Why Phonetics?

- Or maybe, what is phonetics?
- Phonetics is the subfield in linguistics that studies how speech sounds are made.
- Knowing more about phonetics can help you as an instructor in teaching your language.
- Knowing more about the parts of vocal tract and how they make consonants and vowels can help you teach students to make those sounds.
- Knowing some about how sounds pattern in the words of your language can help both in teaching and learning.

Overview

- What are the types of speech sounds and how are they produced?
- What are some techniques for learning more about the sounds of your own language?
- How can you use this knowledge in your classroom?
- How can you make the sounds of your language more available to your students?
- What are realistic goals for students in acquiring how to pronounce your language?
What will be useful for you?

- There are a range of resources and tools, and we’ll try to talk about some of those today.
- There’ll also be links where you can find more.
- We’ll have time at the end to try to discuss what could be helpful and relevant for your own languages.
- And if you would like to try to make more use of my expertise, and that of UT Arlington linguistics students and faculty, I can talk about how that might work for as a collaboration or partnership or service project.

The Sounds of Speech

- In order to have a common vocabulary to talk about sound, linguists have studied the body parts involved in speech production.
- Linguists have also studied the physics of these sounds. We can use software to record and to see sound visually.
- Linguists also study how sound is perceived, both in terms of how the ears and hearing system function, and in terms of how your brain can influence what you think you hear.

Consonants and Vowels

- The basic units of sound are consonants and vowels.
- Vowels are produced by vibrating the vocal cords and letting air flow from the lungs through the mouth, without having any obstruction. The most singable of all sounds.
- Consonants always have some kind of obstruction or modification to the airflow in your mouth or throat or nose. Some consonants just stop the airflow entirely, like [p, t, k] in English.
Consonants

- We can put consonants into groups based on different characteristics.
- Where in the mouth/throat is the consonant produced? (Where do body parts involved in speech come together?)
- What happens to the airstream as it leaves the lungs? Is it partially obstructed? Is it really noisy? Does it escape through the nose?
- Do your vocal cords vibrate or not?
- Finally – some consonants involve different airstream mechanisms. The most common type is what’s known as glottalized. (Also known as an ejective.)

Parts of Your Vocal Tract Where you Can Make Consonants

- If the tongue or another part of the vocal tract constrains against one of these, you have a consonant:
  - Lips
  - Teeth
  - The alveolar ridge (behind the teeth)
  - Hard palate
  - Soft palate
  - Uvula
  - Larynx
  - Pharynx
  - Epiglottis
What kind of obstruction?

- Completely stopping the airflow (stop)
- Glottal stop
- Creating turbulence without a complete stop (fricative)
- Stopping air briefly, but then creating turbulence (affricate)
- Directing the air to leave through your nose (nasal)
- Very little resistance or obstruction (liquids -- /l/ and /r/ type sounds)
  - The special voiceless [l] (lh) in some Oklahoma languages
  - Almost vowels, but not quite (glides - /w/, /y/)

Voicing

- Consonants can be either voiced (vibrating your vocal cords) or voiceless (no vibration).
- Vowels, on the other hand, are normally voiced.
- You can feel the vibration by putting a hand on your throat. It can be felt really easily in certain kinds of sounds - /aaaaa/ /ooooo/ /azazaz/ /awawaw/.
- We can compare those with sounds without voicing /asasasa/ /afafaf/

Does anything happen to the airflow?

- Ejectives: the airflow gets constricted at the larynx and then released dramatically.
- Osage word for woman, wakʼó (using Quintero’s system)
  - The [kʼ] tells us that the k-sound is ejective (rather than plain/like English)
- Aspirated: there is a strong puff of air after the consonant.
  - Sometimes this happens before the consonant, like in Fox or Tohono Oʼodham.
- Implosive: the airflow moves the glottis downward, like a piston.
  - There are Mayan languages in South and Central America that do this.
Why are these details important?

- Where and how consonants are produced can make differences in the meanings of words.
- Some places or ways that consonants are pronounced are hard for English speakers when they learn that language. They may need extra time in the classroom.
- Students don’t always need to know the nitty-gritty details of the linguistics, but knowing the linguistics behind the speech sound helps the teacher teach more effectively.

The Speech Signal

- There are software programs that allow you to edit speech samples, and to analyze the sounds.
- Audacity is free software that you could use after recording something longer, to break things up into smaller files or to convert them into iTunes jukebox or podcasts for students.
- Praat is free software that is more specialized for linguists, and it allows you to do detailed analysis of the sounds of your language.
- One project we are working on at UT Arlington is figuring out preaspiration in Tohono O’odham, using Praat.
- Phoneticians are very interested in analyzing the sounds to find out what is involved in producing and perceiving them.
- The next slide shows an example of the Tohono O’odham word for woman, which has a vowel that is voiceless at the end of the word.
The Interactive Vocal Tract

• [http://www.chass.utoronto.ca/~danhall/phonetics/sammy.html](http://www.chass.utoronto.ca/~danhall/phonetics/sammy.html)

Applying Phonetic Knowledge

• Is there a linguistic classification of the sounds of your language? Can you decode it using what we talked about today?
• What are the words in your language that are examples of each sound?
  • Try to find “minimal pairs.” Minimal pairs are words that only differ by one sound, like *beet* and *bit*.
  • Create example sentences and dialogues that help students use those minimal pairs and let you evaluate their performance.

Listen and Imitate

• Students listen to a teacher-provided model and they imitate.
• You can use CDs, tape recordings, and of course, your own voice.
• Send your students home with the sounds of their language.
• Use Audacity software (free) to edit recordings.
• Use iTunes to create playlists that you can burn onto CDs for your students. They can take them home and add them to their iPods and iPhones.
Tongue Twisters

- This is also a technique from speech correction strategies for native speakers.
- For example: She sells seashells by the seashore.

Reading Aloud/Recitation

- Passages or scripts for learners to practice and then read aloud, focusing on stress, timing, and intonation.
- You can use poems, plays, speeches, or anything that is intended to be spoken.

Get Your Students to Think About Sound

- Humming or singing or whistling words.
- Exaggerating sounds.
- Using eyebrows, clapping, tapping.
- Using visual symbols like indicating levels with your hand or conducting like in music.
- Thinking in sentences in their heritage language.
- Practicing listening and speaking their heritage language in their car or home.
- Making mistakes is what learners do.
What determines how you sound like when you learn another language?

- **L2 Accent**: The resulting effect when a speaker's native language phonology is applied to their pronunciation system in a second language.

- German words only end in voiceless consonants: \([\text{hunt}]\)  'dog' \([\text{hunde}]\) 'dogs' (\([t]\) when final, otherwise \([d]\])

- Pennsylvania English (spoken by those who grew up hearing Penn. German)

- Final \([g]\) sounds like \([k]\): do\([k]\) for "dog", be\([k]\) for "beg"

- Final \([z]\) is \([s]\): grea\([s]\) (vs. "grea\([z]\)"") and final \([d]\) sounds like \([t]\)

- This example is an L1 accent that has transferred features from an immigrant language into an L2 accent, and then that L2 accent became nativized. ( kinda complicated)

- This same effect happens in Oklahoma languages, both into English (when people's first language isn't English), and when English native speakers learn the Oklahoma language.

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Second Language Teaching and Phonology

- **Contrastive analysis**: English language is contrasted with the Oklahoma target language; each one is described, then contrasted.

- Does the Oklahoma target language have a phonetically similar phoneme?

- Are the variants of the speech sounds similar in both languages?

- Are the speech sounds and their variants similarly distributed?

- **Contrastive analysis results used to develop teaching materials.**

- How can you draw on what is DIFFERENT in your language to help teach pronunciation?

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Creating/Finding Resources

- Are there any guides to teaching pronunciation in your language?

- How can you use what we talked about today to help create such a guide, for you and other language teachers in your community?

- What additional tools or assistance would you need for that?

- How can you use sound files (podcasts, mobile apps, CDs, whatever) to help your students hear these sounds special to Oklahoma languages when they are not in the classroom?

- What don't you know about your language's sound system? (Linguists know we are always figuring out new things about a language through study, but teachers and linguists don't)

- Tremendous expertise at UT Arlington Department of Linguistics & TESOL in applied linguistics and language teaching and in speech sounds. How can we help?
The Uniqueness of Your Language

- Find opportunities to bring into your classroom whatever is unique and special about your language's sounds.
- Sounds that are special to your language will be harder for language learners whose first language is English. Make sure to have lots of examples with those sounds (phonetics bingo?), for students to say and hear.

Think About Your Learners

- Consider recording yourself to see how much English you use and how much you talk, as opposed to the students.
- Give your students recordings of speech in the language. If they just look at written words, they might not remember how they sound in your language, and they will say them English-like.
- The younger the better...immerse infants and young children in your language early on to create more fluent speakers.

Resources

- International Phonetic Alphabet: the symbols linguists use to have a single written symbol to identify the same sound across languages.
  - http://web.uvic.ca/ling/resources/ipa/charts/IPAab/IPAb.html
  - http://www.langsci.ucl.ac.uk/ipa/sounds.html
- Ejectives
- More sounds online at UCLA
  - http://www.phonetics.ucla.edu/index.html