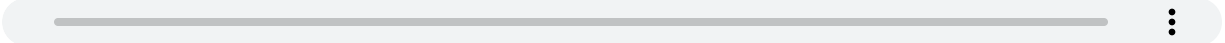
► Possible answers:

Guided and Communicative Practice

Exercise 6-4. Reading a passage

Directions: Read the passage silently, then read it aloud. Pay special attention to the stress of long words. Record yourself and then compare your recording to the model.

Preparation for Disasters



Cities, states, and nations must always live with a high degree of readiness for disasters such as hurricanes, furious storms, earthquakes, and a wide variety of man-made problems. These emergencies often create large complications in normal life. Characteristically at these times, electrical power is knocked out, and large numbers of people are reduced to living at a basic level, one where hard, constant physical labor becomes a necessity and where people show both selfish and altruistic behavior. Medical clinics are more likely to be closed because of damage. The economic base is also likely to be compromised, so that even simple things such as buying bread, milk and ice require long waits and frequent dissatisfaction. For these reasons, whenever such a difficulty hits, sufficient civic preparation is critical.

6.7 References

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Chapter 7

Rhythm

Zoe Zawadzki

Learning Objectives

- Understand what rhythm is
- Understand the rhythm of English
- Identify strong vs weak forms of words
- Explain why rhythm is important in English
- Help to teach rhythm

Outline

- **7.1 What is rhythm?**
- **7.2 Function words: Strong and weak forms**
- **7.3 Why is rhythm important in English pronunciation?**
- **7.4 How should we approach teaching rhythm?**
- **7.5 Technology Corner**
- **7.6 Activities**
- **7.7 References**

7.1 What is rhythm?

Rhythm refers to the timing patterns of a language. English is a stress-timed language (as opposed to a syllable-timed language). This means that the timing patterns of the language are built around the stressed syllables, which are pronounced as longer syllables with clearer pronunciation of vowels and consonants. Syllables that are unstressed, on the other hand, are pronounced less clearly. The vowels of unstressed syllables are often pronounced similarly, as schwa, no matter how they are spelled. The consonants of unstressed syllables are also more likely to be pronounced in unexpected ways, including being changed or deleted. This means that the 'beat' of English rhythm is created from the combination of strong and weak (stressed and unstressed) syllables and words. This is represented by people standing in line in Figure 1.

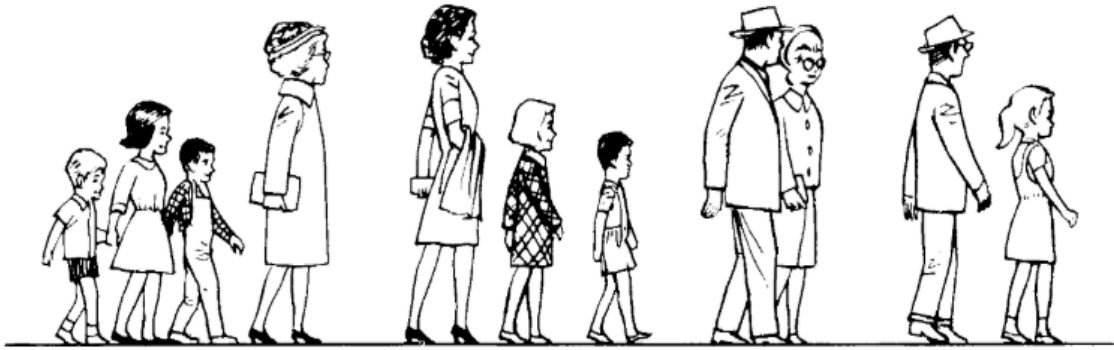


Figure 7.1. *Children and adults representing stressed and unstressed syllables.*
From Prator & Robinett (1985, p. 29)

To understand how rhythm is affected by different types of words, it is helpful to understand the role of function and content words in contributing to the patterns of English rhythm. Content words carry the majority of the meaning in a sentence or phrase. They are represented by nouns, verbs, adjectives, adverbs, and negative words (e.g., no, never, not, nothing). Function words are those that carry little lexical meaning but instead signify grammatical relationships within sentences. Common function words are determiners, conjunctions, prepositions, pronouns, auxiliary verbs, modals, qualifiers, and question words. In the following example sentence, the content words are bolded, and the function words are not.

I **saw** a **dog** and the **cat**.

Saw, dog, and cat (verb, noun, noun) are content words, are stressed, have clear vowels, and carry the most important semantic information of the sentence, while *I, a, and, and the* are function words that glue together the meaning by specifying the grammatical

relationships among them. The function words are pronounced without stress, are spoken more quickly and less clearly, and often are reduced (they have a schwa). Reduction is a key feature of English rhythm. Syllable reduction also contributes to other features of speech such as deletion, illustrated in the example sentence when *and* loses its final [d].

The alternations of stress/unstress in content and function words helps to create rhythm in English. The connected speech chapter has more information about the effects of reduction and how reduction and other effects of listening affect listening and speaking.

Rhythm is pronounced within thought groups, which reflect where pauses or perceived pauses are used when speaking. A thought group is a chunk of speech that is semantically and grammatically coherent (Celce-Murcia et al., 2010). Rhythm, prominence, and intonation are pronounced within thought groups, and the many thought groups produced by speakers in connected speech create the characteristic melody and rhythm of English. The length of thought groups may differ due to speech rate or speaker decisions, but speakers usually average about 5-7 words in a thought group before taking a breath to continue. Faster speech may have fewer breaks and longer thought groups than slower speech, but speakers almost always keep meaningful groups of words together when they speak. In writing, thought groups are commonly indicated with commas, semicolons, periods, or dashes. Here is an example of a sentence divided by thought groups with slashes dividing thought groups: When I was a kid / every Friday night we had pizza for dinner / and then we went for ice cream.

7.2 Function words: Strong and Weak Forms

Many of the most frequent function words in spoken English are single-syllable words. These words are so frequent that they total nearly half the words in normal spoken English. This affects rhythm because nearly every other syllable is unstressed in speech. In normal speech, they are usually reduced in their pronunciation. These reduced pronunciations are called “weak forms”, a contrast to the more unusual pronunciation of strong forms. Examples of words that have weak and strong forms are shown in Table 1.

Table 1. Strong and Weak Forms

Word	Weak form	Strong form
<i>a</i>	[ə]	[eɪ]
<i>the</i>	[ðə]	[ði]
<i>and</i>	[n]	[ænd]
<i>for</i>	[ɔɹ]	[fə]
<i>can</i>	[kən]	[kæən]
<i>could</i>	[kʊd]	[kəd]
<i>to</i>	[tə]	[tu]

Strong forms, or dictionary forms, of function words, are unusual in spoken language. They are not more formal but instead send a

message that the speaker wants to call attention to the grammar for some reason. For example, someone might say “*I didn’t say A [eɪ] house, I said THE [ðɪ] house*” to call attention to the fact that a particular house is important.

Weak forms, on the other hand, are the normal pronunciation of these words in English. They are not clearly spoken, but they do not need to be. Often they are predictable from a knowledge of grammar, and even if they are not clearly pronounced, listeners expect them. To use knowledge of rhythm for listening comprehension, it is essential to practice listening to weak forms and learn what these important words sound like in speech.

The importance of weak forms is illustrated by the distinction between *can* and *can’t*. *Can* is pronounced /kæn/ in its strong form but usually is reduced to its weak form in speech, being pronounced /kən/ while the negative *can’t* is always stressed and pronounced as /kænt/ in isolation. In normal speech, if *can’t* precedes another consonant, as in *I can’t play golf*, the [t] is not pronounced because it is between two other consonants [ntp]. This means the [t] is lost as a clue to the negative meaning, and the only difference between *can* and *can’t* is the way the vowel is pronounced. If *can* is not reduced, then it will be heard as *can’t*.

7.3 Why is rhythm important in English speech?

Rhythm is important because it impacts both intelligibility and

comprehensibility. If a speaker does not use the expected rhythm of English, the listener might not be able to understand them or the listener may require extra effort to understand what they are saying, both when speaking with native or non-native speakers. If a speaker uses a rhythm that is hard to follow or speaks with a monotone, it can be hard for listeners to pay attention to the speaker and pick out the important information from what they are saying. This is especially important if the speaker is doing presentations or has a job such as teaching. Additionally, it may be difficult to decipher what the important part of the sentence or phrase is when rhythm is lacking.

Just as importantly, rhythm is important for listening comprehension. English speakers will use the characteristic alternation of long (stressed) and short (unstressed) syllables in their speech. The unstressed syllables, because they are reduced in pronunciation clarity, are more difficult to understand in the stream of speech. This makes it difficult for language learners to understand the grammatical connections between the stressed syllables. Not being able to clue into the rhythm of English speech can also make it seem like English speakers speak too quickly. Learning how to listen to English rhythm can change how easy it is to understand English speech.

Speakers who come from a syllable-timed language such as French, Spanish, Italian, Japanese, and many African languages are used to listening to and speaking with a different type of rhythm with syllables that are relatively equal in length. Therefore, it may be difficult to produce or understand stress-timed rhythm. This means

they may not give enough length to stressed syllables in content words or reduce unstressed syllables in function words when they speak English (Celce-Murcia et al., 2010).

In addition to learning to lengthen stressed syllables and reduce unstressed syllables, rhythm can be affected by poor choices in thought groups. When speakers do not use thought groups correctly, it can lead to reduced comprehensibility because listeners will struggle to follow the message. If thought groups are too short, speech sounds slower and the speech rhythm may make the speaker's message hard to follow.

7.4 How can we approach teaching rhythm?

Before teaching rhythm, it is important that your students understand word stress and prominence first, due to the reliance on strong and weak (stressed and unstressed) syllables. Make sure that your students are lengthening stressed vowels and reducing the unstressed vowels. This includes making sure that students are aware of and can accurately use schwa. This will help create the rhythm in English. Focusing on content and function words from connected speech will also help students be able to improve their Rhythm in English. If you teach these different features, then the students can put together what they have learned to create rhythm in English.

7.5 Technology Corner

Perception

- **Tools for Clear Speech:** This website gives learners an overview of rhythm, thought groups, and pausing

Production

- Any program that produces waveforms such as Audacity or Praat can be used to have students record, and then their rhythm can be analyzed using waveforms. See Coniam (2002) for more information.

7.6 Activities

Listening Discrimination

Exercise 7-1. Find the stress in a poem

My Shadow

by Robert Louis Stevenson



Exercise 7-2. Can or can't?

Directions: Select **can** or **can't**, depending on what you hear.

Controlled Practice

Exercise 7-3. Waveform matching

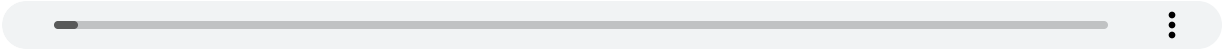
Directions: Match each sentence to the waveform that represents its rhythm.

Guided & Communicative Production

Exercise 7-4. Nursery rhymes

Directions: Read these nursery rhymes aloud. You can record yourself and then compare your rhythm to the recording. When you are reading them, focus on full vowels in the stressed content words and reduced vowels in the unstressed syllables and function words.

Jack and Jill



Jack and Jill went up the hill
To fetch a pail of water;
Jack fell down and broke his crown,
and Jill came tumbling after.
Up Jack got, and home did trot,
As fast as he could caper,
To old Dame Dob, who patched his nob
With vinegar and brown paper.

Humpty Dumpty

Humpty Dumpty sat on a wall,
Humpty Dumpty had a great fall;
All the king's horses and all the king's men
Couldn't put Humpty together again.

Hickory, Dickory, Dock

Hickory, dickory, dock,
The mouse ran up the clock;
The clock struck one,
And down he run,
Hickory, dickory, dock.

Exercise 7-5. Folk beliefs

Directions: *Read each Folk Belief aloud, paying attention to smooth speech between pause markers. Discuss whether people in your country/group have a similar belief in your culture (like a sick family getting better if you do something).*

What some people believe in the United States:

1. In Illinois, if you drive around the house in low gear, a sick family member will get better.
2. In North Carolina, if the first bird seen on New Year's morning is flying high, there will be good health during the year.
3. On Groundhog Day, in February, if the groundhog sees his shadow, there will be six more weeks of winter.
4. If you break a mirror, then you will have seven years of bad luck, unless you throw the pieces into a moving stream.
5. If you spill salt, then you will have bad luck, unless you throw some over your left Shoulder.

Now, create and then read a few of your own sentences using this pattern:

If _____A_____, then _____B_____, unless _____C_____
(optional).

Exercise 7-6. Sentence completion

Directions: Complete each of the ten sentences and then read them aloud. There are many grammatically correct ways to complete the sentences.

For examples, you may read:

Before he left for work,

From that phrase, you can say:

*Before he left for work, **he went out for breakfast.** Or Before he left for work, **he called his friend.***

1. Because John was given a car for his birthday,	6. By getting up early each day,
2. Even though she understood the instructions,	7. Because of the difficulty of the test,
3. John's coming early to work...	8. Whenever the experiment is tried,
4. If he had really thought about it,	9. In spite of their busy schedule,
5. Her friends tried to avoid...	10. If I had tried harder on the test,

Exercise 7-7. What can you do?

Directions: Talk with another student and find out two things he or she can do and two things he or she can't do. Report your findings to the class.

Concentrate on using an unstressed vowel for can and stressed for can't. Also, practice shaking your head side to side when you say can't.

Example:

- Student 1: *What kinds of things can you do?*
- Student 2: *Well, I can 200 meters. I swim several times a week.*

swim 200 meters	cook Japanese food	sew your own clothes
play soccer	drive a car	ride a unicycle
fly a plane	play the violin	play the guitar
dance really well	sing a song	speak Chinese
play tennis	play the piano	do a somersault
ride a horse	run a marathon	other

7.7 References

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Chapter 8

Prominence

John M. Levis

Learning Objectives

- To familiarize teachers with how prominence is signaled in English
- To enhance teachers' ability to teach prominence to students
- To demonstrate why prominence is important in promoting intelligible speech
- To introduce teachers to how word categories function in attracting prominence
- To provide exercises for producing and perceiving prominence

Outline

- 8.1 What is prominence?
- 8.2 Representing Prominence
- 8.3 Marking New Information and Deaccenting Given Information
- 8.4 Prominence on Function Words
- 8.5 Technology Corner
- 8.6 ProFUNciation – Why Prominence Matters
- 8.7 Activities
- 8.8 References

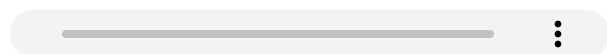
8.1 What is prominence?

Prominence is a special blend of intonation and stress. It gives English speech a characteristic sound shape and simultaneously communicates several distinct types of discourse meanings. Prominence has a number of names in discussions of English pronunciation, including sentence stress (Grant, 2012), primary phrase stress (Dickerson, 1989; Hahn, 2004), nuclear stress (Jenkins, 2000), pitch accent (Ladd, 1996), highlighting (Kenworthy, 1987), and focus (Levis & Grant, 2003).

Prominence is part of the pronunciation of phrases (or thought groups). We speak in phrases, and the end of one phrase (perhaps to take a quick breath) is succeeded by a new group whose words

include repeated and new content. Typically, there is one prominent syllable per thought group. The prominence can be signaled by an upward or downward movement in pitch on the stressed syllable of the prominent word, greater length on that syllable, and/or clear articulation of the vowels and consonants. Prominence typically occurs near the end of the thought group, most often on the last content word (noun, verb, adjective, or adverb). In the sentence below, a phrase from a personal narrative, the prominent syllable on the word “wearing” follows the typical placement of prominence and is marked primarily by syllable length and more careful enunciation.

“...what the students at their school were **WEAR**ing.”



Why is prominence important in English pronunciation?

Prominence is important because it helps listeners follow the developing message of a speaker. The common themes of speakers and listeners are created by using the voice to emphasize particular words and de-emphasizing words that are no longer as important. This helps listeners to understand better and to feel more positively toward the speaker. Laura Hahn, in her 2004 study using three versions of a short lecture given by a Korean L1 teaching assistant, showed that undergraduate students remembered more of the message when prominence was placed on the expected words in the lecture than when it was misplaced or not used at all. She also found

that the students liked the lecturer more when their prominence was correctly pronounced.

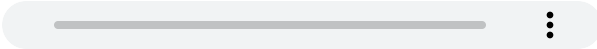
In another influential research study, Jennifer Jenkins found that prominence was important for intelligibility when two nonnative (or bilingual) speakers of English were speaking to each other. In her set of core features for pronunciation teaching, prominence placement was the only suprasegmental feature that was part of the core. These findings mean that prominence is critically important for both native and nonnative listeners, and that expected placement of prominence makes both native and nonnative speakers more intelligible when they speak.

Where to place prominence – The Default Setting

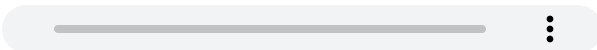
Prominence creates a normal sound shape for English speech. Listeners expect prominence in certain places as a default placement, and speakers almost always place prominence in those places. (Almost always...having an expected placement also helps call attention to special meanings for prominence when it does not fall where it is expected.) The expected placement means that the prominent syllable is almost always near the end of a phrase, often the last word of a phrase, and it is the beginning of a final pitch pattern at the end of the phrase. In 1969, the famous linguist David Crystal discovered that this default pattern for prominence occurred 90% of the time in normal English speech. The prominent syllable is also almost always in a content word (e.g., noun, verb, adjective). So, the default pattern says that the last content word in a phrase will

receive prominence. For the sentences preceding the audio snippets below, the CAPITALIZED syllable receives the prominence.

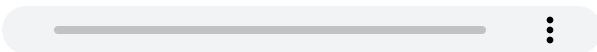
“The highlands of Scotland have roaming CATtle.”



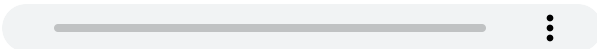
“Is that the last movie that made you LAUGH?”



“It’s absolutely GORgeous there!”



“Companies do that to save money QUICKly.”



Practice Placing the Prominence

Listen to the sentence and identify where to place prominence.

8.2 Representing Prominence

A non-technological way of representing prominence is to visualize it

as part of a modified musical staff with different pitch levels from 1 (low) to 4 (high).

4	
3	CAT
2	The highlands of Scotland have roaming
1	tle.

"The highlands of Scotland have roaming cattle."

4	
3	gh?
2	Is that the last movie that made you
1	LAU

"Is that the last movie that made you laugh?"

Few teaching materials emphasize this default prominence pattern even though it dominates normal English speech. But it is worth teaching it by helping students to hear it, to expect it, and to produce it in their own speech. It's what listeners expect to hear and leads to easy comprehensibility.

Sometimes, as in sentence 4, other words and syllables follow the prominent syllable. These words need to be pronounced with a low pitch. We call this de-accenting, and it's a very important part of using prominence correctly because it helps make the prominent

syllable noticeable by not calling attention to possible competitor words that come later in the phrase.

4	
3	GOR
2	It's absolutely
1	geous there.

"It's absolutely gorgeous there."

Where do you expect the prominence in these sentences? Underline the word that you think will receive prominence in each phrase.

"This food is nutritious and delicious."

"It all worked out pretty well."

"He said he didn't do it."

"It was hard because of all the craziness there."

In summary, default prominence placement generally follows well-

defined patterns that involve

- word types (content words are most likely to have prominence)
- placement in the phrase (prominence is typically toward the end of the phrase)
- stress placement (primary stressed syllables in longer words will be prominent)

These patterns show up in longer stretches of spoken language as well, not just in individual sentences. This TED talk, “[How students of color confront imposter syndrome](#),” starts in this way (with / marking the spoken phrases that the speaker uses). The final content word in each spoken phrase is underlined, and almost all of these receive prominence. This is how English speech is shaped. Only four phrases have prominence before the last content word, and two of these are compounds (building stoops, domino playing).

So, my journey **began** / in the Bronx, New **York**, / in a one-bedroom **apartment**, / with my two **sisters** / and immigrant **mother**. / I loved our **neighborhood**. / It was **lively**. / There was all this **merengue blasting**, / neighbors socializing on **building stoops** / and **animated conversations** / over **domino playing**. / It was **home**, / and it was **sweet**. / But it wasn't **simple**. / In **fact**, / everyone at school knew the block where we **lived**, / because it was where people came to buy **weed** / and other **drugs**. / And with drug-dealing comes **conflict**, / so we often went to **sleep** / to the sound of **gunshots**. /

When learners can shape their English speech in this way, they will

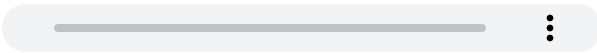
immediately become more intelligible because their speech will fit with the ways that listeners are used to listening.

8.3 Marking New Information and Deaccenting Given Information

Prominence placement is sensitive to the information value of words in discourse. In a well-known pedagogical example of prominence placement in English, Linda Grant wrote a short text about pollution for her pronunciation book, *Well Said* (2012, p. 114). The text is shown below, with / marks dividing **thought groups**. If we just look at three repeated words in the text, *pollution*, *scientists*, and *problem*, we see that normal prominence placement initially falls on *pollution* in the first phrase. After that, *pollution* ends the 3rd and 5th thought groups, but does not receive prominence again. Instead, the prominence falls on the next content word that is close to the end of the thought group (i.e., *defined*, *impact*). Afterwards, *pollution* is largely represented by the pronoun *it*, and never receives prominence again. The repeated word *scientists* (thought groups, 7, 8) behaves the same way that *pollution* does. Finally, the word *problem* occurs in thought groups 7, 8, 11, 13, 15, and it is phrase final in the last three. But it never receives prominence.

1 Let's continue our discussion of pollUtion. / 2 YESTerday / 3 we deFINED pollution. / 4 ToDAY / 5 we'll talk about the IMPact of pollution / 6 its far-reaching efFECTS. / 7 Many people think pollution is just a problem for SCientists / 8 but it's NOT just a problem for scientists. / 9 It affects EVeryone. / 10 Because it

affects human LIVES, / 11 it's a HEALTH problem. / 12 Because it affects PROperty, / 13 it's an ecoNOMIC problem. / 14 And because it affects our appreciation of NATure, / 15 it's an aesTHetic problem."



When talking about a topic over a period of time, important words (like *pollution* in the paragraph above) can occur many times. After the first time, they are unlikely to receive prominence again because new words will enter the conversation and present new information. In these cases, prominence occurs on the new words.

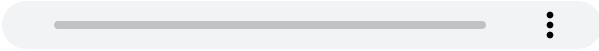
Prominence placement on new information is often complicated because repeated words can be repeated as pronouns (e.g., *pollution* = *it*), and because old information usually moves earlier in sentences so that new information can occur at the end.

Native speakers of English use prominence to signal new information naturally, but it takes a lot of concentration and thought for L2 speakers to understand how new information works.

Prominence – Marking Contrasting Categories

An important function of prominence is to call attention to contrasts and comparisons. For example, if a native speaker of English heard someone say the following, with prominence on GIRLS, it would call to mind a different category that is related to (and being contrasted with) girls, that is, boys. This use of prominence is called **contrastive stress**.

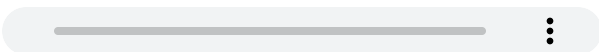
10. The work was finally finished by the GIRLS in the class.
(Interpretation: the boys didn't help)



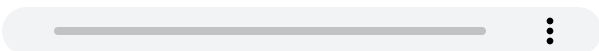
Contrastive stress depends on the meaning that a speaker intends to communicate and the categories that they intend to evoke in the listener's mind. Dwight Bolinger, the famous linguist, wrote that contrastive stress occurs when "two or more items are counterbalanced and preferences indicated for some group member or members. It [contrastive stress] is the most conspicuous of all the occurrences of phonetic highlighting by reason of its frequency and the extra oomph that we put into it, and because our attention is focused in a way that makes us aware of our speech and not just of our meaning" (1961, p. 83).

Sometimes speakers make the contrasts explicit, and sometimes they don't, as in the examples below (from Muller Levis & Levis, 2020, p. 318).

Explicit: It's easier to walk DOWN the stairs than UP the stairs.



Implicit: I can't believe I fell UP the stairs this time. (implicit contrast to DOWN)

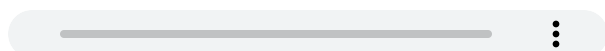


In general, contrastive stress is present when explicit comparisons

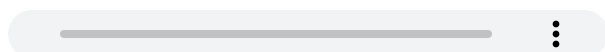
are being called to mind as in alternative questions) or when non-final prominence occurs for no clear reason other than calling attention to some type of category.

Alternative questions:

Which would you rather have, CAKE or COOKies?

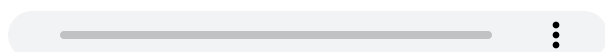


Should we go to New YORK or BOSTon?



Non-final prominence:

CaliFORnia sounds really good to me.



Implicit meaning: I think California, not somewhere else, is best.

Teaching prominence for contrasts does not necessarily require reading aloud because learners can often understand the reasons for using prominence through the use of visuals. Levis and Grant (2003, p. 18) suggested using Venn diagrams or charts to promote the use of contrastive stress, as shown below.

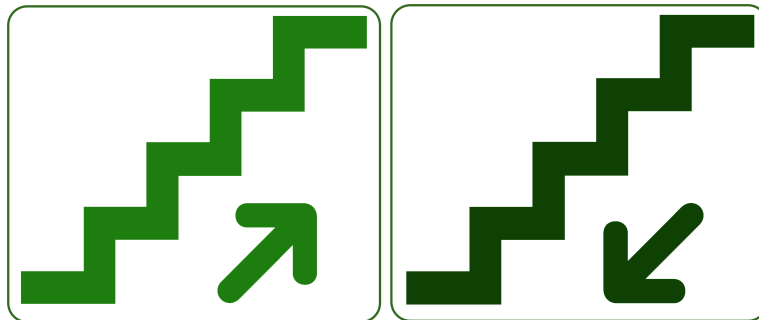


Comparing Two Automobiles

Feature	Automobile A	Automobile B
Age	3 years old	6 years old
Cost	\$8,500	\$6,500
Size (seats)	4 passengers	5 passengers
Size (trunk)	large trunk	small trunk
Make	American -made	German -made
Gas mileage	25 miles per gallon/highway	35 miles per gallon/highway
Reliability	very reliable	not very reliable

Levis and Muller Levis (2018) suggest using pictures that promote the use of contrasts, along with teaching lexical frames to make

using contrastive stress easier. In the next example, learners can compare the two pictures which have only one obvious contrast.



Repeated Questions and Shifting Prominence

Another use of prominence involves repeated questions, an interactive pattern that occurs with many kinds of formulaic questions. In the common greeting routine below, the same question is asked by Person 1 and Person 2, but the placement of prominence changes when Person 2 asks the question. Because the content of the pronoun “you” has changed when Person 2 asks the question, Person 2 uses prominence to call attention to the change. (If prominence stays the same, it creates confusion about whether Person 2 was actually listening to Person 1.)

16. Person 1: How ARE you? Person 2: Great! How are YOU?

These kinds of repeated questions occur frequently, and they involve many different formulaic questions (e.g., “Where are you from?”, “What are you doing?”, etc.). Like contrastive stress, these types of prominence changes can be taught without understanding other types of prominence placement.

8.4 Prominence on Function Words

Prominence almost always falls on content words (i.e., nouns, verbs, adjectives, adverbs). It rarely occurs on function words (such as articles, auxiliary verbs, prepositions, and the verb BE), but there are times that it does: in contrasts and in utterances that have no content words, such as *Where are you from?* or *It wasn't on*. In other words, thought groups have to have a prominent syllable, even if it's on a function word.

Where do you expect the prominence in these sentences? Identify the word that you think will receive prominence in each phrase, then listen to check your answers.

Where was it from?

They're not around.

Was it off?

You aren't on it?

Another common use of prominence on function words is to mark

contrasts, as in the example from Levis and Muller Levis (2018). If a speaker is trying to compare the two pictures of the black cat, they will naturally place prominence on the prepositions (i.e., *the cat in the first picture is ON the table, but in the second picture, the cat is UNDER the table*). Other examples of function word contrasts would be in sentences like “*I didn’t say YOU should do it, I said SHE should do it.*”

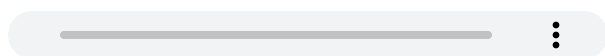


Other Exceptions to Default Prominence Placement

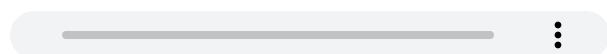
Cruttenden (1990) includes three other types of sentence types that are exceptional in prominence placement: event sentences, sentences with final adverbials, and adjective WH-objects. These types of sentences don’t occur often, but when they do, they are noticed by teachers and learners who hear that prominence placement doesn’t follow the rules that are otherwise very reliable.

Event Sentences (an expected verb does not get prominence)

AMAZON just showed up. (Explanation: The regular delivery truck was expected)

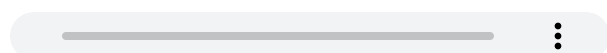


Your MOTHER called. (Explanation: This is what your mother usually does.)

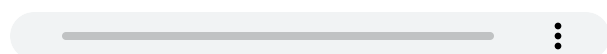


Final Adverbials (some final adverbials just set a context or a comment but are not important)

I'll MEET you there. (Adverbial there doesn't add any important information)

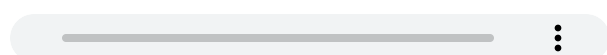


I can't DO it, unfortunately (The final adverbial is not very informative)

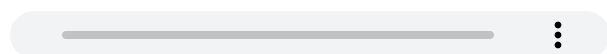


Adjective Wh-objects (The Wh-object is moved to the front of the question)

What BOOKS did you buy? (Based on knowing they bought some books)

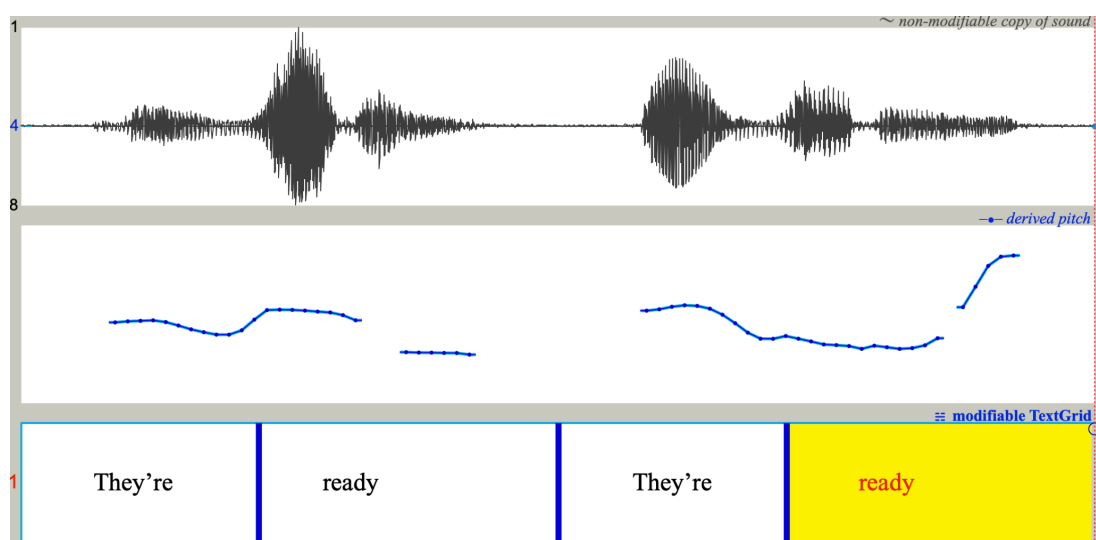


Which CLASSES are you taking? (Based on knowing they are taking some classes)



8.5 Technology Corner

To illustrate prominence, both when the pitch goes up and when it goes down, it is helpful to use Praat with the pitch tracking shown. In the example below, the sentence “They’re ready” is shown both as a statement and as a question. The statement has a jump up in pitch on “ready” (before the pitch falls to the end of the sentence), and the question has a drop in pitch from “They’re” to “ready” before the pitch rises at the end of the sentence.



Kazoos, another type of old-fashioned technology, are also effective in teaching prominence. The use of kazoos can help the learner pay attention to pitch by masking the other aspects of pronunciation. An illustration of the use of kazoos is shown in the video below.

8.6 ProFUNciation – Why Prominence Matters

In a common greeting routine, it's important to change prominence when returning a question. Otherwise, the other person will think you were not listening to them.

- Person 1: How ARE you?
- Person 2: How ARE you?
- Person 1: ??? (Confused)

English speakers are used to hearing names with final prominence. Otherwise, they don't hear them. So even though you know how to say your own name, unless you wrap it in a package of English prominence placement, English-speaking listeners will not "hear" you.

Unexpected prominence

- Person 1: My name's JONAS Garcia.
- Person 2: I'm sorry, could you repeat that, please?
- Person 1: (feels frustrated)

Expected prominence

- Person 1: My name's Jonas GarCla.
- Person 2: Nice to meet you. I'm Jason CLARKson.
- Person 1: (can now continue the conversation)

8.7 Activities

Description and Analysis

Exercise 8-1. Four Explanations

Directions: The teacher can choose one or more of the explanations for what prominence is and how it is used in communication in English.

Explanation 1

In English phrases and sentences, at least one word is always emphasized or prominent. In the examples, the prominent word is the last one in each sentence.

My name's Angela SMITH

But most people call me ANGIE

I'm originally from CHICAGO

Prominence involves several features in English. Most importantly, the emphasized word in a sentence has a change in pitch that makes it different from the words before it. The pitch change occurs on the stressed syllable of the emphasized word. After the pitch change, the voice then returns to its normal level.

My name's Angela ^{SMI}TH

But most people call me ^{AN}GIE

I'm originally from CHI^{CA}GO

Explanation 2

Prominence gives a particular melodic shape to English speech. Listeners expect this shape, so using the expected shape makes it easier to understand speech.

Prominence usually falls on the last word, but only if the last word is a CONTENT WORD, that is, a NOUN, VERB, ADJECTIVE, or ADVERB. Other types of words (like prepositions or pronouns) are not usually prominent in speech. In the two sentences below, the first ends in a CONTENT WORD (SISTER), but the second ends in a pronoun, so the prominence would go on the last CONTENT WORD (MONEY).

Compare:

1. I gave the money to your SISTER.
2. I gave the MONEY to her.

Explanation 3: Identifying Content Words

It's important to be able to identify CONTENT WORDS in speech.

They are the most common place for prominence.

Underline the **CONTENT WORDS** in the sentences.

In introductions / the family name receives prominence.

If you use only your first name / then emphasize it.

► Answers

When the last word in a spoken sentence is not a CONTENT WORD, as in “I gave the money to her”, it is especially important to drop the voice pitch after the prominent syllable. This makes it easy for listeners to pay attention to only one prominent syllable at the end.

Explanation 4: Visualizing Prominence

One way of visualizing prominence is to use a kind of musical staff with different pitch levels from 1 (low) to 4 (high).

4	
3	MO
2	I gave the ney
1	to her.

“I gave the money to her.”

Does prominence always have an increase in pitch?

In questions that end in a rising pitch, the prominent syllable usually drops in pitch. This makes it easier to notice the final rise in pitch.

4	
3	vie?
2	Did you enjoy the
1	MO

"Did you enjoy the movie?"

Listening Discrimination

Exercise 8-2. Identifying Prominence.

Directions: Play the recording and have learners identify the word that receives prominence. Go over the answers and play the recordings again to help hear prominence more clearly.\

She couldn't have done that.

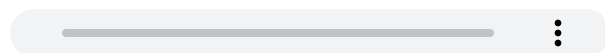
There was some damage on it.

Did you remember to call her?

What time is it?

I don't know where he is.

The car is still outside.



Exercise 8-3. Identifying Prominence in Small Talk

Directions: Listen and identify the prominence placement in the small-talk questions. Then practice shadowing the question with the same prominence pattern.

What's your name?

Where did you grow up?

What are you studying?

Where do you work?

How do you like (your city or state) ?

Where do you want to travel?

What's your favorite sport?

Exercise 8-4. Identifying Prominent Syllables.

Directions: Listen to each name of a famous person or place and identify the prominent syllable in each.

Tracy Chapman	Paul McCartney	London, England
Taylor Swift	Jennifer Lopez	Beijing, China
Brad Paisley	Chicago, Illinois	Seoul, Korea
Johnny Depp	Los Angeles	Sydney, Australia



Exercise 8-5. Prominence in a TEDTalk.

Directions: Listen from [John O'Donnell's TEDTalk](#), starting at 7:28. Identify the prominent word in the following sentences from the talk

- We are now at a very interesting point.
- Technology like this is simple.
- It's boring.
- It can go to scale fast.

Exercise 8-6. Predicting Prominence in a speech.

In the following speech, the first 10 spoken sentences are transcribed. Identify the last CONTENT WORD in each spoken sentence. Then listen and decide if it is pronounced with prominence. What does this tell you about normal, default prominence placement?

- I get a deep sense of HOPE
- when I look at this BRICK.
- It's going to spend the next 50 years of its life cutting CO2,
- and bricks LIKE it
- are going to CUT
- 15 PERCENT
- of world CO2.
- So let's TALK about that,
- but FIRST,
- we have to talk about FIRE.

Controlled Production

Exercise 8-7. Prominence on Names (adapted from Wayne Dickerson)

Directions: Communication works best when speakers put prominence on the words that listeners expect to be prominent. For names, this means prominence on the stressed syllable of the last part of the name. If the name has one part, it will be prominent. If the name has two or more parts, it will still have prominence on the last part of the name.

Example 1	HonoLULu	Honolulu, HaWAI'i
Example 2	PAris	Paris, FRANCE

Practice

Match the city with its state. Place prominence on the last part of the name.

Exercise 8-8. Shifting Prominence on Names.

Directions: Person 1 says a city from the list. Person 2 says the city and the state. Example:

- Person 1: DENver
- Person 2: Denver, ColoRAdo

Exercise 8-9. Learning World Cities and Countries

Directions: Find out how people say the name of the capital of your country and the name of your country. How is this different from what you would say to pronounce it?

Exercise 8-10. Saying Personal Names

Directions: Say these names with prominence on the last part of the name. Change the prominence in each row to keep prominence at the end.

General Rule. Personal Names are said the same way that names of cities, states, and countries are. Practice saying names with final word prominence.

Examples

First Name	First and Last Name	Title, (First and) Last Name
JOshua	Joshua GREEN	Dr. Joshua GREEN
EMily	Emily JOHNSon	Ms. JOHNSon

Names and Titles

First Name	First and Last Name	Title, (First and) Last Name
Robbie	Robert Martin	Mr. Martin
Suzanne	Suzanne Anderson	Mrs. Suzanne Anderson
William	Bill Johnson	Professor Johnson
Gabriel	Gabe Martinez	Dr. Bergstrom
Benjamin	Ben Anderson	President Anderson

Exercise 8-11. Prominence Dialogue Reading

Directions: Listen to the dialogues. Then in pairs, read the dialogues. Place prominence on the final content word in each sentence.

A Gift (Dialogue 1)

Chen: Bill, could you give me some advice?

Chris: I'd be glad to. What do you need?

Chen: I'm invited to dinner at Professor Wilson's house. What should I take?

Chris: Flowers are always a good idea. But not too expensive.

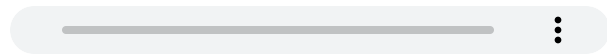
Chen: That sounds good. What's a good price to pay?

Chris: Not more than 20 dollars.

Chen: Where can I get them?

Chris: Probably the grocery store is best. Get them wrapped in paper.

Chen: Thanks. I'll get them right before I go.



The Gift – Next day (Dialogue 2)

Chris: So how was the dinner?

Chen: It was nice. The flowers were a good gift. Professor Wilson liked them.

Chris: What did you eat?

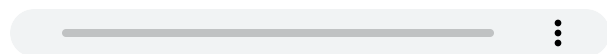
Chen: Some kind of soup. I forget what it was called. And bread and cheese.

Chris: You sound surprised.

Chen: In my country, soup is always just the beginning. Here it was the main course.

Chris: Hopefully you didn't end up hungry.

Chen: No, I was just confused. But the dessert was great.

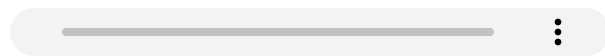


Exercise 8-12. Prominence on Choices

Directions: In pairs, listen to, then read the dialogue between the man in the bar and the bartender. Pay attention to how prominence falls on choices in the questions asked by the bartender.

Sometimes, prominence has a special placement on more than one word. One situation this happens is when asking choice questions, as in this dialogue adapted from a comic strip. In each choice question, the bartender would place prominence on both choices.

Man in bar	Bartender
I'll take a beer. Alcohol, of course.	ALcohol or NON-alcohol?
Domestic	IMPORTED or DOMESTIC?
I guess Dark.	LIGHT or DARK?
Whatever happened to stopping in for a quick one?	BOTTLE or DRAFT?



Exercise 8-13. Prominence on new information

Directions: In pairs, listen to and then read the dialogue between the two roommates. Make sure the prominence is placed on the new information. Follow these Instructions to prepare for the dialogue.

- Identify the last content word in each sentence.
- Identify if the last content word has already been mentioned.
- If yes, then find the last new word that has not been mentioned.
- Mark prominence on that word.
- Read the dialogue with another student.

Midterm Anxiety (Two roommates)

Roommate 1: Shoot! I've really got to study. Where'd I put my book?

Roommate 2: Which book?

Roommate 1: My calculus book.

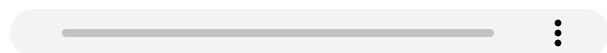
Roommate 2: Maybe you put it on the bookshelf.

Roommate 1: I never put it on the bookshelf!

Roommate 2: You could look in your bedroom.

Roommate 1: I've already looked in the bedroom. This place is a mess. I can't find anything around here.

Roommate 2: Hey, wait a second. You have the book in your hand.



Exercise 8-14. Jazz Chant

Jazz Chants were created by Carolyn Graham in the 1970s. They are good practice activities for grammar, fluency, and pronunciation. This Jazz Chant has a set of double prominences, one early in the phrase and the other late. This helps to practice prominence placement.

Directions: Read the Jazz Chant aloud with prominence placed at the end of each sentence.

A Bad Day (Carolyn Graham, Jazz Chants, 1978)

I overslept and missed my train,

Slipped on the sidewalk
In the pouring rain,
Sprained my ankle,
Skinned my knees,
Broke my glasses,
Lost my keys,
Got stuck in the elevator,
It wouldn't go.
Kicked it twice
and stubbed my toe,
Bought a pen
that didn't write,
Took it back
and had a fight,
Went home angry,
Locked the door,
Crawled into bed,
Couldn't take any more..

Guided & Communicative Production

Exercise 8-15. Self-Introductions

Directions: Introduce yourself to someone else. Place prominence on the last part of each name. Use the dialogue frame below or modify it to make your own dialogue.

A. Hi, I'm _____.

B. Hi, it's nice to meet you.

I'm _____.

Where are you from?

A. I'm from _____.

B. Cool. I'm from _____. It's in _____.

Exercise 8-16. Small Talk and Repeated Questions

Background information – Conversation often includes small talk with questions that are appropriate with someone you don't know well. In English, this is a common question.

John: Hi, Chris. **How are you DOING?**

Chris: Hi John. I'm fine.

How are YOU doing?

Directions: Discuss which of the following questions are appropriate to ask other people, especially strangers. Which of these questions are appropriate in English? In your culture?

How much do you weigh?	What do you think of this weather?	What sports do you like?
What do you like to do?	How much did that cost?	What is your religion?
How much money do you make?	Where is a good place to shop?	Where are you from?
What do you like to do?	Where is a good place to shop?	How old are you?
What do you think of this weather?		Where are you from?
		What's your favorite food?

Exercise 8-17.

Repeated Questions

Directions: Read the self-introduction dialogue and pay attention to prominence in the repeated question, Where are you from? Introduce yourself to someone else using the dialogue as a frame, but use your own information.

Person 1: Hi, my name's John. John Lewis.

Person 2: Hi, I'm Zoë Reed

Where are you FROM?

Person 1: I'm from Iowa. A town called Ames.

Where are YOU from?

Person 2: I'm from Boston.

Exercise 8-18. Comparing two pictures (Levis & Muller Levis, 2018)

Directions: Use contrastive prominence to compare the two house pictures. For example, if you were comparing two pictures of a cat, you would say:



“In the FIRST picture, the cat is ON the table, but in the SECOND, the cat is UNDER the table.”



To express contrasts, it may help to use some of the following language.

- The first house is _____, but the second house is _____.
- The house in the first picture has _____, but the house in the second picture has _____.
- One house is _____, but the other house is _____.
- This house _____. That house _____.
- The house on the left _____. The house on the right _____.

Exercise 8-19. Making an announcement.

Directions: Imagine that you are the spokesperson for a student organization on campus and that you are meeting those interested in the club for the first time. Study the information for about a minute. Then, talk to the people interested in your organization by giving them important information about the organization.

Group: Amnesty International

When: Wednesdays, 7-8:30

Place: 104 Frank Thompson Building

Special Sessions: Research on Current Issues (specific issues announced each Wednesday)

Mondays, 3-5 Natural Resources Library

Rallies: Monday, April 1

Guest Speaker: Dr. John Layaman, Director of Washington D.C. Chapter. To be

held outside the Student Center at 12:00. Bring a lunch

Wednesday, April 17

Staff Awareness Day- Activities from 12:00-2:00

Final Words

“Get involved so that all people and groups will enjoy the freedom and rights they deserve!”

Exercise 8-20. Correcting Wrong Information.

Speaking to a group (Corrected version)

Directions: Imagine that you are the spokesperson for a student organization on campus and that you are meeting for the second time. There have been unforeseen changes about when the club will meet. Give the information by correcting the mistaken information.

Group: Amnesty International

When: Every other Wednesday (not every Wednesday)

8-9:30 p.m. (not 7-8:30)

Place: 204 Frank Thompson Building (not 104)

Special Sessions: Research on Current Issues (specific issues announced each Wednesday)

~~Mondays, 3-5~~ Natural Resources Library

First Monday of the month, 3:30-5:30

Rallies: ~~Monday, April 1~~ (Tuesday, April 2)

Guest Speaker: Dr. John Layaman, Director of Washington D.C. Chapter. To be

held outside the Student Center at 12:00. Bring a lunch

Wednesday, April 17

Staff Awareness Day- Activities from 12:00- 1:00 (not 2:00)

Final Words

“Remember, we need your involvement!”

8.8 References

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Chapter 9

Intonation: Tune

John M. Levis

Learning Objectives

- To familiarize teachers with how intonation is signaled in English
- To enhance teachers' ability to teach intonation to students
- To demonstrate why intonation is important in promoting intelligible speech
- To introduce teachers to how intonation adds meaning to different grammatical structures
- To provide exercises for producing and perceiving final intonation

Outline

- **9.1 What is Intonation?**
- **9.2 Why is Intonation Important?**
- **9.3 Intonation and Meaning**
- **9.4 Common Intonation Challenges**
- **9.5 Tips for Teaching Intonation**
- **9.6 Technology Corner**
- **9.7 ProFUNciation – Why Intonation Matters**
- **9.8 Activities**
- **9.9 References**

9.1 What is intonation?

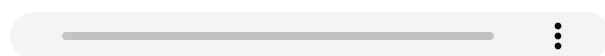
Intonation refers to the “distinctive use of patterns of pitch, or melody” to communicate meaning in a language (David Crystal, reported in Chun, 2002, p. 4). Intonation, in this definition, involves the use of pitch to communicate a speaker’s stance toward what they are saying. Intonation can also be defined in terms of distinct linguistic categories. Final intonation refers to rising vs. falling final pitch or combinations of rising and falling pitch that communicate meaning. Intonation contributes meaning to individual phrases and sentences, but intonation is particularly important at the discourse level (in how the meanings expressed by sentences fit together). For example, when speakers (especially younger speakers) sometimes use frequent rising pitch at the ends of their phrases while they are

talking at length about a topic, a phenomenon called Uptalk (Warren, 2016) or Upspeak (Bradford, 1997), they are using this intonation for a discourse purpose. The rising intonation engages listeners and also tells them that the speaker is not yet finished with their narration. In addition, the use of Uptalk can serve as a marker of group identity. Of course, it also can be annoying to some listeners who accuse speakers of talking in questions, even when they are making statements, but the use of Uptalk serves communicative purposes in how some groups of people communicate.

There are many intonation patterns that have been described for English, such as the calling contour, which has a high pitch on the stressed syllable, then steps down to a low pitch at the end of the name (e.g., AlexANder! SUSan! JOhn!) or the children's chant (Johnny has a girlfriend!), which has a set of pitch steps that almost everyone recognizes as being unpleasantly teasing.

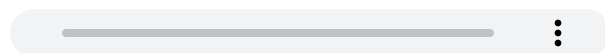
Calling Contour

AlexANder! SUSan! JOhn!



Children's Chant

Johnny has a girl friend.



These stylized intonation contours were also important for researchers in learning how to describe English intonation (Ladd, 1978; Liberman, 1975), but for learners of English, and for teachers, there are only a few patterns that cover almost everything they need. These patterns include rising, falling, falling-rising, and level intonation. These different patterns can be represented by arrows pointing in the direction that the pitch moves at the end of the spoken sentence. Rising intonation has an upward movement (↗) and falling intonation a downward movement (↘). Falling-rising combines these two movements, and level intonation has no movement. The intonation expert David Brazil says that level intonation is used when a speaker is treating the language as an object, not as real communication. For example, if someone has said the same thing many times (e.g., in taking money at a ticket booth), they may sound rather bored, with lots of level intonations.

Final intonation starts from the final prominent syllable and continues to the end of each spoken sentence. In the example sentences, both start with a prominent syllable (in CAPS) then continue with falling (on NOTice) or rising intonation (on TERRible).

4				
3	NO		ble?	
2	What did you	ti	It was really	i
1	ce?		TERR	

"What did you notice? It was really terrible?"

Intonation is signaled by several acoustic parameters, including duration, intensity, and pitch. Pitch is the most important. For teaching, it is helpful to simply help learners pay attention to pitch. Pitch is noticeable to most learners (even though some will struggle to name what they are hearing). Pitch is measured via the fundamental frequency, or F0, of speech. Listeners hear and react to intonation more globally, paying attention to how pitch highlights certain words (see Chapter 8), how pitch range seems more extreme or compressed than usual for a speaker, and how pitch moves at the ends of spoken sentences. This pitch movement at the ends of spoken sentences is what we are calling final intonation or tune.

9.2 Why is Intonation Important?

Intonation is especially important for teaching and learning because it adds an independent source of meaning to the messages that speakers communicate. This meaning can tell listeners whether speakers are asserting information as being true or false, whether they are open to multiple answers or expect one answer, whether they are uncertain, or if their attitude toward what they are saying is detached and uncommitted.

Every spoken sentence has to end with some type of intonation. When combined with other spoken sentences, the blend of intonation patterns used by speakers makes it easier or harder for listeners to understand what is being said, causes listeners to judge

speakers positively or negatively, and supports or conflicts with other aspects of meaning that are communicated. Intonation helps listeners understand whether speakers are saying something that needs a response, whether speakers are still talking and intend to say more, or whether speakers are asserting something that does not require a response.

Intonation occurs at the end of every spoken phrase or sentence. Listeners expect that intonation will help them understand what speakers are trying to say. In one study of the teaching language of Chinese teaching assistants, or TAs, in a US university, Lucy Pickering (2001) found that the Chinese TAs used a lot more falling intonation than American TAs when they lectured. The undergraduate students found the Chinese TAs hard to listen to because they seemed to be asserting too much information. The greater use of rising intonation by the American TAs, however, made the undergraduates feel that the teachers were more approachable and that the information they presented was more accessible to them.

9.3 Intonation and Meaning

Although intonation creates a special and independent type of meaning in speech, it combines with other aspects of language to create meaning. Meaning is also created by speakers by their choice of words, the grammar they use, and how they pronounce things, including their intonation. The meaning of intonation has been described in terms of speaker attitudes (Pike, 1945) or emotions

(Banziger & Scherer, 2005), but these types of meaning are too vague to be of tremendous use in teaching (Levis, 1999).

Intonation has an indirect connection to grammar (Levis, 1997), with both areas of language structure contributing to speech's meaning. In other words, grammar and intonation have independent contributions to meaning. Different types of intonation contours can be used with all types of grammatical structures (incomplete sentences, declarative, yes/no, and WH questions, etc.) depending on the types of meaning that speakers want to communicate. Similarly, every grammatical structure can be spoken with different intonations, giving speakers a great deal of flexibility in communicating meaning. Whether your voice rises or falls can add different meanings to your message, especially with incomplete sentences or statements, both of which are more flexible in terms of intonation's meaning.

With other grammatical structures, such as questions, intonation choices add subtle yet important meanings that can change the kind of message listeners understand. For example, on a yes/no question, rising intonation may communicate openness to any answer, while falling intonation may communicate an expectation that the speaker already knows the answer (Thompson, 1995). In both cases, the speaker has asked the same yes/no question, but the intonation suggests whether the speaker expects a certain type of answer.

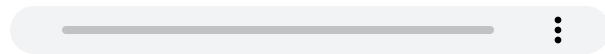
9.4 Common Intonation Challenges

Intonation can be hard to learn in a second language, and teachers may find it challenging to teach. Unlike phonemes, intonation is not represented by our writing system, except very indirectly through punctuation choices. It is also sometimes hard to identify, even for native speakers who use it successfully. For example, when I (John) was first learning about intonation, I would say that pitch rose when it fell and vice versa. Rising-falling intonation I could usually identify because of meaning, but it took a long time for me to feel comfortable with being able to identify pitch movements. Some learners of English may have the same challenges.

Other challenges with intonation happen when there is a mismatch in either form or meaning between a learner's native language and English. It is important to remember that intonation is similar to vowel and consonant sounds in that it communicates meanings that may be hard for language learners to hear if their own language doesn't make use of the distinction that is important in English. Madalena Cruz-Ferreira demonstrated this in a 1987 study of Brazilian Portuguese and English L2 learners who identified whether two sentences had the same intonation, and whether differences in intonation had different meanings.

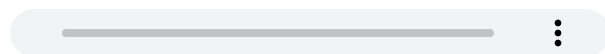
Cruz-Ferreira found that listeners were successful in identifying differences that were the same across languages, such as the use of intonation to create thought group differences, as in the next example in which phrase grouping leads to a different interpretation of who "They" refers to.

They've left the children vs. *They've left / the children*.



In situations in which English uses a form that has no parallel meaning in Portuguese, such as the falling-rising intonation contour on “not...any” sentences, language learners struggled to identify or interpret the sentences. The fall-rise here means that they admit students but are selective, as if the sentence said “just any.” The fall means they don’t admit students at all.

They don't admit ANY students (fall-rise) vs. *They don't admit ANY students* (fall)



A learner’s native language may also use the same form as English, but for a different meaning. In such a case, the learner hears the intonation perfectly well but cannot successfully interpret its meaning. Cruz-Ferreira gives examples of this for English speakers of Portuguese as an L2. Finally, in another case where learners may not be able to interpret meanings when they hear differences, Portuguese speakers could not interpret attitudes behind differences in pitch range. The sentence “*Where have you left your KEYS?*”, when spoken with a flat pitch range on *KEYS*, had a grumpy overtone, but when spoken with an extended pitch range, it was heard as a neutral question. The Portuguese speakers heard the difference in form but did not understand its meaning.

9.5 Tips for Teaching Intonation

Intonation is best taught when its forms and meanings are noticeable to language learners. Because the pitch movements of final intonation start after the pitch movement of prominence, it can be challenging for language learners to distinguish the two movements. In the sentence below, the pitch rises on the prominent syllable, GO, then falls to the end of the sentence. Heard together, learners may notice the rise on GO but not the fall to the end of the sentence, or may hear both pitch movements as a single unit. In the British tradition, this would be interpreted as a falling nuclear tone.

I wanted to GO there with her.

Because of this potential conflict, we find it easiest to introduce final intonation using single words, or short sentences, in which the Prominence and Final Intonation are heard as one unit, and the final Intonation is easy to hear, as in the dialogue. (These ideas for using short sentences are based on a still excellent 1971 article on teaching intonation by Virginia French Allen.) The question mark on the first word reflects rising intonation, whereas the next two “short sentences” have to be spoken with falling intonation. Such use of short sentences also reflects how many spoken sentences actually occur in English, in which speakers don’t use complete sentences when they are not needed.

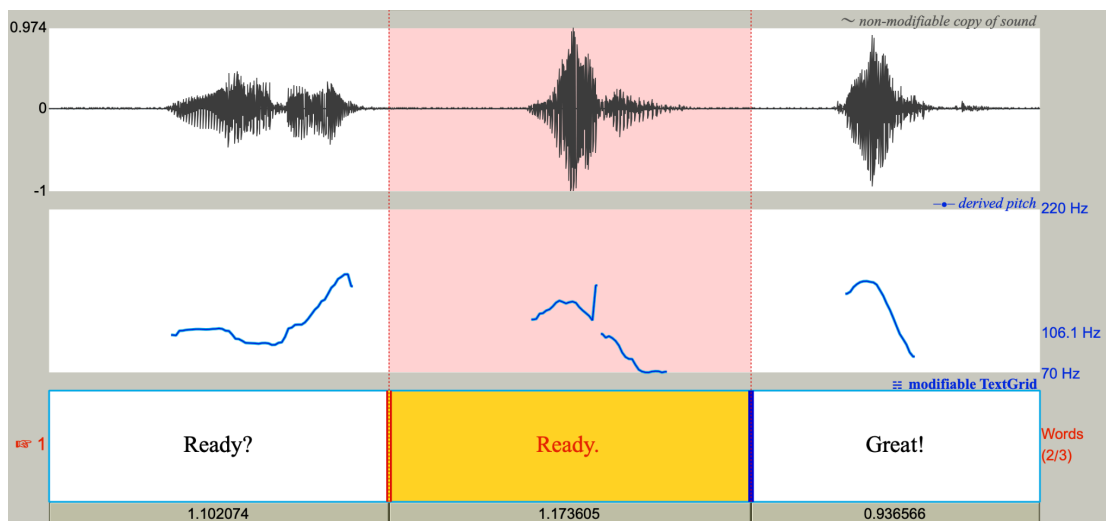
A: Ready?

B: Ready.

A: Great!

9.6 Technology Corner

There is abundant research evidence that visualizing pitch helps language learners. Since the early 1980s, studies have shown that visualizing the acoustic movement of pitch leads to better learning of intonation by language learners (e.g., de Bot & Mailfert, 1982). For example, using Praat, one of many freely available means to visualize pitch, the dialogue above could look like Figure X. The first line shows the rising intonation of Ready? and the next two utterances show falling intonation.



Having a program that further allows learners to match their own production to a model production provides feedback on intonation that leads to better learning (e.g., Hardison, 2004; Jiang & Chun, 2023).

A more low-tech approach to technology is the use of kazoos, as described in the prominence chapter. Kazoos, which mask the segmental content of utterances, are excellent in making any kind of pitch movement noticeable. A number of studies have demonstrated that language learners may pay more attention to the words and grammar than to how sentences use suprasegmentals to communicate differences in meaning. For example, Pennington and Ellis (2000), played sets of words and phrases to Cantonese speakers that differed in intonation. The listeners, who were used to paying attention to pitch in their native language, were quite unsuccessful in hearing intonation in English. Even when they were told what to listen for, they remained unsuccessful in noticing most of the intonation differences, at least in the short time of the study.

9.7 ProFUNciation – Why Intonation Matters

In 1982, John Gumperz, a prominent sociolinguist in the UK, reported on a situation he was asked to investigate in a British Air cafeteria. At that time, the cafeteria workers served other airline employees who were responsible for the maintenance and flying of the planes. These employees were angry at the cafeteria employees, who they thought were rude. The cafeteria servers, who were mostly Indian and Pakistani immigrant women, were angry at the employees who came through their lines, accusing them of being racist. Gumperz observed and listened, and found that the center of the hostility had to do with intonation. When the servers offered to those going

through the lines things like gravy (for their meat or potatoes), they used falling intonation. Those going through the line interpreted this falling intonation as saying "*Here is gravy, take it or leave it*" whereas a rising intonation would have sounded polite, e.g., "*Would you like gravy?*" The servers, on the other hand, thought they were being polite. In their native languages, it was polite to offer food using falling not rising intonation. What is interesting is that no one until Gumperz realized that this was an intonation problem. Everyone thought it was a social problem, and the people on both sides of the problem understood the conflict as a reflection of their deep-seated social beliefs about the other people involved in the conflict.

In another example, Bob Ladd, an internationally known intonation researcher (he is from the US but has taught for years in the UK), told a story one time of being at a restaurant in the US. At the end of the meal he asked "Can I have the check, please?" with a polite falling-rising intonation – Polite, that is, in the UK. His server reacted negatively to the request as insistent and pushy, like he had already asked before and was now annoyed. Ladd soon realized what he had done, and he changed his request to rising intonation in line with American norms. Again, the intonation was not heard by the listener as a pronunciation error but as a social failing. This indicates that wrong intonation may cause more serious problems with intelligibility than just not understanding a word!

ProFUNciation – Video

9.8 Activities

Description/Analysis

Exercise 9-1. Intonation Forms and Functions

Background. Final Intonation is the use of pitch variations to communicate meaning. Intonation has different forms (which direction the pitch moves) and functions (what the form means). Two of the most common final intonation tunes are rising and falling.

Directions: Listen to how the pitch changes at the end of each sentence,

I'm going to China! (F) Did you hear? (R)

You're going to China? (R) When? (F)

Explanation: Final Intonation has a number of tunes that are common in English.

1. A movement in pitch up (rising), down (falling) or a combination of these pitch movements (falling-rising). Pitch can also not move (level).
2. Intonation is the end of each spoken phrase or sentence

Final Intonation communicates different types of meaning in English.

1. It calls attention to the end of the spoken sentence
2. It signals openness (rising) or assertion (falling)
3. It can signal incompleteness (falling-rising, level) or completion (fall, rise) of an utterance

Exercise 9-2. Intonation contours in English

Directions: Listen to each short sentence and notice the way final intonation is different.

Rising	Falling	Falling-Rising	Level
Ready?	Ready.	I'd like to help...	I don't like that

Exercise 9-3. Final Intonation

Directions: The teacher uses the information to describe intonation. The numbers represent relative levels of pitch (1 = lowest, 2 = normal, 3 = highest). The media includes recordings of each example sentence.

Final intonation in English usually follows one of 5 patterns. Not all are equally important. Most can occur on a wide variety of grammatical structures (such as statements, yes/no questions, WH

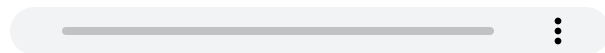
questions, incomplete sentences). The numbers refer to pitch levels: 2 is normal pitch, 3 is higher, and 1 is lower.

2-3-1 (Rising) falling: This pattern rises to a higher pitch on the prominent syllable, then falls to a relatively low pitch. Example sentence: *He didn't do it.*

2-3 Rising: This pattern rises to a high pitch at the end. Example sentence: *He didn't do it?*

2-3-1-2 Falling-Rising: This pattern gives a sense of incompleteness, of not being finished with the utterance. Example sentence : *He didn't do it...*

2-2 Level: This is a level pattern. It sounds bored or uninvolved. It can also signal incompleteness. Example sentence : *He didn't do it*
—



Listening Discrimination

Exercise 9-4. Identifying intonation (adapted from Rita Wong, 1987)

Directions: List the following words on the board, or use others. Make your own list that is marked with either rises or falls for each word. Read and ask the students to determine whether the pitch is

rising or falling. Mark an up or down arrow on the board for the correct answer.

ready	babysitter	some
yes	what	coming
no	trouble	stay
problems	problems	maybe



Exercise 9-5. Rising and Falling intonation of Wh questions

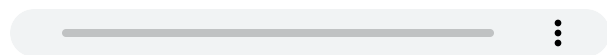
Directions: Listen to the two dialogues. What is different about the intonation of *Where* in the dialogues?

A: So what are you going to do for Christmas break?

B: I'm going to California.

A: Where?

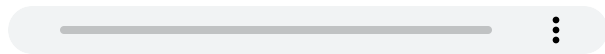
B: San Francisco



A: So what are you going to do for Christmas break? B: I'm going to California.

A: Where?

B: California.



Where? with **rising** intonation means _____

Where? with **falling** intonation means _____

Controlled Practice

Exercise 9-6. Short Sentence Dialogues (Rising and Falling intonation)

Background: Introducing intonation is most successful with short sentences because the communicative power of intonation is most noticeable in these short sentences. These types of dialogues are easy to write, and they reflect how people who know each other well usually speak because they include only enough information for their meaning, letting intonation carry part of the communication.

Directions: In pairs, read one of the dialogues. Decide how the

intonation for each line is pronounced and why. Then read the dialogue for the class.

Situation: *Two college students are in the library. A is at a table and B comes up to speak to A.*

- A: Studying?
- B: Yeah.
- A: What?
- B: Chemistry.
- A: Hard?
- B: No. Boring.

Situation: *Mr. Brown and his family arrive at a restaurant. The host/hostess greets them.*

- A: Reservations?
- B: Yes.
- A: Your name?
- B: Henderson.
- A: Outside?
- B: Please.
- A: Follow me.

Situation: *Roommates are getting ready to go out..*

- A: Finally. I'm ready!
- B: Really?
- A: Sure. Come on.
- B: Where?
- A: The movies.
- B: Which theater?
- A: Don't know. Movies 12?
- B: Too expensive.
- A: North Grand?
- B: Sure. Let's go.

Situation: A customer is in a coffee shop. The waiter comes up to serve him.

- A: Coffee?
- B: Pardon?
- A: Cup of coffee?
- B: Sure.
- A: Milk?
- B: Let me think...Black, please.

Situation: A husband and wife are getting ready to go out.

- A: Coming?

- B: Almost.
- A: When?
- B: Soon.
- A: Soon?
- B: Five minutes?
- A: Can you hurry?
- B: I'm trying.

Exercise 9-7. Intonation of WH Questions

Directions: Use the short dialogues to practice the different forms and functions of intonation for Wh questions. Person X starts. Then person Y chooses either rising or falling intonation, and Person X has to respond with the correct response. If the response is not what Person Y intended, discuss where things went wrong.

Dialogue Set A

X: They moved their headquarters near campus.

- Y: Where? (R)
- X: Near campus.
- Y: Where? (F)
- X: On Western Avenue.

Dialogue Set B

X: I left it on the bus.

- Y: Where did you leave it? (R)
- X: On the bus.
- Y: Where did you leave it? (F)
- X: Under my seat.

Dialogue Set C

X: The next home game is this weekend.

- Y: When? (R)
- X: This weekend.
- Y: When? (F)
- X: On Saturday afternoon.

Dialogue Set D

X: I'll call you in the morning.

- Y: When? (R)
- X: In the morning.
- Y: When? (F)
- X: Around 9:30.

Dialogue Set E

X: A hurricane hit the West Coast.

- Y: Where? (R)
- X: The West Coast
- Y: Where? (F)
- X: California.

Guided and Communicative Practice

Exercise 9-8. Conversation practice (Rising and falling intonation)

Directions: Practice having a conversation with another person. Use short sentences of one or two words each. Do not write your conversation down. One person starts the conversation with one of the words under “Openers”. The other person responds with an appropriate word from any of the columns. (You may also use other words, especially names.) Continue the conversation (using your own words) until someone says something that does not make sense or until someone uses a long sentence.

Remember that a change in intonation will change the meaning of your short sentences. For example, “Ready” with rising intonation means “Are you ready?” With falling intonation, “Ready” means something like “I’m ready”.

Openers

- Coming
- Going
- Ready
- Trouble
- Fun
- Happy
- Difficult
- Easy
- Good
- Bad
- no
- Yeah
- Kind of
- Almost
- Soon
- Later
- Come on
- Not really
- Really
- Very

Other words

- Boring
- Why
- When
- What
- Where
- Who
- How long
- Not yet
- Hurry
- Quick
- Because
- Don't know
- To class
- Home
- My grade
- Movies
- Chemistr
y
- 5
minutes
- OK
- Sure

Example Conversations

Conversation 1

- **Student 1:** Ready
- **Student 2:** Really?
- **Student 1:** Sure.
- **Student 2:** Come on
- **Student 1:** Where?
- **Student 2:** Movies.
- **Student 1:** What?
- **Student 2:** Don't know

Conversation 2

- **Student 1:** Coming?
- **Student 2:** Almost.
- **Student 1:** When?
- **Student 2:** Soon.
- **Student 1:** Soon?
- **Student 2:** 5 minutes?
- **Student 1:** Hurry
- **Student 2:** OK

Exercise 9-9. Twenty Questions

Directions: This is a challenge in which one person thinks of something or someone, and the other person has to ask yes/no questions to try to figure out what the first person is thinking about.

Example: I'm thinking of someone in this room. You ask questions until you can guess who it is. Your questions must begin with IS/ARE.

Examples: Is it a man/woman? Are her eyes blue? Are her shoes red? Is her hair blonde?

Exercise 9-10. Branching Dialogue: WH Questions

Background: This dialogue has challenges because each person does not see the other person's sentences. They have multiple choices for their own response, but the conversation has to make sense.

Speaker A

Directions: Speaker A begins the dialogue. Speaker B chooses a response with a sentence on their paper. Speaker A listens and chooses the most appropriate response as a reply. Speaker B then chooses the most appropriate response, and so on. After finishing, try the dialogue again with different responses or switch roles. Some WH questions have rising intonation and some have falling.

A: I'm leaving tomorrow to visit my friend.

B:

A1: My friend. I told you about her, didn't I?

A2: Linda. I told you about her, didn't I?

B:

A1: Linda. She lives near Washington. I'll be

there for a week.

A2: Yeah. We'll probably go to Washington on Friday.

B:

A1: A week or so. I think I'll come back next Thursday.

A2: I'm sorry. I wasn't listening. WHAT did you ask me again? (Please repeat)

B:

A1: The afternoon. There's a really great Indian restaurant we want to go to. It's got great food! And it's pretty cheap, too!

A2: We're going to the Smithsonian, and it's really big.

A3: Oh no, I forgot. I guess I'll have to come back earlier.

B:

Speaker B

Directions: Speaker A begins the dialogue with a sentence on their paper. Speaker B chooses one response. Speaker A chooses the most appropriate response as a reply. Speaker B then chooses the appropriate response and so on. After finishing, try the dialogue

again with different responses or switch roles. Some WH questions have rising intonation and some have falling.

A:

B1: Who? (Please repeat. I didn't hear you)

B2: Who? (Please give me more information about your friend)

A:

B1: Oh, yeah. I remember now. What's her name?

B2: Oh, yeah. She lives in Washington, doesn't she?

A:

B1: How long will you be there? (Speaker B is surprised)

B2: When? In the morning or in the afternoon?

A:

B1: Did you remember that there's an honor society dinner next Wednesday?

B2: Are you going to Washington in the morning or the afternoon?

B3: That sounds like fun. Where in Washington will you go?

A:

B1: I've never been to the Smithsonian. I hear you can stay there for days.

B2: Sounds wonderful! I love Indian food. You'll have to tell me about it.

B3: The dinner doesn't start until 7:00. You can leave around lunch, and still get back in time.

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Chapter 10

Connected Speech

John M. Levis and Kate Challis

Learning Objectives

To familiarize teachers with connected speech:

- normal spoken form vs. citation/dictionary form
- To enhance teachers' ability to teach connected speech to students
- To introduce teachers to high-frequency phrases in English that are often pronounced using these 6 categories of connected speech
- To provide exercises for the most common connected speech phrases in English

Outline

- 10.1 What is connected speech?
- 10.2 Why does connected speech matter?
- 10.3 Representing connected speech
- 10.4 Linking
- 10.5 Deletion
- 10.6 Modification
- 10.7 Reduction (Weak forms)
- 10.8 Multiple Processes
- 10.9 Technology Corner
- 10.10 ProFunciation
- 10.11 Activities
- 10.12 References

10.1 What is connected speech?

Most people have noticed that there are often differences between the dictionary pronunciation of a word (its citation form) and the way it is pronounced when combined with other words in spoken language (its normal form). These differences happen because of the effects of **connected speech** on the expected pronunciations of words (Alameen & Levis, 2015). When people speak English naturally, their words are usually linked together smoothly without breaks between them. Sometimes, this leaves vowel and consonant sounds mostly the same, linking the sounds of one word to the

sounds of another. Sometimes, connecting one word to another is done by adding sounds, deleting sounds, or changing sounds to make articulation smoother. These changes are completely normal but may make it challenging for English language learners to recognize words that they know in isolation.

Normal spoken form vs. dictionary form

The **normal spoken form** of a word refers to how it is commonly pronounced in natural speech. This form often includes elements of connected speech that connect adjacent sounds. Variations in the normal spoken form of a word may signal register variation (e.g., *walking* – ː vs. *walkin'* – ː) and regional accent differences (e.g., *FRUstrate* – ː vs. *frusTRATE* – ː).

The **dictionary form**, also known as the “citation form”, is the standardized pronunciation and form of a word as presented in dictionaries. It is a prescriptive, idealized pronunciation that does not account for speech context. This form provides a clear reference for how a word is articulated in isolation, without the influence of surrounding words or the rhythm of normal speech.

Types of Connected Speech Processes

There are many different ways connected speech processes can be categorized. Processes such as linking, insertion, deletion, and

reduction occur within words (e.g., *fact* [fækt] — ÷ vs. *facts* [fæks] — ÷), but in this chapter, we describe connected speech processes as occurring across word boundaries. We provide some examples of the following types of connected speech: linking, deletion, insertion, modification, reduction, and multiple processes.

Linking is perhaps the most fundamental feature of connected speech. Linking occurs in all languages in different ways. Linking has been part of English for centuries, but there are no prescribed rules for when linking occurs. In an example of linking, the final [k] in *The bike is stolen* — ÷ will connect to the vowel in *is*, so the sentence will be spoken as “*The by kiss stolen.*” In this example, the sounds stay the same, and final consonants attach to the following consonants so they sound like they are actually beginning consonant sounds. In other cases, the final sounds change or are deleted because of the sounds next to them.

In connected speech, **deletions, additions, reductions, and changes of sounds** into other sounds, or even combinations of these modifications, are also common. Deletions can occur when vowels or consonants drop to make it easier for speakers to pronounce. For example, if you hurt your knee, the doctor might say as you are recovering, “*You can’t favor it too much.*” — ÷ The [t] in *can’t* is likely to be deleted because [t] in the middle of three consonants [ntf] is almost always deleted in English. And in speaking casually, the second vowel in *favor* will be deleted, so that *favor it* can sound like *favorite*.

Additions in American English usually occur with connected final and

initial vowels, such as in *go about* [go^wəbaʊt] — ÷ and see *Alan* [si'læln] — ÷. In the first phrase, [w] connects the two vowels (because the first vowel is pronounced further back in the mouth, as is [w]), while in the second, [j] connects the vowels because the first vowel is articulated more toward the front of the mouth, as is [j].

Reductions are ubiquitous in connected speech. They occur in English as a result of stress patterns in words and phrases. When vowels are not in stressed syllables, they mostly change to schwa in connected speech. For example, if you say “*I went in to work on Thursday and Friday*,” — ÷ the words *in*, *on*, and *and* will all be reduced so that they are pronounced in almost the same way. If you pronounce the words in isolation, they will all sound different, but in connected speech, the differences disappear.

Connected speech processes can even change one sound into another, as in *Aren't you going* — ÷ and *Would you help me?* — ÷. In the first, the written <t> sounds like the sound expected of the spelling <ch> and in the second, the written <d> sounds like the sound expected of the letter <j> as in *joy*, or <ge>, as in *gem*. Finally, processes can occur together, as in “*What do you want to do*” — ÷ being pronounced like “*Whadja wanna do*”.

Connected speech processes and the changes they introduce to pronunciation are the normal way to speak English. They are not improper English, slang, or sloppy speech. In fact, they occur in even the most formal and careful registers of spoken English (Brown & Kondo-Brown, 2006). Lack of connected speech is so abnormal that

it can be a way to diagnose neurodegenerative diseases (Boschi et al., 2017)!

Some types of connected speech may vary based on formal or informal situations (Cauldwell, 2013) or across English accent varieties (Brown & Crowther, 2022). This means that the realizations of connected speech processes in American English will not always be the same as those in British English or Australian English. Connected speech processes characterize normal speech in every type of spoken English, and research consistently indicates that learners improve both their listening comprehension and speech production when connected speech is taught (Musfirah, Razali, & Masna, 2019; Euler, 2014; Kul, 2016).

Why does connected speech happen?

Native English speakers tend not to be aware of producing connected speech (Hardcastle et al., 2010), suggesting that CSPs are automatic and deeply ingrained into our ways of speaking. Some researchers have considered connected speech to be primarily a function of the immediate phonemic environment (Baumann, 1996), especially the effects of coarticulation. This means that the position and movement of the mouth, tongue, teeth, throat, jaw, and face affect the production of adjacent sounds. Other researchers have argued that speech rate, the formality of the speech situation, and other social factors also influence connected speech (Lass, 1984; Anderson-Hsieh, Riney, & Koehler, 1994; Alameen, 2007). Casual, spontaneous speech has often been believed to have more linking and reduction than formal, planned speech (Hieke, 1984), but

corpus-informed research by Shockey (2008) contradicts this finding for some CSPs, showing that linking frequency was consistent across casual and formal speech, as well as for fast and slow speech rates.

Connected speech in English often results from differences between stressed and unstressed syllables in English. These differences affect which words are more likely to have pronunciation changes in connected speech. Unstressed syllables are shorter and less carefully articulated than stressed ones, so unstressed syllables are far more likely to undergo vowel reduction. Unstressed syllables are also far more likely to be deleted or changed in connected speech. As a result, unstressed syllables are more likely to be compressed between stressed elements, which has two effects: They are pronounced quickly and less clearly, and this pronunciation makes stressed syllables become more noticeable, resulting in a regular, predictable stress-based rhythm for English speech.

Some descriptions of English pronunciation suggest that no matter how many unstressed elements there are in a sentence, they will all be pronounced in the same amount of time. This is not accurate. In the sentences below, the three stressed words (birds, eat, worms) remain the same and will take about the same amount of time to say. The unstressed syllables are always pronounced more quickly than the stressed ones (Munro, 2020). However, unstressed elements also take time to say, and more unstressed elements take more time than fewer.

Stress 1	Stress 2	Stress 3
Birds	eat	worms
The birds	eat	the worms
The birds	will eat	the worms
The birds	will have eaten	some of the worms

10.2 Why does connected speech matter?

Language learners often struggle with understanding and producing connected speech (Bley-Vroman & Kweon, 2002; Brown & Hilferty, 1986; Brown & Kondo-Brown, 2006; Henrichsen, 1984). Thus, connected speech is especially important for intelligibility and listening comprehension because learners often do not recognize known words when they occur in speech (Ash & Grossman, 2015; Kennedy & Trofimovich, 2008). This means that learners often struggle to understand the normal speech of fluent speakers or think that fluent speech is too fast.

Fortunately, explicit instruction focused on bottom-up listening (listening to the phonetic details of speech) and practicing connected speech consistently helps learners recognize and produce intelligible speech (Kissling, 2018). Cauldwell (2013) describes different types of speech in terms of plants. Very careful speech results in “greenhouse listening” (because each word is

planted in its own individual pot). Classroom speech, which is careful and connected, is described as “garden listening” because words are connected but remain easy to distinguish from each other. And normal speech, the kind produced by native speakers when they are focused on communicating, is “jungle listening” because words connect to each other in unpredictable ways. As Celce-Murcia et al. (2010) say, “Our goal as teachers of listening is to help our learners understand fast, messy, authentic speech ... [which] ... is much more varied and unpredictable than what they need to produce in order to be intelligible” ().

Connected speech is also important because learners find it interesting and fun. Language learning that is fun has been shown to increase motivation (Stoimcheva-Kolarska, 2020) and long-term retention (Abourdan, 2009; Birsen, 2017). Connected speech feels like real speech to language learners, and it is. More importantly, learning to hear connected speech will make it easier to listen to the speech of others. Knowing how English speakers connect words together will make it possible to understand others in situations where they seem to be speaking fast, where several people are speaking together, and in normal speech situations where it may otherwise be hard to understand.

10.3 Representing Connected Speech

Although connected speech occurs in every register and genre of spoken English (Hardcastle et al., 2010), there is no consistent way to represent it in writing. Sometimes the dictionary spelling of words

is modified intentionally in writing to better reflect connected speech pronunciations in normal speech. Some high-frequency phrases may also have commonly accepted spellings attested to exist for a long time. These spellings also make it easier to recognize connected speech. Consider the following examples:

Spelling	Connected speech	First attested spelling
could have	coulda	1606
going to	gonna	1806
(I) don't know	dunno	1842
would have	woulda	1845
got to	gotta	1885
want to	wanna	1896
should have	shoulda	1902

Historically, these variant spellings, which are sometimes referred to as eye dialect (Picone, 2016), appeared almost exclusively in writing in order to represent direct speech (Weber, 1986), but today respelled forms appear widely across all forms of computer-mediated communication, such as social media and texting (Eisenstein, 2015), for example:

Word/phrase	Respellings
probably	proolly, prally, proly, prbly, prly
what	wat, wha, wut, waat, whaat
who is this	who dis
yes	ya, yup, yah, yass, yaaas
trying to	tryna
fixing to	finna

Connected speech in ESL/EFL textbooks and training materials sometimes also uses respelling, as in Weinstein (1982), whose book title *Whaddaya Say?* represents many connected speech processes. Other ESL/EFL materials focused on linking (Alameen & Levis, 2015) may use the French liaison symbol ◡ to show how sounds are linked across word boundaries. In the examples below, the first links by deleting the [h] in *he*, while the second connects the [r] to the following vowel sound. (In this book, we will use the French liaison symbol to signal linking.)

has he → ha◡se ◡ ⋮

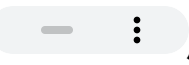
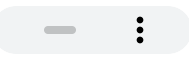
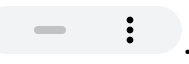
four eggs → four◡eggs ◡ ⋮

10.4 Linking: what it is, when it happens, why it matters

Linking is the process of smoothly connecting one word to another word by connecting ending and beginning sounds. Sometimes linking occurs by preserving all the original sounds (C_V linking), sometimes by deleting sounds (some types of C_C linking), sometimes by adding sounds (V_V linking), and sometimes by changing sounds into other sounds. Linking is normal for all types of speech, but it also differs across dialects and varieties of English.

Linking is also closely related to syllable structure, which is language-dependent. This means that linking can be tricky at first for learners, especially if they come from a language background that has a very different syllable structure from English. Japanese, Korean, Chinese, and Vietnamese generally have fewer “legal” syllable structures than English. Even though Russian, Hindi, and Arabic have many consonant clusters (like English), the kinds of clusters differ from English. However, research has shown that as you practice, you will gain a stronger sense of phonological awareness in English, including an intuition for syllable structure (Saiegh-Haddad, 2019).

C_V linking

In C-V linking, the consonant sound at the end of one word links to the vowel sound starting the next word as in *walk on* , *found out* , and *laugh off* . This kind of linking ensures that words beginning with vowels will actually sound like

they begin with a consonant. The regular pattern for English is consonant + vowel, so this is a frequent linking pattern in English speech.

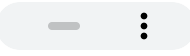
- *some of* → su_muv
- *run into* → ru_ninto
- *show up* → sho_wup
- *zoom in* → zoo_min
- *fall apart* → fa_lapart
- *rise up* → ri_zup
- *check in* → che_kin
- *give up* → gi_vup
- *work out* → wur_kout
- *look over* → loo_kover

When a word ends with a consonant cluster (more than one consonant in a row) and the next word begins with a vowel, the final consonant of the cluster is pronounced in the syllable of the next word. This resyllabification helps English preserve the final consonant as the beginning of the next word.

- *first aid* → fir_staid
- *post office* → po_stoffice
- *guest entrance* → gue_stentrance
- *best option* → be_stoption

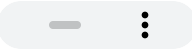
There are many consonant clusters that are “illegal” in English, but they also sometimes occur because of the tendency to link. For example, in calling someone using the phrase *come here*, speakers will actually delete the first vowel and say [kmɪə]. The consonant cluster [km] is not normally allowed in English, but in this case, it can be pronounced because of linking.

Sometimes, resyllabification creates different real words in English. For example:

- *it's kind of nice* → it's kayn_dof nice 

These could reflect the sounds of two sets of words, either “it’s kind of nice” or “it’s kine dove nice.” However, native English speakers are unlikely to notice this second interpretation because of context clues that make the first sentence something that could be said in English and the second something that could not be said. In the example, “kine dove nice” is unlikely to occur for many reasons. One reason is because these words don’t appear together. By contrast, “kind of” is a high-frequency phrase. Another reason is that the word ‘kine’ (an old word for ‘cow’) is archaic and rare.

When resyllabification creates more frequent word phrases, they can be used for wordplay, such as the children’s rhyme about ice cream.

- *ice cream* → I_scream 

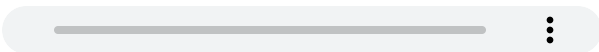
I scream, you scream, we all scream for ice cream!

C_C linking

C_C linking also happens across word boundaries. When the consonant sound at the end of the first word is the same as that begins, the next word makes the same sound or a very similar sound, the tongue can stay in the same place in the mouth and lengthen the consonant sound. Examples of this are seen in *full length* — :, *Ann knew* — :, and *miss some* — :.

Other links can occur when the final stop consonant of the first word links to a different stop consonant beginning the second word, as in *Bob_took_Tom_toward_that_car*. These types of links are often more difficult for learners to hear or produce because the first consonant often sounds like it is deleted or is not pronounced at all. In most cases, it is pronounced, but as a glottal stop (the unwritten sound in *uh, oh!*) In these links, it is extremely common for one of the consonants to be held and then the second consonant to be fully pronounced.

- *drop by* → draʔ_by
- *get by* → geʔ_by
- *sit down* → siʔ_down
- *take down* → tayʔ_down
- *look forward to* → look_forwarʔ_to(/ta)
- *wait for* → wayʔ_for(/fer)



This is sometimes referred to as glottalization or to the phonetic

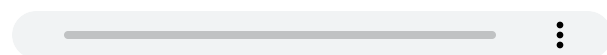
process where the glottis (the space between the vocal cords) constricts during the production of a sound, often leading to a characteristic creaky voice or complete closure that stops the airflow momentarily. Glottalization reduces the vocal effort required to maintain a regular speech rhythm and occurs within words, between words, and at the end of words. Both -t and -d glottalization are natural sounding in both formal and informal registers of American English (Shockey, 2008).

V_V linking (Glide Insertion)

When final vowels link to beginning vowels, the link often occurs because of a glide insertion that matches the first vowel in its place of articulation. For front vowels, the link to the second vowel is made with a brief [j], and for back vowels, the link is made with [w].

Link starting from front vowels

- *see it* → see_y_it
- *he asked* → he_y_asked
- *they all* → they_y_all



Link starting from back vowels

- *you always* → you_w_always
- *two eggs* → two_w_eggs
- *go out* → go_w_out

Another way to show these links is through respelling, using either <w> or <y> spellings. This is often more accessible to learners, and even native speakers may spell familiar words this way when they know the word but have never written it. For example, one student in a class once wrote <cwoperashun> for *cooperation*.

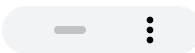
- *do it* → do^{<w>}it
- *I am* → I^{<y>}am
- *go on* → go^{<w>}awn
- *he is* → he^{<y>}is
- *see it* → see^{<y>}it
- *coffee or tea* → coffee^{<y>}or tea
- *two apples* → two^{<w>}apples
- *be able* → be^{<y>}able

10.5 Deletion: What it is, when it happens, why it matters

Another type of connected speech change to pronunciation involves deletion (also called elision). Deletion occurs with consonants and vowels. When it occurs with vowels, it means that the number of syllables changes, which can cause meaning to be asked. Jenkins

(2000), in her discussion of the Lingua Franca Core for intelligibility, argues that deletions are particularly challenging for L2 learners because they cannot easily reconstruct words when sounds and syllables are missing.

Consonant Deletion

When consonant clusters occur in spoken English, either within or across word boundaries, one or more consonant sounds may not be pronounced. For example, in the compound noun *rest stop* , the [stst] is simplified to [stst] so the word could be respelled *res top* and still sound the same. When one consonant “swallows” other consonant sounds, this is called **deletion**. It is more common for sounds to be deleted at the end of a syllable than at the beginning of a syllable because the clear pronunciation of beginning consonants is especially important to listeners (Shockey, 2008).

Commonly deleted consonants

- *grand prize* → gran_prize
- *sound proof* → soun_proof
- *last call* → las_call
- *lost cat* → los_cat
- *twelfth night* → twelf_night
- *left the* → lef_the
- *and for* → an_for
- *take care of myself* → tay_kaira_myself
- *neck of the woods* → necka_the_ woods

Some very frequent phrases result in other deletions.

- *kind of* → kin_da→kain_na (kinna)
- *want to* → wan_to→wan_na (wanna)
- *held back* →hel_back
- *give me* →gim_me (gimme)
- *let me*→lem_me (lemme)

h-dropping

The sound /h/ at the beginning of words is often weakly articulated and prone to deletion, especially when /h/ occurs at the beginning of an unstressed word. This happens most often with function words such as pronouns (*he, him, his, her, hers, himself, herself*). In fact, the pronoun *it*, which used to be *hit*, is a product of historical h-dropping! The use of h-dropping is used in this child's rhyme "Fuzzy Wuzzy" in which the made-up word "Wuzzy" is pronounced identically to the last line, "was he."

Fuzzy Wuzzy was a bear

Fuzzy Wuzzy had no hair

Fuzzy Wuzzy wasn't fuzzy, was he?

h-dropping also occurs in all forms of the auxiliary verb *to have* (*have*, *has*, *had*). This leads to *have*, *has*, and *had* being pronounced as [əv], [əz] and [əd]. Phrases like *should have*, *would have*, and *could have* can thus be spelled as *should've*, *would've*, and *could've*.

- *should have* → shou_duv (should've) — ⋮
- *would have* → wou_duv (would've) — ⋮
- *could have* → cou_duv (could've) — ⋮

Interestingly, when an <h> is replaced with an apostrophe <'> in respelling words that are not contractions, this usually implies the presence of a British English accent, in which this feature continues to be strongly associated with urban, working-class British accents.

Harry's right here! vs. *'arry's right 'ere!* — ⋮

10.6 Modification: What it is, when it happens, why it matters

By now, it should be clear that the citation form of a word tends to change based on nearby sounds of surrounding words, i.e., its phonetic environment. **Modification** refers to the broad category of sound changes that involve changing expected sounds to better adapt to their phonetic environment. Linking is about connecting words between word boundaries. Insertion/deletion are about modifying words and phrases so that they comply with phonotactic constraints (meaning the “allowable” sound combinations), including

adding or removing syllables. Modification in connected speech is about the naturally occurring sound changes that lead to smoother, more fluid speech, but they do not typically change the number of sounds or the basic structure of the words themselves. Native speakers tend not to be consciously aware of modifications in connected speech.

Flapping

When /t/ or /d/ occurs between vowels, this often results in a “flap” /r/ in North American English, which is a sound produced by briefly tapping your tongue on the small ridge located just behind your upper front teeth on the roof of your mouth.

The flap sound is a lot like /d/ except it is much faster and less distinct, and it seems to occur immediately between syllable boundaries, similar to glides. Flapping is extremely common in all registers of American English, both within words and across word boundaries. If the /t/ or /d/ is preceded by a sonorous consonant sound, meaning with a relatively open airflow through the vocal tract such as /m, n, ŋ, l, r, w, j/, then a flap can still occur.

- *a lot of* → uh_lo_ruv
- *but I* → bu_reye
- *that it* → tha_rit
- *you hurt it* → you_hur_rit
- *right away* → ri_ra_way
- *what if* → wuh_rif
- *got to go* → go_ra_go

- *get over it* → ge_rɒh_vu_rɪt

⋮

Some people use glottalization /ʔ/ in places where other people use flaps /r/, that is, flaps (Eddington & Taylor, 2009).

Assimilation

Assimilation refers to one sound taking on some or most of the same characteristics of a neighboring sound. The characteristics that are most often assimilated are the place of articulation, manner of articulation, and voicing. When assimilation occurs across word boundaries, the transitions between sounds become smoother. Assimilation occurs in all languages and makes rapid, fluid speech possible. Note that some of these assimilations result in the loss of *eth*, the voiced interdental fricative in words like *they*, *the*, and *then*. Cauldwell (2013) calls this process “eth death”.

- *and then* → an_nen
- *and they* → an_ney
- *on the* → aw_ne
- *you have* → yoov
- *in the* → in_ne
- *I would* → I_ud (I'd)
- *find them* → fi_nem

⋮

Blending (Palatalization)

A very common sound change in English connected speech is blending, sometimes called **palatalization**. Blending happens when the tongue touches the palate while a consonant is being pronounced. Look at the picture and locate the palate.

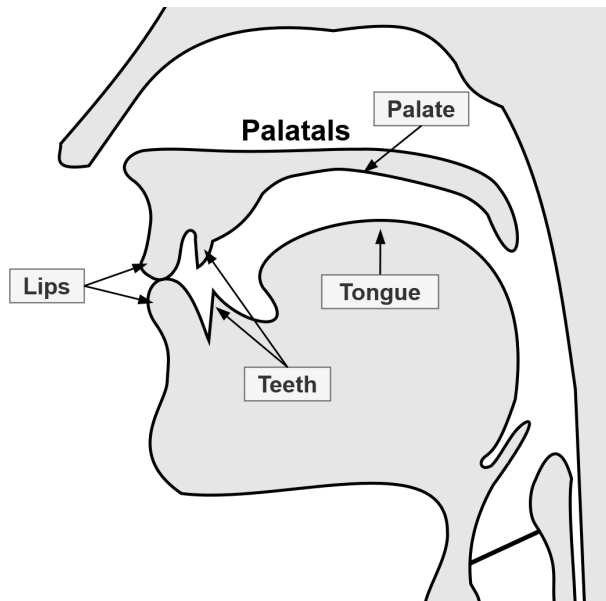


Figure 10.1 Palatals (Image Source)

In some languages, such as Russian and Czech, palatal consonants are phonemic, meaning they are considered to be stand-alone sounds. However, in English, palatalization can also be allophonic, meaning it is a “subcategory” of other sounds or groups of sounds. Palatalization in English usually occurs across multiple consonant sounds, especially those which cross word boundaries. Although the degree to which these consonants are palatalized varies across speaker and context, it occurs so frequently and across so many

different kinds of speech that it is important to be able to recognize this pattern.

- /s/ + /j/ → /ʃ/ — :
- /z/ + /j/ → /ʒ/ — :
- /d/ + /j/ → /dʒ/ — :
- /t/ + /j/ → /tʃ/ — :
- *pass your plate* → pa_shur_plate — :
- *where's your* → wear_zhur — :
- *What are you thinking?* → wha_tcha_thin_king — :
- *What do you think?* → wha_djoo_think? — :
- *What did you think?* → wha_dja_think? — :

10.7 Reduction (Weak Forms)

Reduction is everywhere in English because of the effects of stress on pronunciation. Unstressed syllables are also called reduced syllables, which include sounds that are less distinct and clearly articulated. Their vowels are more prone to being pronounced as the same word, schwa, and their consonants are more prone to change (deletion or blending).

Discourse-level reduction occurs because of words that are known to have two types of pronunciation: weak forms (or normal forms) and strong forms (when a weak form is especially emphasized). Weak forms are high-frequency one-syllable words that are almost

never stressed in speech and connect to stressed words. Some weak forms are shown below.

Spelled Word	Strong form	Weak form
and	[ænd]	[ən], [ŋ]
in	[ɪn]	[ən], [ŋ]
on	[ɒn]	[ən], [ŋ]
of	[əv]	[ə]
an	[æn]	[ən]
can	[kæn]	[kŋ]
to	[tu]	[tə]
will	[wɪl]	[əl], [l]

When combined with other words, weak forms are hard to hear, especially in high-frequency phrases.

- *to you* → ta_ya, tya
- *of the* → uh_th
- *you know* → y_no
- *I don't know* → I_dunno
- *see you* → see_ya
- *you never know* → ya_never_know

10.8 Multiple Processes

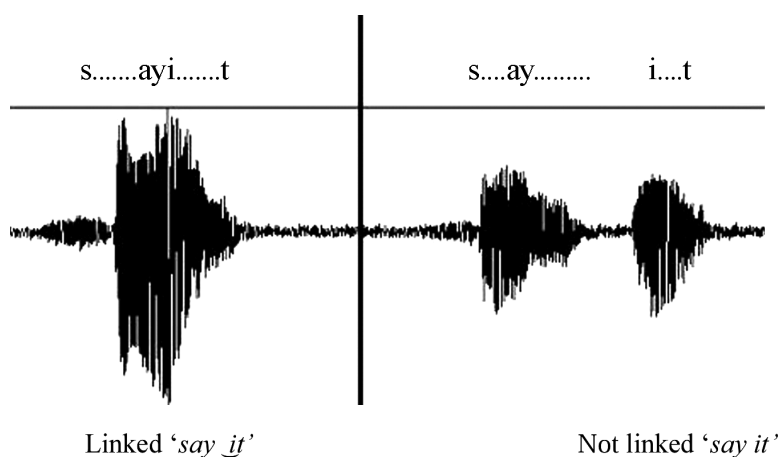
The categories of connected speech can sometimes be a bit blurry. The reality is that multiple phonetic processes often interact simultaneously to produce natural-sounding speech. For this reason, Cauldwell (2013) describes connected speech as “jungle listening”. Even if two native English speakers were chatting together in a quiet room, they would produce so many overlapping sounds that it would sometimes be difficult to isolate and identify individual sounds, similar to how it would be difficult to discern where one plant begins and another ends within a jungle.

The point is that the categories we have described in this chapter are simplifications that help organize a complex topic into more manageable pieces for the learner. In speech, these processes usually overlap. Native speakers produce multiple connected speech processes simultaneously, usually without ever being aware that their words sound quite different from the dictionary form. The interaction of these processes not only helps maintain the rhythm and flow of speech but also supports the speaker’s linguistic identity and social signaling within specific dialects or language communities.

10.9 Technology Corner

Technology can demonstrate the difference between linked and unlinked words by looking at the waveforms of recordings. Alameen (2014, p. 146) shows this difference using the words *say it*. The

linked version shows no space between the words, but the unlinked form has a clear space between the words.



10.2 Linked and unlinked phrases.

10.10 ProFunciation

Although connected speech is especially difficult for language learners, it can even be challenging for native speakers in some situations, leading to mishearings that can be comical. For example, one of the authors, in speaking to a staff member about a newly painted room, said “It’s a very yellow room.” The staff member replied, “It’ll look better with marijuana” (or so the author heard). This made no sense in so many ways, and the author finally figured out that the staff member had said, “It’ll look better with a mural on it.” “mural on it” and “marijuana” have the same stress patterns, and the unstressed syllables were not clear enough to hear what was intended.

Some of the most well-known types of mishearings have been

named Mondegreens, a term coined by Sylvia Wright (1954), who reported interpreting the phrase “laid him on the green” as “Lady Mondegreen”. These mishearings often occur in songs when the mixture of music and unfamiliar words and grammar force listeners to come up with words that seem to match the sounds they are hearing. In the Christmas carol, The 12 Days of Christmas, most people hear “four calling birds” even though the original words include the archaic word “colly” instead. In another example, the song “In a Gadda da Vida” was originally supposed to be “In the Garden of Eden” but the band members had a difficult time singing the original words.

The following memes show how spelling variations to highlight connected speech features are used to mark humor. In the first line, *just* and *remember* both have deletions. Notice how the word-final/t/ and word-initial <re>, which are reduced in normal spoken form, are purposely misspelled. While the second line is full of respellings that do not reflect actual variations in pronunciation, part of the humor in this meme is the use of pronunciation respellings (Picone, 2016), perhaps suggesting that if the kitten could speak, it would speak informally, or like a young child.

Creative spellings of connected speech are sometimes used in song lyrics. In fact, the practice of spelling song lyrics to better reflect how they sound is common in all types of popular music, as in the examples below.

it’s wonderful → ‘s wonderful

“s wonderful! ‘s marvelous! That you should care for me! ‘s awful

nice! 's paradise! 's what I love to see!" (Gershwin, 1928)

"She wanna roll, we 'bout to go, what's hatnin'" (Bieber, 2013)

- she wants to roll → she wanna roll
- we (are) about to go → we 'bout to go
- what's happening → what's hatnin'

10.11 Activities

Description and Analysis

Exercise 10-1. Common Connected Speech Changes

Background: In normal speech, words are fluently connected to each other. This makes speech sound too fast and can make it hard to understand what is being said because sounds are not connected to the right word or change from what is expected.

Directions: Write all italicized phrases with underlining so learners can see them. Play recordings of each phrase and ask learners what is happening to the underlined letters. For example, for the first row, ask "How many consonant sounds are pronounced in the underlined section?" When someone says "one" ask them why (because the two sounds are identical, so only one is said).

(Two of the same sounds become one sound)

take care hip pocket
 in November

(Border sounds stay the same but connect to different words)

kicks at the ball called Ann slid on the ice

(Two sounds change into a different sound)

did you hit your head pass your papers in

(A consonant sound is not pronounced)

brand new car fast driver the tenth circle

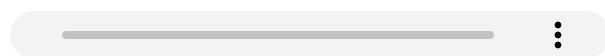
(Two vowels link together)

A snow angel play it again true answers

Listening Discrimination

Exercise 10-2. Lining or no Linking?

Directions: Listen to each phrase. Are the words linked together?
Answer Yes or No.



Phrase	Linked? Select One
sick students	YES or NO
did you	YES or NO
hit your head	YES or NO
full length	YES or NO
close enough	YES or NO
fast car	YES or NO
loves ice cream	YES or NO
miss your pet	YES or NO
was that hard?	YES or NO
sings a song	YES or NO
catch a cold	YES or NO
planned trip	YES or NO

Listening

⋮

Answers

⋮

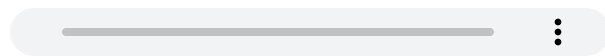
Exercise 10-3. Identifying linking

Directions: Identify which underlined letters are linked correctly.
Answer “1” or “2”.

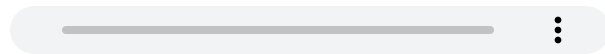
Examples:

The weak kick (1) missed Tim (2).

Did you say kiss you (1) or miss you?



Listen and answer



I built it (1) not billed it. (2)

Did you do it (1) or did you? (2)

I never run. (1) I'd rather ride, (2)

You laugh at (1) me. Don't laugh again, (2)

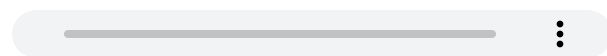
I'm eating right now. (1) Can Tom answer? (2)

I want you (1) to count your money (2)

Is it a brand name (1) or a knock-off? (2)

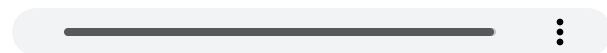
I fell on (1) John's sidewalk. (2)

Answers



Exercise 10-4. Gapped dictation,

Directions: Listen to the sentences and fill in the blanks. Blanks may have more than one word that are linked together.



1. _____ married _____ seven years.
2. Things _____ never _____ better.
3. _____ never had any problems _____.
4. _____ got _____ deal _____ time.
5. _____ got _____ start early _____ morning _____ do _____.
6. That's _____ nice restaurant. _____ expensive.

7. It's gotten _____ point _____ can't even tell.
8. This _____ way _____ got _____ be.
9. Someone _____ stay _____ keep _____ eye _____ kids.
10. _____ better go _____ answer _____ phone
11. _____ already mentioned that _____ while ago
12. _____ better bring _____ umbrella.

Controlled Production

Exercise 10-5. Types of Linking

Directions: Read each phrase and link the words together smoothly.

English keeps its distinctive rhythm is by linking or joining words together within each phrase group. This linking happens in almost every possible way. Consonants link to identical or similar consonants, to vowels, and to consonants

**Linking Type – Final
consonant joins to following
/j/ sound (as in you, your)**

Didn't you try?

Did you kiss your cat?

Would you come over?

I miss you a lot.

Close your door.

Place your bets.

Raise your hand.

**Linking Type – Final
consonant joins to next
vowel**

Take it slowly

Cats and Dogs

sleep in late,

I'm always on time

walked a mile

swims every day

Linking type – Two different consonants join together in different ways

Take something,

I'm listening.

A cat carrier,

a famous doctor

A white buffalo,

the class clown,

Just sit over there

Linking Type – Two of the same consonants become one sound.

take care

Miss Smith

hip pocket,

I'm making it.

a mad dog

laugh freely

Exercise 10-6. Vowel linking.

Directions: Link the final vowel to the beginning vowel using either a <y> or <w> sound.

Linking using a <y>

They asked for it.

He uses it.

Did you see Ellen?

I owned it.

I ate it.

Ray etched it.

Kay eats there.

Linking using a <w>

Joe ought to go.

A yellow apple.

How are you?

How often do you go?

You owned it?

Joe ate it?

He has blue eyes.

Exercise 10-7. Vowel linking with “the”

Directions: Link the word “the” to the following vowel using a <y> link. To link, pronounce “the” as [ðɪ]. When there is no following vowel, there is no link. Pronounce “the” as [ðə].

Linking using a <y>

the other ones

on the other hand

the only explanation

the ending

the appropriate answer

the usual suspects

No Linking

the next ones

on the one hand

the perfect explanation

the beginning

the mistaken answer

the birdcage

Exercise 10-8. Linking in Rhyming Sayings.

Directions: Match the sayings to their explanations. Then practice saying each one by using linking.

Sayings

1. Birds of a feather flock together.
2. He's really cruisin' for a bruisin'.
3. Different strokes for different folks.
4. A friend in need is a friend indeed.
5. Haste makes waste.
6. Might makes right.
7. No pain, no gain.
8. Whatever floats your boat.
9. You snooze, you lose

Meanings

- A. Doing something quickly makes more work
- B. Power determines what people accept
- C. Sleeping causes you to lose good things
- D. Similar people always find each other
- E. That person's looking for trouble.
- F. Getting something good requires working really hard
- G. Different people like different things
- H. People who help you in bad times are the best friends
- I. It's not for me, but it sounds like it's good for you

Extension Activity: Discuss whether you believe these sayings are accurate.

Exercise 10-9. Riddles 1 (from R. Wong, 1987).

Directions: In groups of 5, read a riddle to with correct linking. Then discuss the answer.

Riddle 1

What's round like an apple, Shaped like a pear,
With a slit in the middle, All covered with hair? (a peach)

Riddle 2

Round as an apple, flat as a hip,
Got two eyes and can't see a bit? (a button)

Riddle 3

Walk on the living, they don't even mumble,
Walk on the dead, they grumble and grumble. (leaves)

Riddle 4

Comes in at every window, And every door crack,
Runs around and round the house, But never leaves a track. (the wind)

Riddle 5

Brothers and sisters have I none,
But that man's father was my father's son. (a man looking at his own picture)

Exercise 10-10. Riddles 2.

Directions: Read with correct linking the riddles from the contest between Bilbo and Gollum in the Hobbit: [Watch the clip](#)

*Thirty white horses on a red hill,
First they champ,
Then they stamp,
Then they stand still. (Teeth)*

*Voiceless it cries,
Wingless flutters,
Toothless bites,
Mouthless mutters. (Wind)*

*A box without hinges, key, or lid,
Yet golden treasure inside is hid. (An egg)*

*All things they devour us:
Birds, beasts, trees, flowers;
Gnaws iron, bites steel;
Grinds hard stones to meal;
Slays king, ruins town,
And beats high mountain down. (Time)*

Exercise 10-11. Puns.

Directions: Listen to, then read the puns (humorous statements that are the result of two statements that sound the same or are very close to the same so that both meanings come to a listener's mind). Then discuss whether you think the jokes are funny. (Not all people find puns very funny, as this article from the *Atlantic* shows: "[Why do people hate puns?](#)").

- Becoming a vegetarian is one big missed steak. (mistake)
- What do you call the wife of a hippie? A Mrs. Hippie (Mississippi)
- How does Moses make coffee? Hebrews it. (he brews it)
- What did the buffalo say to his child? Bison. (Bye, son)
- Ladies, if your husband can't appreciate fruit jokes, you need to let that mango. (man go)
- Do you know any good rope jokes? I'm a frayed knot. (I'm afraid not).
- Why was six afraid of seven? Because seven ate nine. (seven eight nine)
- Why are bananas so good? Because they have appeal. (a peel)
- Another example of a pun "an ant elope" vs. "an antelope" (from Alameen, 2014, p. 2)

Exercise 10-12. Connected speech. (Adapted from R. Wong, 1987)

Directions: Read the dialogue between two men who are fishing. Their lines are respelled to reflect how they sound. (The actual spelling is provided after the respelling. (Based on a comic from the 1980s)

Respelling (Actual words)

- Fisherman A: Hiya Mac. (Hi (you), Mac.)
- Fisherman B: Lobuddy. (Hello, Buddy.)
- Fisherman A: Binear long? (Have you) been here long?)
- Fisherman B: Cuplours. (Couple of hours.)
- Fisherman A: Ketchineny? (Catching any?)
- Fisherman B: Goddafew. (Got a few.)
- Fisherman A: Kindarthey? ((What) kind are they?)
- Fisherman B: Bassencarp. (Bass and carp.)
- Fisherman A: Enysizetoum? (Any size to them?)
- Fisherman B: Cuplapouns. ((A) couple of pounds.)
- Fisherman A: Watchayoozin? (What are you using?)
- Fisherman B: Bunchawurms. ((A) bunch of worms.)
- Fisherman A: Goddago. (Got to go.)

- Fisherman B: Tubad. OK. Takideezy. (Too bad. Take it easy.)
- Fisherman A: Seeyarown. Gluk. (See you around. Good luck.)

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Part IV

Assessment

Chapter 11

Diagnostic Tasks

John M. Levis

This chapter offers some suggestions for diagnosing pronunciation errors for individual students. For diagnosing groups of students or learners with less advanced reading skills, see the chapter written by Levis & Echelberger (2022). The examples included in the chapter are suggestions for how to diagnose particular features of speech. Not all sections will be important for all situations. For example, if you are only teaching vowels, you can just do the word reading. If you want an overall impression of reading intelligibility, just use the reading and/or a free speech sample.

Overall: This section gives an overall impression of the student's abilities in relatively free speech. Reading aloud can sometimes give a different impression of a student's abilities than free speech, especially with fluency. **Transcribing each answer in full gives a strong view of how intelligible a speaker is.**

Dictation: The listening diagnostic is a dictation. It tries to get at the perceptual abilities of the student. What are they actually hearing in normal speech? Are they missing function or content words? Do they not hear grammatical endings accurately? Most pronunciation

diagnostics do not test listening, though it is a critically important area.

Reading: This reading passage is a general diagnostic. The one we use is from Celce-Murcia et al (2010). We use it to listen for specific areas only, because it is overwhelming to use it to listen for every possible target: consonants, word stress, intonation, and grammatical endings. Vowels, linking, rhythm and prominence are tested elsewhere.

Words (Vowels): I call this the “I dare you!” way to diagnose vowel issues. I find that in longer texts, vowel issues are hard to hear. With minimal pairs, the problems are more obvious to everyone. Students see the pairs and know there is a difference. They make the difference if they can. Teachers also can hear pronunciation problems more easily. It’s completely non-contextualized, but I’ve not found a better, more painless way to diagnose vowels. There’s nothing hidden in the task.

Phrases (Linking): This section allows the teacher to listen for linking with a couple of sentences for each linking issue. Each phrase is read two times, with the second one counting. (On short phrases, there’s little chance to get a rhythm going consistently with a single reading, so reading it twice ensures students get a better chance at producing the phrase smoothly.)

Sentences (Rhythm): This section tests phrase rhythm. It involves two separate issues. First, it is intended to help listen for the presence of a reduced vowel in function words. Second, it is

intended to assist in listening for the lengthening of stressed syllables in content words.

Dialogues: These dialogues focus on prominence (sentence stress) in new information and in contrasts. Prominence can be hard to diagnose since it can depend on speaker intent, but these dialogues highlight obvious uses of prominence that are easy to hear.

Free Speech: In this section, students talk about their favorite holiday celebration. By transcribing or listening to the first minute of their speech, it is possible to notice spontaneous speech errors.

Free Speech (Retelling a Video Story): In this section, students narrate the content of a short video story. We usually transcribe the first minute of their speech (or have students transcribe it) to complement other diagnoses.

Task: Overall impressions of speaking and pronunciation abilities

In an interview format, the student answers the questions as you record. Either rate the student as they speak, or transcribe what the student said in normal spelling. The answers give the teacher a chance to describe global impression of the student's pronunciation and speaking abilities in free speech. We suggest listing any speaking or pronunciation patterns that seem odd or wrong.

1. What is your name and where are you from?
2. Tell me something interesting about where you are from, about your hometown.
3. What are you studying? Can you tell me a little about it?
4. Why do you want to improve your pronunciation?
5. If you could travel anywhere in the world, where would you go?
Why?

Listen and rate the student's speech according to intelligibility, comprehensibility, and accentedness (Munro & Derwing, 1995)

Intelligibility

How you understand the words that are spoken, i.e., how many words/phrases can you not understand?

Number of words/phrases not understood ____

Comprehensibility

How much effort do you have to put forth to understand the student?
Use a 1 – 9 scale:

Student is always easy to listen to 1 2 3 4 5 6 7 8 9 **Student is frequently hard to listen to**

Accentedness

How pronounced is the student's accent relative to a local accent?

Use a 1 – 9 scale:

Student has barely noticeable accent 1 2 3 4 5 6 7 8 9 **Student has a strong foreign accent**

Comments about the learner's speech:

Task: Dictation

With two native speakers, record this dialogue at normal speed, then play it for the students two times. The first should be played through fully while the students listen. The second time, pause after each turn so the students can write what they hear.

You can analyze the errors they make in their dictation to decide what kinds of language features they had difficulty hearing accurately. Common types of listening errors (mostly unstressed function words) are underlined.

A: Excuse me, could you give me a hand?

B: I'm not sure. What did you need?

A: I'd like some help moving this table. It's very heavy.

B: Where'd you want to move it?

A: I wanteded to move it up to the next floor.

B: That'll be too much for just two of us. We'll need more people.

Original Dialogue Recording:



There are two example dictations in this section, one by a Spanish speaker and the other by a Chinese speaker. In both cases, the student dictations show consistent trouble with hearing unstressed function words and contractions. For example, both learners did not hear the word “I’m” in the phrase “I’m not sure”. Speaker B’s second turn, “Where’d you want to move it?” showed the contraction of “did” was missed by one learner and heard as “would” by the second.

Student Example (Spanish)	Student Example (Chinese)
A: Excuse me, could you give me a hand?	A: Excuse me, could you give me a hand?
B: ___ not sure. What is your need?	B: ___ not sure. What did you need?
A: I' <u>ll</u> like some help moving this table. It's very heavy.	A: I would like some help move this table. It's very heavy.
B: Where ___ you want to move it?	B: Where would you want to move it?
A: I want ___ to move it up to the next floor.	A: I want___ to move that ___ to ___ next floor.
B: That'll be too much just for the two of us. We ___ need more people.	B: That would be too much for just two of us. We___ need more people.

Comments about learner's listening abilities:

Task: Reading

This passage is from *Teaching Pronunciation* (Celce-Murcia, Brinton & Goodwin, 2010). We use it for four types of possible errors: consonants (not highlighted), grammatical endings -ed and -s (underlined), word stress (possible words in bold), and final intonation (with arrows at the ends of sentences). It can be used more generally for all types of errors, but it is hard to listen to more than one feature at a time.

1. Is English your native language?
2. If not, your foreign **accent** may show people that you come from another country.
3. Why is it **difficult** to speak a **foreign** language without an accent?
4. There are a couple of answersu to this question.
5. First, age is an **important** factor in learning to **pronounce**.
6. We know that young children can learn a second language with perfect **pronunciation**.
7. We also know that older learnersu usually have an accent, though some older **individuals**s also have learnedu to speak without an accent
8. Another factor that **influences**s your pronunciation is your first language.
9. English speakerss can, for example, **recognize** people from France by their French accentss.

10. They can also **identify** Spanish or **Arabic** speakers over the **telephone**, just by listening **carefully** to them.
11. Does this mean that accents can't be changeded?
12. Not at all!
13. But you can't change your pronunciation without a lot of hard work.
14. In the end, **improving** appears to be a **combination** of three things: **concentrated**ed hard work, a good ear, and a strong **ambition** to sound like a native speaker.
15. You also need **accurate information** about English sounds, effective **strategies** for **practice**, lots of **exposure** to spoken English, and **patience**.
16. Will you make **progress**, or will you give up?
17. Only time will tell, I'm afraid.
18. But it's your **decision**.
19. You can **improve**!
20. Good luck, and don't **forget** to work hard

Sentences 1-7 (Consonant listening, Korean speaker)

1. Is English your native language? 2. If not, your foreign accent may show people that
 you come from another country. 3. Why is it difficult to speak a foreign language
 without an accent? 4. There are a couple of answers to this question. 5. First, age
 is an important factor in learning to pronounce. 6. We know that young children can
 learn a second language with perfect pronunciation. 7. We also know that older
 learners usually have an accent, though some older individuals also have learned to
 speak without an accent.

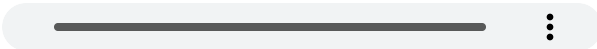
The first seven sentences of the reading passage are annotated to show the errors in the pronunciation of consonants. A longer description of the image is provided below.

In sentence 1, "Is English your native language?", "native" is pronounced as "lative" and "language" is pronounced as "lang uh gee". In sentence 2, "If not, your foreign accent may show people that you come from another country," the word "foreign" is pronounced as "pour in" and "that" is pronounced "dat". In sentence 3, "Why is it difficult to speak a foreign language without an accent", "foreign" is again pronounced "pour in" with a [p] rather than [f]. "Language" is again pronounced the same as in sentence 1, as "lang uh gee." In sentence 4, "There are a couple of answers to this question, "answers" is pronounced

“answer.” In sentence 5, “First, age is an important factor in learning to pronounce,” “first” is pronounced “first uh” and “learning” starts with an [r] sound instead of an [l] sound. Sentence 6 says, “We know that young children can learn a second language with perfect pronunciation.” The word “that” is pronounced without a final [t] sound and “perfect” is pronounced “purr pecked.” In addition, “language” is pronounced “lang edge.”. Finally, sentence 7 says, “We also know that older learners usually have an accent, though some older individuals also have learned to speak without an accent. The word “that” is pronounced “dat,”, the [r] sounds in older” and learners” are not pronounced, “usually” is pronounced “use a Lee” and the word “learned” has two missing consonant sounds, [r] and [d].

In Sentences 8-13, two diagnostic listening tasks are illustrated. The first is the pronunciation of -s and -ed endings, and the second is word stress.

Sentences 8-13 (-ed and -s endings, Spanish speaker)



ok

Another factor that influenceses your pronunciation is your first language. 9. English

Ø

Ø

speakerss can, for example, recognize people from France by their French accentss.

Ø

10. They can also identify Spanish or Arabic speakerss over the telephone, just by

Ø

ok

listening carefully to them. 11. Does this mean that accentss can't be changeded? 12.

Not at all! 13. But you can't change your pronunciation without a lot of hard work.

ok

14. In the end, improving appearss to be a combination of three things:

ok

concentrateded hard work, a good ear, and a strong ambition to sound like a native

speaker.

The next few sentences of the reading passage are annotated to show the errors in the pronunciation of consonants. A longer description of the image is provided below.

In sentence 8, "Another factor that influenceses your pronunciation is your first language," the speaker pronounces the -s ending of "influences" correctly. In sentence 9, "English speakerss can, for example, recognize people from France by their French accentss," the plural -s of "speakers" and "accents" is not pronounced. In sentence 10, "They can also identify Spanish or Arabic speakerss over the telephone, just by listening carefully to them," the final -s of "speakers" is not pronounced. In sentence 11, "Does this mean that accentss can't be changeded?" the final -s of accents is not pronounced, but the final -ed of "changed" is correctly pronounced. In sentences 12, 13, and 14, "Not at all! But you

can't change your pronunciation without a lot of hard work. In the end, improving appears to be a combination of three things: concentrated hard work, a good ear, and a strong ambition to sound like a native speaker," all -s and -ed endings (in the words concentrated, appears, things) are pronounced correctly.

Sentences 8-13 (Word stress, Thai speaker)

8. Another factor that **influENces** (x) your **pronunciATion** (ok) is your first language.
9. English speakers can, for example, **reCOGnize** (x) people from France by their French accents. 10. They can also **identiFY** (x) Spanish or **ARabic** (ok) speakers over the **telePHONE** (x), just by listening **careFULLy** (x) to them. 11. Does this mean that accents can't be changed? 12. Not at all! 13. But you can't change your pronunciation without a lot of hard work. 14. In the end, **IMPROVING** (x) **apPEARS** (ok) to be a **combination** of three things: **concentRATED** (x) hard work, a good ear, and a strong **AMbition** (x) to sound like a native speaker.

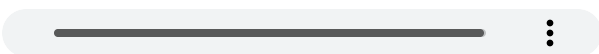
Note: This speaker does not consistently have stress on longer words.

Sentences 8 through 13 are annotated to show word stress errors in pronunciation. A longer commentary of the notes in the image is provided below.

The recording is from a speaker of Thai. The targeted

pronunciation features for this section is word stress, using a selection of multisyllabic words in the section. In sentence 8, “Another factor that **influences** your pronunciation is your first language,” the word influences is stressed on the third syllable rather than the second. The word “pronunciation” has the correct word stress. In sentence 9, “English speakers can, for example, recognize people from France by their French accents,” the word “recognize” is mispronounced with stress on the second syllable. Sentence 10, “They can also **identify** Spanish or **Arabic** speakers over the **telephone**, just by listening **carefully** to them,” has four words targeted. The speaker mis-stresses “identify” (4th syllable, not 2nd), “telephone” (3rd syllable not 1st), and “carefully” (2nd syllable, not 1st). The word “Arabic” is stressed correctly on the 1st syllable. Sentence 14 also has four targeted words: improving, combination, concentrated, and ambition. The sentence reads “In the end, improving appears to be a combination of three things: concentrated hard work, a good ear, and a strong ambition to sound like a native speaker.” The word “improving” is wrong because all syllables are equally stressed, “combination” is correctly stressed, “concentrated” has stress on the 3rd syllable not the 1st, and “ambition” is stressed on the 1st syllable rather than the 2nd.

Sentences 14-17 (Intonation, Japanese speaker)



|
 15. You also need accurate information about English sounds, ↗ (↘) effective strategies for practice, ↗ (↘) lots of exposure to spoken English, ↗ (→) and patience. ↘ 16. Will you make progress, ↗ or will you give up? ↘ (↗) 17. Only time will tell, I'm afraid. → (↘) 18. But it's your decision. 19. You can improve! 20. Good luck, and don't forget to work hard. ↘

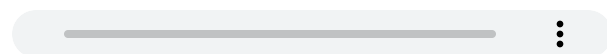
The reading for sentences 15-20 is annotated to illustrate intonation. This is commented on further in the text below.

Sentence 14 presents a list of several items. In lists, all phrases except the last are pronounced with rising intonation. The last is pronounced with falling intonation. Instead of rising, rising, rising, falling, the speaker pronounces falling, falling, level, falling. Sentence 16 is a choice question or alternative question “Will you make **progress**, or will you give up?”), usually pronounced with falling on the last choice and rising on all other choices. The speaker uses rising on both the 1st and 2nd choices. In sentence 19 “Only time will tell, I’m afraid,” the parenthetical “I’m afraid” should be pronounced with level intonation. The speaker uses falling intonation. Finally, sentence 20 should end with falling intonation. The speaker pronounces this correctly.

Task: Words (vowels)

This section tests minimal pairs of vowels that are often difficult for speakers of other languages in English. Each set of four word pairs includes a common vowel difficulty that causes difficulties for learners from different languages.

(Vowels, Chinese speaker)



Column 1 ↓

/iɪ/ – /ɪ/

beat–bit

deed–did

seek–sick

leap–lip

/ɪ/ – /ɛ/

bid–bed

miss–mess

lit–let

lift–left

/ɜ˞/ – /ʌ/

bird–bud

girl–gull

shirt–shut

lurk–luck

Column 2 ↓

/ɛ/ – /æ/

met–mat

bed–bad

men–man

guess–gas

/uʊ/ – /ʊ/

boot–book

Luke–look

pool–pull

fool–full

/ey/ – /ɛ/

late–let

mate–met

laid–led

raid—red

law—low

mod—mud

raw—row

/ay/ — /aw/ — /ɔy/

Column 3 ↓

/a-ɔ/ — /ʌ/

nice—noise

/a-ɔ/ — /ow/

cot—cut

ties—toys

caught—coat

lock—luck

kind—count

bought—boat

cob—cub

high—how

Task: Phrases (Linking)

This section tests four types of linking to help decide if the linking is appropriate in the marked cases. I recommend that learners read or record each phrase two times. Then I listen to the second one, and **circle** if the linking is **wrong** (#1-2 C__V; #3-4 V__V; #5-6 C__Different C; #7-8 C__Same C)

(Phrases, Chinese speaker)

⋮

1. Come_over to my house.

2. A bowl_of ice cream

3. Play_it again.

4. It was so_easy.

5. Bob_tried_to help.
6. Don't_walk_behind_me.
7. In_November.
8. About_2:00.

Task: Sentences (Rhythm)

This section tests phrase rhythm. Rhythm includes two features: Reduced vowels in function words (underlined in the first group) and lengthened stressed syllables (Underlined in the second group). I have students read each sentence twice, then I listen for each feature separately. **Multiple errors give a good clue about whether it's important to teach a particular aspect of rhythm, such as weak forms or lengthening of stressed syllables.**

Sentences (Rhythm, Persian speaker)

⋮

Sentences (Rhythm, Chinese speaker)

⋮

1. Do you like bread ^{/ən/} **and** butter?

2. I tried out ^{/ə/}for the team.
3. Have you been ^{/ə/}to New York?
4. I had ^{/ə/}to either stay ^{/ə/}or go.
5. I used ^{/ə/}to work ^{/ə/}on a farm.
6. Have you ever flown ^{/ə/}on a plane?
7. He said ^{/ə/}that he ^{/ə/}was there.
8. I used ^{/ə/}to drive everywhere ^{/ə/ɪ/}in a truck.

Stressed words

1. Do you like bread and butter?
2. I tried out for the team.
3. Have you been to New York?
4. I had to either stay or go.
5. I used to work on a farm.
6. Have you ever flown on a plane?
7. He said that he was there.
8. I used to drive everywhere in a truck.

Task: Dialogues

This section examines the prominence of new information and contrasts. Normal prominence patterns are in **bold**. (When asking students to read, remove the bolding.) If the student puts prominence on the correct word but also on another word, it is a mistake that indicates that prominence is not likely to be noticed.

Dialogue 1

Excuse me, I lost a **book**.

What **kind** of book?

It was a **chemistry** book. A **lab** book.

For Chemistry 101?

No, Chemistry **201**.

Dialogue 2

We're having a party for Ellen on **Monday**. Can you **come**?

Does she **know** about it?

No, it's a **surprise** party. Why?

She **hates** surprise parties.

Dialogue 3

I just got a new **computer**.

What **type**? A **desktop**?

No, it's a **laptop**. It's **fast, really fast**. Not like my **old** one.

How old **was** it?

Six **years**. No, that's **wrong**. It was **seven** years old.

Dialogue 4

I heard Jane makes **clothes**.

Actually, I think she **sells** them.
She works at the **mall**.

Which mall?

The **new** one.

Task: Free Speech

Listen to the first minute of the student's narration of their favorite holiday. Then rate the student's speech according to intelligibility, comprehensibility, and accentedness (Munro and Derwing, 1995)

Free speech (Spanish speaker, from Celce-Murcia, Brinton & Goodwin, 1996)

Intelligibility

How you understand the words that are spoken, i.e., how many words/phrases can you not understand?

Number of words/phrases not understood ____

Comprehensibility

How much effort do you have to put forth to understand the student?

Use a 1 – 9 scale:

Student is always easy to listen to 1 2 3 4 5 6 7 8 9 **Student is frequently hard to listen to**

Accentedness

How pronounced is the student's accent relative to a local accent?

Use a 1 – 9 scale:

Student has barely noticeable accent 1 2 3 4 5 6 7 8 9 **Student has a strong foreign accent**

Comments about the learner's speech:

Task: Free Speech (Retelling a Video Story)

Listen to the first minute of the student's narration of their video narration. Then rate the student's speech according to intelligibility, comprehensibility, and accentedness (Munro and Derwing, 1995). The video story being retold is from the following video:

Retelling a video story (Vietnamese speaker)

Intelligibility

How you understand the words that are spoken, i.e., how many words/phrases can you not understand?

Number of words/phrases not understood ____

Comprehensibility

How much effort do you have to put forth to understand the student?
Use a 1 – 9 scale:

Student is always easy to listen to 1 2 3 4 5 6 7 8 9 **Student is frequently hard to listen to**

Accentedness

How pronounced is the student's accent relative to a local accent?
Use a 1 – 9 scale:

Student has barely noticeable accent 1 2 3 4 5 6 7 8 9 **Student has a strong foreign accent**

Comments about the learner's speech:

References

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Worksheet

This downloadable worksheet can be used to summarize errors when doing a full diagnostic for an individual student. It can also be used to help remind a teacher of the types of suprasegmental errors that may be important for a class:

[Pronunciation Diagnostic Worksheet \[DOC\]](#)

Image Sources

Chapter 3

- **Figure 3.1:** “[General American monophthong chart](#)” by Mr Kebab via Wikimedia Commons is used under [Creative Commons Attribution-Share Alike 4.0 International](#) license (Image adapted by Abbey Elder to add labels).
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- **Figure 3.4:** “Gift certificate collage” Stock images located are in the public domain or otherwise free to use, unless otherwise indicated.

Chapter 4

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Chapter 7

- **Figure 7.1:** “People representing syllables” from Prator & Robinett (1985, p. 29) is being used after a fair use assessment by the authors.

Chapter 8

- **Figure 8.5:** “Upstairs and Downstairs” icons from [AIGA Signs and Symbols](#) are available for free public use. The icons were colored, placed side-by-side, and had a stroke placed around them by the authors for this book.
- **Figure 8.11:** “House comparison” contains two public domain icons accessed via openclipart.org

Chapter 10

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About the Authors

Authorship contributions

Agata Guskaroska conceptualized the project, led its implementation, and wrote Chapters 3 and 4. **Zoe Zawadzki** wrote Chapters 6 and 7 and managed communication with grant-giving representatives. **John Levis** authored Chapters 1, 2, 5, 8, 9, 10, and 11, while also overseeing logistics and finances. **Kate Challis** contributed to Chapter 10 and led the creation of the short videos. **Max Prikazchikov** handled the technical aspects of the book, including H5P activities, audio, and video embedding, and contributed to video creation. **All authors** actively participated in peer review, offered feedback, proofread, and collectively supported the development of the entire book.

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Agata Guskaroska holds a Ph.D. in Applied Linguistics and Technology from Iowa State University (ISU). She has taught EFL/ESL, composition, and online courses, including a MOOC on technology in language teaching. She is the assistant editor of the book *Exploring AI in Applied Linguistics* and co-editor of *12th PSLLT Proceedings*. Currently, Agata is a Postdoctoral Research Associate

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John M. Levis is Professor of Applied Linguistics and Technology at Iowa State University. He is founding editor of the *Journal of Second Language Pronunciation* and the founder of the annual Pronunciation in Second Language Learning and Teaching Conference, the premier conference for second language pronunciation in North America. He is the author of several books including *Intelligibility, Oral Communication and the Teaching of Pronunciation*, and co-editor of several books, including *Second Language Pronunciation: Bridging the Gap Between Research and Practice*, *the Handbook of English Pronunciation*, and *Social Dynamics in Second Language Accent*.

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