

Basic sounds of speech

Consonants and vowels are the sound atoms of speech. In combination, they form syllables, which in further combination form meaningful sounds such as words, phrases, and sentences.

Vowels

Vowels are sonorous (loud) sounds that serve as the core of syllables. They are always produced with an open airway and with voice. Their sound quality is primarily influenced by mouth opening degree (wide/narrow), lip spreading and rounding, and tongue position (high/low/front/back).

Uncovering English Vowels

English is notorious for having too many vowels while the orthography shows there are only five. In fact, the number of English vowels can range from 9-11 depending on dialect. For our purposes, we will explore the California dialect vowel system. The California vowel inventory has a major advantage of having the least amount of vowels (9 pure vowels and 5 diphthongs in total) while still being a standard dialect that is highly intelligible. Focusing on Californian vowels makes the work of learning English pronunciation a tad easier.

Instructions: To demonstrate these vowels, we will fill in the blank vowel chart by using the word list below:

Pure vowels:

beat heat, hit pit, bed head, pat hat, hot pot, gut hut, hood stood, who poo, a

Diphthongs:

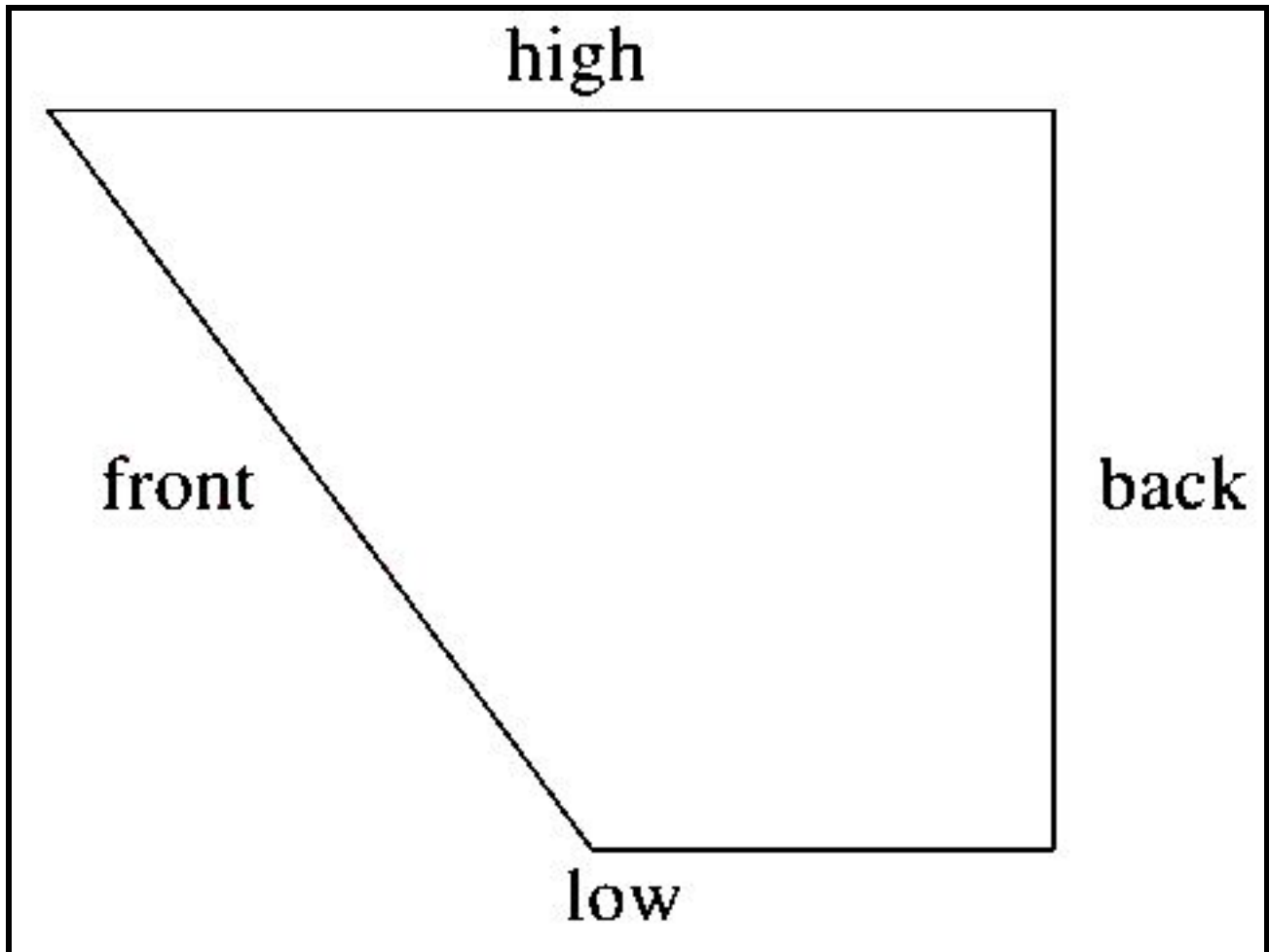
pay day, how cow, boy toy, high thigh, boat coat

R with (colored) vowels:

fear, fair, far, fur, for,

Each word-phrase contains an example of one English vowel. The vowel chart roughly corresponds to the actual vocal track space. The location of the vowel on the chart corresponds to the tongue height and tongue forward and backward positions that the vowel is produced with. Our task is to produce them and map them according to how we are shaping our vocal track. After we have charted these vowels, we will give them symbols using the *International Phonetic Alphabet* (IPA).

Vowel Chart



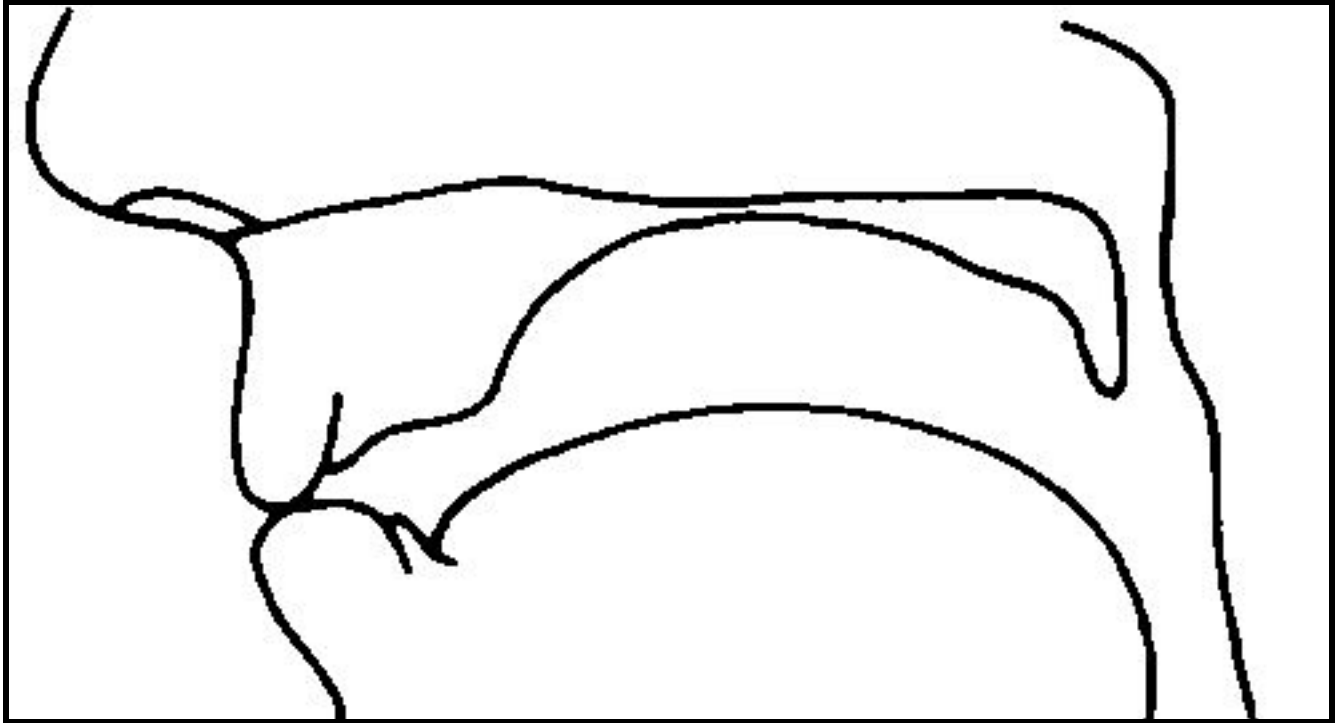
Consonants

Consonants are quieter than vowels and involve some type of airflow restriction in the vocal tract. The main actors in making these sounds are the tongue, lips, and teeth.

Instructions: To review the consonants, we are going to use the following word list and locate where each first consonant of the word according to where and how it is produced in and by our vocal track.

pie tie kye by dye guy my nigh fie vie thigh thy sigh shy lie why rye you high (chime jive)

Once we have mapped the consonants out according to where and how they are produced, we will symbolize these sounds using IPA.



Transcribing with the International Phonetic Alphabet (IPA)

Instructions: Transcribe your partners name using IPA in the space below

The English syllable

Syllables are units of speech that serve as the foundation of words. Words can consist of a single syllable or many. Prototypically a syllable consists of a consonant and vowel (CV) though a vowel alone can function as a consonant. Cross-linguistically is CV the most common pattern. English, however, can have complex syllables which are not typical in most other languages specifically with respect to consonant clusters.

Below is one extreme example of what is possible in English

strengths /strɛŋkθs/ CCCVCCCC

Can you think of at least two more?

1. _____

2. _____

This aspect of English is challenging for learners from language backgrounds whose syllable structure is much simpler. There are various ways learners cope with this challenge to be reviewed in greater detail below. In addition, this is complicated further because languages place restrictions on the kinds of consonants that can begin or terminate a syllable. For example, in some languages a syllable can only be terminated with a vowel or nasal (n) as is the case with Japanese. English on the other hand can terminate its syllables with a wider variety of consonants.

English Prosody or Rhythm (stress, pitch, and intonation)

English prosody or rhythm is governed by a stress timing pattern that places emphasis on a single syllable in a content word. English stress is expressed through vowel length, loudness, and pitch. Stressed syllables have longer vowels, are produced with more volume, and exhibit a higher pitch. Unstressed syllables are produced with reduced vowels which are the schwas /ə/ and /ɪ/

Example:

The **cat** must have been **eating** the **fish**.

Stress

Besides playing a central role in English rhythm, stress in English plays an important role in distinguishing parts of speech as in *record* and *re**cord*** and along with intonation, in placing emphasis on a word to communicate an added shade of meaning.

A few notes on English stress behavior at the word level. Where this stress falls in content words with more than one syllable is idiosyncratic. In disyllabic, word stress will fall on the first syllable (1) with a few exceptions (2). In polysyllabic words with more than two syllables and where there are two consonants before the second to last vowel (3), stress will fall on the penultimate syllable. But stress can also fall on the antepenultimate syllable (4).

(1) **Ti**-ger

(2) Ga-**zelle**

(3) Co-**lum**-bus

(4) **Ha**-li-but / a-**me**-ri-ca / **na**-tio-na-li-**ZA**-tion

A Cross-Linguistic Comparison and a few English Language Learner Challenges

Vowels			
Korean	Japanese	French	Portuguese
8 vowels and has long/short distinction	5 vowels	13 vowels including 4 nasal vowels	9 vowels including 5 nasal vowels
Lacks the following 7 near English vowel equivalents: [ɪ], [æ], [ʊ], [aɪ], [oɪ], [aʊ], [ə]	Lacks the following 6 near English vowel equivalents: [ɪ], [æ], [ʌ], [ʊ], [ə]	Lacks the following 5 near English vowel approximate equivalents: [ɪ], [æ], [ʌ], [ʊ], [oɪ],	Lacks the following 4 near English vowel approximate equivalents: [ɪ], [æ], [ʌ], [ʊ],

Examples:

Korean/Japanese/French/Portuguese [ɪ]

(1) *bid* [bɪd] > *bead* [bi:d] or *bed* [bed]

Korean/Japanese/French/Portuguese [æ] and [ʌ]

(2a) *hat* [hæt] > *hate* [heɪt] and *hut* [hʌt] > *hot* [hɒt] (Korean)

(2b) *lack* [læk] and *luck* [lʌk] > *lock* [lɒk] (Japanese)

(2c) *bank* [bæŋk] > *bunk* [bʌŋk] or *pat* [pæt] > *pet* [pet] (French)

(2d) *ant* [ænt] > *unt* [unt] and *hut* [hʌt] > *hot* [hɒt] (Portuguese)

Consonants			
Korean	Japanese	French	Portuguese
19 consonants	15 consonants	20 consonants	23 consonants
Lacks the following 12 near English consonant equivalents: [b], [d], [z], [ɹ], [f],[v], [θ], [ð], [ʃ], [ʒ], [tʃ], [dʒ], [g]	Lacks the following 6 near English consonant equivalents: [l], [v], [θ], [ð], [ʃ], [ʒ]	Lacks the following 3 near English consonant equivalents: [θ], [ð], [ŋ]	Lacks the following 3 near English consonant equivalents: [θ], [ð], [ŋ]

Examples

Korean/Japanese [l] and [ɹ]

(1a) *belly* > *berry* (Korean)

(1b) *election* > *erection* (Japanese)

Korean/Japanese/French/Portuguese [θ] and [ð]

(2a) *then* > *den* and *thin* > *shin* (Korean)

(2b) *the* > *za* and *thin* > *shin* or *sin* (Japanese)

(2c) *that* > *zat*, *vat*, or *dat* and *think* > *sink*, *tink*, or *fink* (French)

(2d) *breath* > *breed* or *breeze* and *thinker* > *sinker* or *tinker* (Portuguese)

Korean [f]

(3) *flay* > *pray*

Japanese [t/d] with [ʊ] and [u] and [t/d/s/z] with [ɪ] and [i]

(4a) *two* > *tsoo*

(4b) *team* > *cheam*

Syllable Structure			
Korean	Japanese	French	Portuguese
/CVC/ 음식 <i>eum-sik</i> (food)	/CV/ て <i>te</i> (hand)	C(C)(C)V or CVC(C) <i>Splen-dide</i> (Splendid)	C(C)V <i>Pro-fe-ssor-a</i> (professor)

Examples:

Korean

(1) *glove* [glʌv] > [gi.lo.bə]

Japanese

(2) *pedro* [peɪ.dɪoʊ] > [pe.de.ro]

Brazilian Portuguese

(3) *study* [stʌ.dɪ] > [es.ta.dɪ]

Speech Rhythm			
Korean	Japanese	French	Brazilian Portuguese
<p>Syllable timed</p> <p>Korean English tends to sound monotonous and bored and may be difficult to understand.</p>	<p>Mora timed¹</p> <p>Similar to Korean</p>	<p>Syllable timed</p> <p>French has a regular stress pattern that falls on the last syllable of words, but shares no similarities with English stress. Unstressed vowels retain their full length unlike English.</p> <p>French English tends to sound monotonous and staccato and may be difficult to follow understand as with the other languages.</p>	<p>Syllable timed</p> <p>European Portuguese exhibits a stress rhythm similar to English. For them, English prosody poses less of a challenge. Brazilian Portuguese English speakers tend to misplace stress and may have difficulty perceiving unstressed words/syllables.</p>

Examples:

Japanese

(1) *doomoarigatogozaimasu* (thank you very much) do o mo a ri ga to go za i ma su

French

(2a) *Il est très méchant* (he's very naughty)

(2b) French English
démocratique **demoCRATic**

¹ Similar to syllable timed rhythm in that individual speech sounds receive equal amount of time in being pronounced instead of syllables.

Classroom Applications²

Minimal Pair Activity Integrating Praat

Overview

This is a simple minimal pair activity that targets both production and perception. It is imagined here as a possible daily whole class warm up activity and could be adapted according to student language backgrounds and challenges.

Procedure

1. T hands student volunteer a slip of paper with sentence and asks him/her to read it out loud three times.
2. T records student utterance using Praat. Prior to activity, T would record her/himself uttering the same sentence as a point of reference.
3. T asks students did they hear cots or cats and takes a tally of how many students hear option a or option b.
4. T shows class Praat recording and compares targeted word with his or hers to evaluate the production accuracy by measuring the student's vowel in cats.
5. If S's production is closer to *cots*, then student is given another opportunity to try again with feedback from T. If production is accurate, call on another student and repeat the procedure.

Student volunteer reads out loud	Class select which one they hear
1. This room is full of cats.	1. This room is full of _____. a. cots b. cats
2. I'd like to see that chick.	2. I'd like to see that _____. a. chick b. check
3. Hand me the pin.	3. Hand me the _____. a. pin b. pen

² Adapted from *Teaching Pronunciation* (2010, p.145)

Classroom Applications³

Rhythm Activity Integrating Praat

Overview

This activity involves students trying to find stress-timed rhythm by working with a one-breath reading activity. Praat is integrated to demonstrate to students a visual representation of the English stress-timed rhythmic pattern.

Procedure

1. T passes out the student handout (Appendix)
2. T demonstrates one-breath reading to the students by reading each sentence in the handout in one breath.
3. Have the students practice one-breath reading of each sentence in chorus after T.
4. Give students some practice time.
5. Have individual students demonstrate their one-breath readings. Ask for volunteers to record their readings on Praat. Using the values of the rhythmic pattern represented in Praat, demonstrate to the class similarities and differences between your readings (which would have been done prior to activity) and your S's readings.

Appendix: Student Handout of "The House That Jack Built" (Mother Goose)

1. This is the house that Jack built.
2. This is the malt
that lay in the house that Jack built.
3. This is the rat
that ate the malt
that lay in the house that Jack built.
4. This is the cat
that killed the rat
that ate the malt
that lay in the house that Jack built.
5. This is the dog
that worried the cat
that killed the rat
that ate the malt
that lay in the house that Jack built.

³ Adapted from *New Ways in Teaching Connected Speech* (2012, p.91-92)

Consulted Works

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