Think or Sink? Teaching Non-L1 English Fricatives to Japanese Learners

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ABSTRACT

This paper aims to provide a guide to teaching Japanese learners of English how to accurately produce several sounds that are not used in Japanese – specifically, fricatives. The sounds included are [θ], as in *think*; [ð], as in *those*; [f], as in *food*; [v], as in *very*; [ʃ], as in *should*; and [ʒ], as in *leisure*. A brief guide to fricatives is given, including manner of articulation, and which English fricatives are not found in Japanese. A lesson plan follows, with instructions on how to raise awareness of sounds, instruct students to produce them accurately, and practise them in various activities.

Introduction

Due to the limited phonetic inventory and simple syllable structure of Japanese, students face a number of problems when dealing with English pronunciation (Swan and Smith, 2001). This applies to both speaking and listening. When listening to native speech, students are often confused by sentences that would not pose a problem if written down, and when talking to native speakers, they are often misunderstood. There are several reasons for this, including weak forms of words, assimilation, elision, and consonant clusters.

This article aims to tackle one area of pronunciation tuition: teaching the English fricatives that are not used in Japanese. It is aimed at all teachers with an interest in teaching pronunciation, whether novices or those well-versed in phonetics and phonology. Note that the pronunciation model used in transcriptions is for Received Pronunciation (RP), as found in British English dictionaries. This should not present an obstacle for speakers of other varieties of English.

What are fricatives?

Fricatives are consonant sounds which are produced when two articulators constrict the airstream from the lungs, thus making it turbulent (Ladefoged & Johnson, 2011, p. 14). The effect is similar to slowly letting the air out of a balloon, or air being squeezed out of a tyre with a puncture.

The phoneme [s], as in *snake* /sneɪk/ and *gas* /gæs/, is produced when the tongue is raised into close proximity with the alveolar ridge, thus creating a turbulent airstream. The midsagittal section below illustrates this.
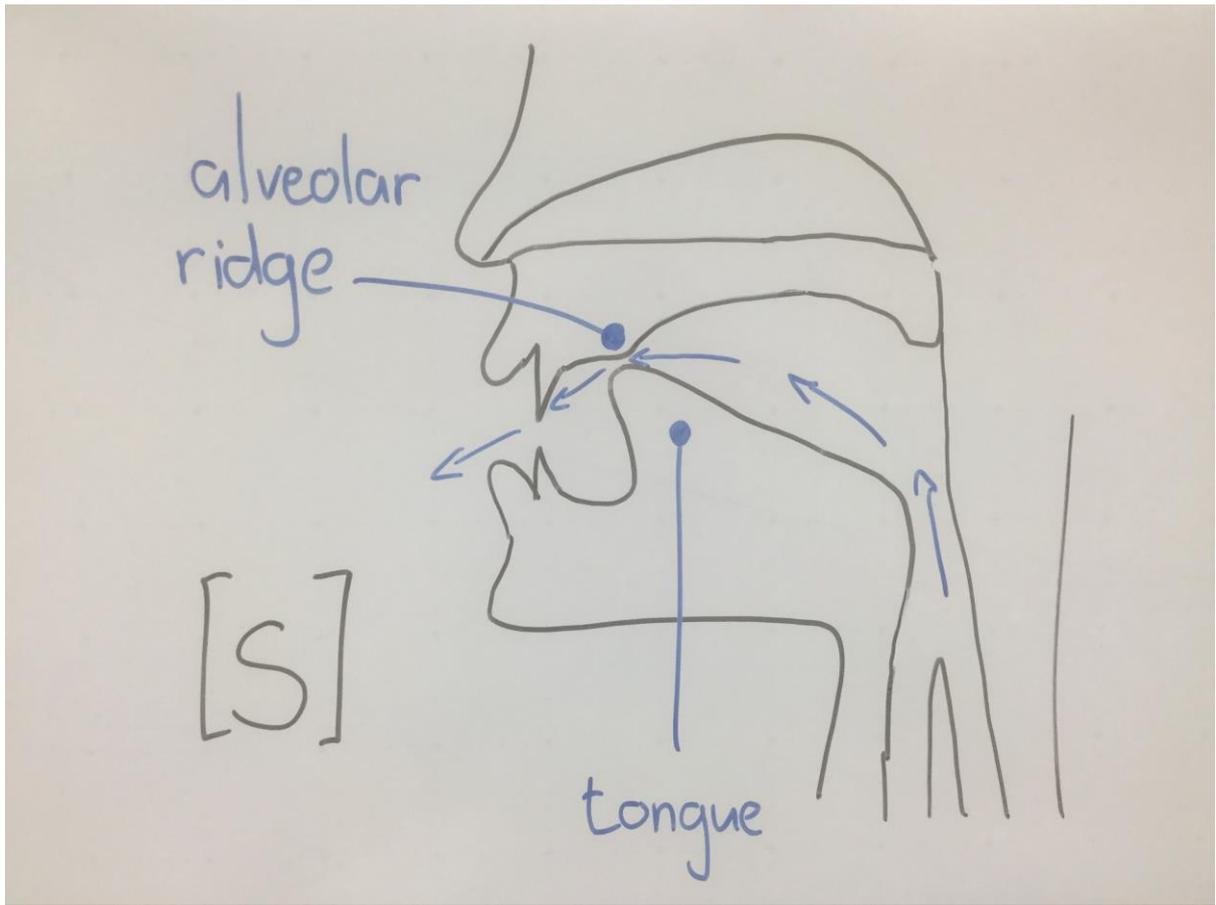
Figure 1 - *Articulation of* [s]

The table below lists the fricatives used in English and Japanese, with examples.

Table 1 - *English and Japanese fricatives*

Phoneme		English	Japanese
[ɸ]	*voiceless bilabial fricative*	*N/A*	風船 ふうせん (balloon) /ɸu:sen/
[f]	*voiceless labio-dental fricative*	foot /fʊt/	*N/A*
[v]	*voiced labio-dental fricative*	vine /vɑɪn/	*N/A*
[θ]	*voiceless dental fricative*	thunder /θʌndə/	*N/A*
[ð]	*voiced dental fricative*	those /ðəʊz/	*N/A*
[s]	*voiceless alveolar fricative*	sun /sʌn/	酢 す (vinegar) /su/
[z]	*voiced alveolar fricative*	zoo /zu:/	座布団 ざぶとん (cushion) /zabuton/
[ʃ]	*voiceless postalveolar fricative*	should /ʃʊd/	*N/A*
[ɕ]	*voiceless alveolo-palatal fricative*	*N/A*	塩 しお (salt) /ɕio/
[ʑ]	*voiced alveolo-palatal fricative*	*N/A*	火事 かじ (fire) /kaʑi/
[ç]	*voiceless palatal fricative*	*N/A*	一つ ひとつ (one)

			/çitot‿su/
[ʒ]	*voiced postalveolar fricative*	pleasure /pleʒə/	*N/A*
[h]	*voiceless glottal fricative*	hat /hæt/	春 はる (spring) /haru/

As shown in the table above, English and Japanese share 3 fricatives, [s], [z] and [h], but several English phonemes are not used in Japanese. These are listed below. Being unable to produce these may lead to communication issues when talking in English with non-Japanese speakers.

[f]   Found in *fit* /fɪt/, *tough* /tʌf/ and *after* /ɑ:ftə/

[v]   Found in *vital* /vɑɪtl/, *love* /lʌv/ and *over* /əʊvə/

[θ]   Found in *thin* /θɪn/, *oath* /əʊθ/ and *mathematics* /mæθəmætɪks/

[ð]   Found in *this* /ðɪs/, *with* /wɪð/ and *other* /ʌðə/

[ʃ]   Found in *should* /ʃʊd/, *wish* /wɪʃ/ and *washing* /wɒʃɪŋ/

[ʒ]   Found in *leisure* /leʒə/

Which phonemes to focus on in class

When attempting to produce words with non-L1 phonemes, language learners often use the phoneme closest in perceived quality to the target L2 phoneme. For Japanese speakers, the most problematic sounds are [v], [θ] and [ð], as they are often substituted for other sounds used in English, which can lead to misunderstandings. For example, Japanese speakers may produce *think* /θɪŋk/ as *sink* [sɪŋk], or *this* /ðɪs/ as *diss* [dɪs]. [f], [ʃ] and [ʒ] present fewer problems, as they are generally substituted with phonemes not present in English. While [s] and [z] are used

in Japanese, students may need practice with words containing [si:] and [zi:] as these combinations are not used in Japanese. For example *seep* /si:p/ and *zeal* /zi:l/.

In summary:

- [θ], [ð] and [v] are problematic and should be focussed on in class.
- Words containing [si:] and [zi:] may also require practice.
- [f], [ʃ] and [ʒ] are less problematic, but students may still benefit from practice.

Teaching Fricatives

Learning non-L1 phonemes can be a difficult task, but compared to vowels, the tactile nature of consonants makes them easier to teach; if you can feel your tongue touching the roof of your mouth, you can reposition it to produce a new sound (Kelly, 2001, p. 54).

There are several features of fricatives that we can exploit when teaching the manner of articulation, i.e. how to produce a given sound.

- Fricatives are *continuant*. The sound can last for as long as the speaker is able to expel breath from their lungs. (Chomsky & Halle, 1968)
- [f] and [v] are *labiodental* sounds (produced with the lower lip and teeth), and [θ] and [ð] are *dental* sounds (produced with the tongue and teeth). These articulators are not hidden within the oral cavity, and as such, we can see if these sounds are being performed correctly. This permits the use of mirrors or 'selfie-cameras' to assist students in self-monitoring accurate production.

How to teach non-L1 fricatives – Lesson Outline

The lesson outline below can be applied to the teaching of any sound, not just fricatives. The example lesson plan that follows is a more detailed version of this outline, and describes how to teach [θ], represented orthographically as *th*, as found in 'think' and 'moth'.

1. Raise awareness of the sound.
2. Explain the articulation of the sound.
3. Practice the sound.
4. Ask students to list words containing the sound.
5. Have students write sentences using these words.
6. Ask students to record and submit these sentences using an online education management environment, such as Google Drive, Edmodo or Seesaw.

EXAMPLE LESSON PLAN - [θ] 'th' in 'think' and 'moth'

Japanese students often struggle to produce the phoneme [θ] (written orthographically as 'th'). It is generally substituted with [s], which can result in a variety of misunderstandings. The table below lists words containing [θ], RP pronunciation of the word, possible realisations of these words by Japanese speakers, and what native speakers are likely to hear based on this realisation. Note that other realisations are possible, based on the accuracy of the production of other sounds.

***Table 3** - English words containing* [θ]*, possible realisations by Japanese speakers, and what native speakers may hear*

word	pronunciation (RP)	possible realisation by Japanese-speaker	could be understood as...
think	/θɪŋk/	[sɪŋk]	*sink*
moth	/mɒθ/	[mos]	*moss*
thin	/θɪn/	[sɪn]	*sin*
math/maths	/mæθ/ or /mæθs/	[mas]	*mass*
growth	/grəʊθ/	[gros]	*gross*
both	/bəʊθ/	[bos]	*boss*

Before beginning a lesson on the [θ] phoneme, it may be worth highlighting several words which could create communication issues when [θ] is not produced properly, in order for students to understand why this is an important skill to develop.

Step 1 - Raise awareness of the sound

If students are unable to recognise a sound, it is highly unlikely that they will be able to produce it. Minimal pairs, i.e. a pair of words which only differ by a single sound, can be used to raise awareness of sounds. By producing a given word with both the English and L1 phoneme, students are able to identify the difference between the two. We will use 'think' as an example. Follow the steps below. This is a whole class activity with the teacher leading.

Main Activity

1. Write 'a) *think*' and 'b) *sink*' on the board.

2. Point to both words and read them out loud. Repeat as many times as you feel necessary.

3. Say one of the words without pointing to the board. Ask students to guess which word you produced by calling out 'a)' or 'b)'

4. Repeat step 3 until students have a high rate of success and can clearly differentiate between the two sounds.

Be aware that some words containing [θ] do not sound like other English words when [θ] is substituted with [s]. When practising these words, you may wish to write 'a) [θ]' and 'b) [s]' on the board and produce the target word with each phoneme. For example, *cloth* would be read as [klɒθ] and [klɒs].

When producing the possible Japanese realisation of a word, avoid using an overemphasised Japanese pronunciation of English sounds (commonly referred to as 'Katakana English'), as the purpose of this exercise is to raise awareness of a single sound. It will be very easy for students to identify which version of the word you are producing if you apply multiple aspects of Japanese pronunciation to your performance. Additionally, if the words differ by more than a single sound, they are not a minimal pair.

Expansion Activities

A. Using the International Phonetic Alphabet

1) Write the phonemes you are working with on the board: [θ] and [s].

2) Write both versions of the word using the International Phonetic Alphabet (henceforth IPA): /θɪŋk/ and [sɪŋk].

3) Repeat the main activity with additional minimal pairs. If possible, use words that contain [θ] in the word-final and word-medial positions, i.e. 'moth' /mɒθ/ (word-final) and 'mathematics' /mæθəmætɪks/ (word-medial).

B. Identifying mispronunciation in a sentence

1) Write a sentence on the board with several words containing [θ]. Alternatively, give students a handout with several sentences of this kind. The sentence can be nonsensical, as we are only focussing on sounds. For example *'I think Thor is too thin.'* Read the sentence aloud, deliberately mispronouncing one of the words containing [θ]. Students must identify which word was produced inaccurately.

Step 2 - Explain the articulation of the sound

Once students are able to identify a sound, they need to be able to produce it. Instruction can be given in several ways. For consonants, a midsagittal section, such as the one below, can be a helpful visual reference for students (Underhill, 2005, p. 140). However, unless they have previously studied pronunciation, they may be completely unaware of how sounds are produced and which articulators are used. In this case, I advise first raising awareness of place and manner of articulation.

Raising awareness of place and manner of articulation

This is a short activity designed to raise student awareness of place and manner of articulation. It is not intended as a detailed lesson on articulatory phonetics, but rather a supplement to other pronunciation lessons.

1. Draw a midsagittal section on the board. Note that all midsagittal sections in this article were drawn freehand on a whiteboard.

2. Draw 3 circles in the following places: around the lips and teeth, the alveolar ridge, and the velum.

3. Label these 'lips/teeth', 'front' and 'back'. These may not be phonetically-accurate labels, but they work well for students.

4. Write the following phonemes on the board: [b], [t] and [g].

5. Ask students to guess where these sounds are produced.
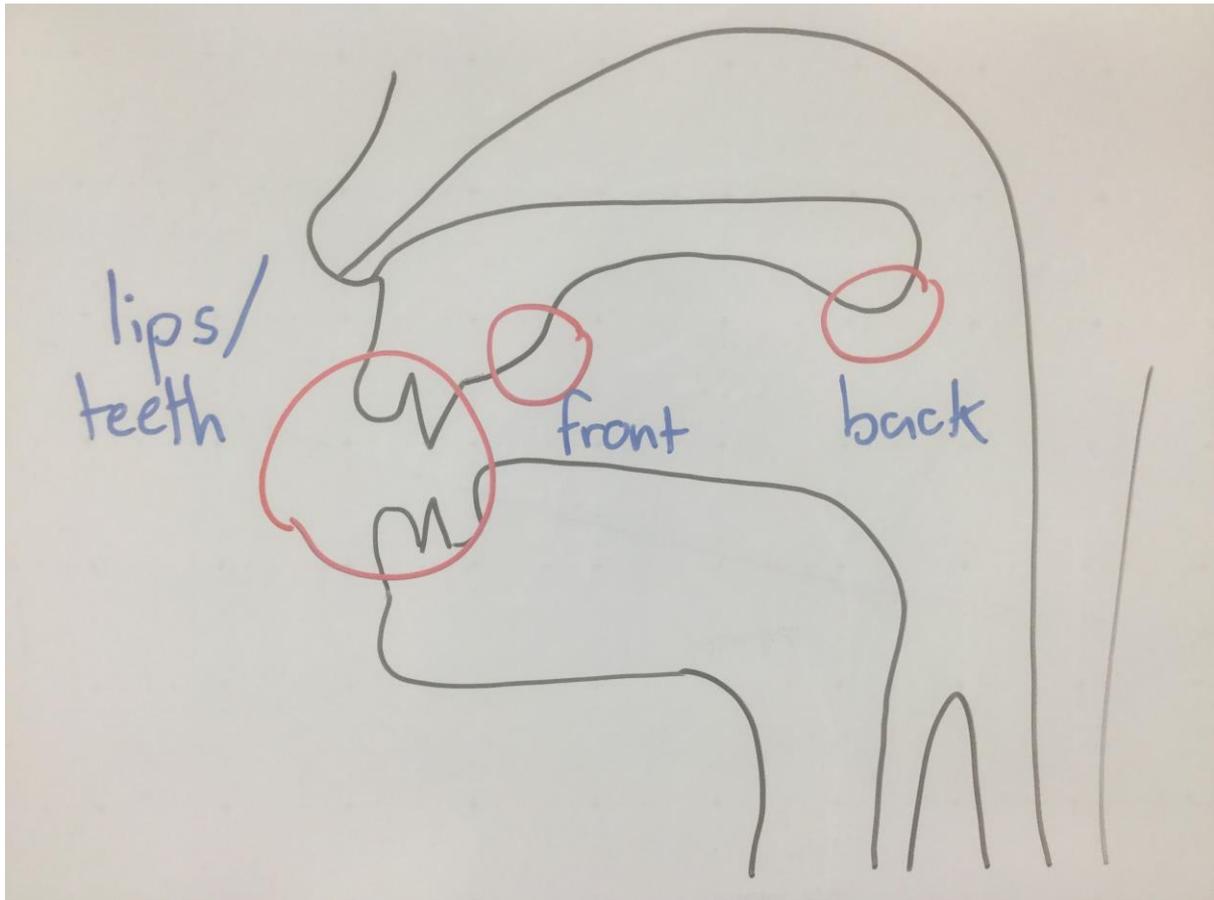
6. Repeat with these sounds [f], [s] and [k].

Figure 4 - *Simple labels for key points of articulation*

This should give students a better understanding of how sounds are produced, and give them enough of an introduction to tackle the rest of step 2.

Main Activity

Draw a midsagittal section showing the manner of articulation, demonstrate the sound and drill this with students. Two explanations of how to produce [θ] are given below. 1) uses linguistic terminology, and 2) is a simplified explanation, appropriate for students.
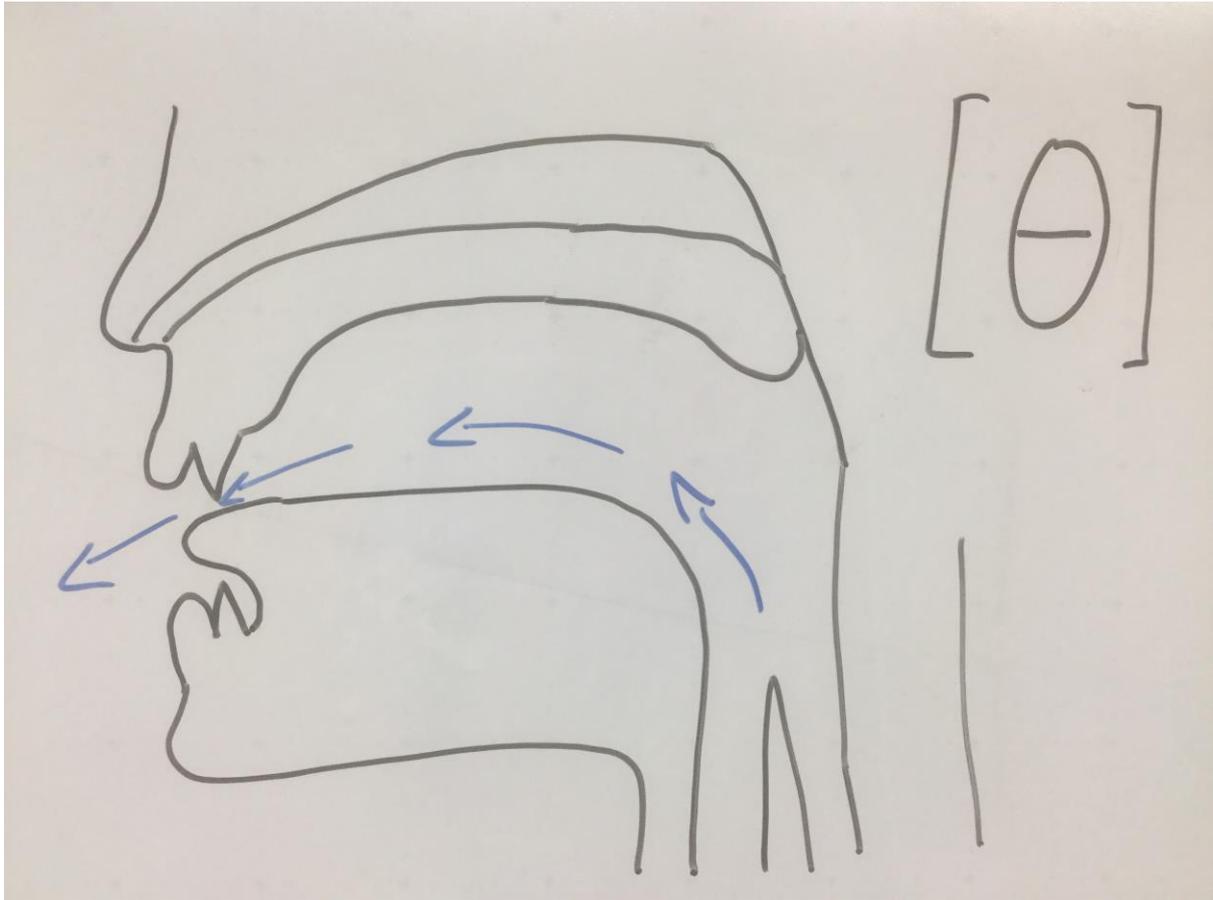
Figure 5 *- Articulation of* [θ]

1) [θ] is produced when the tip or blade of the tongue and upper teeth are used to partially obstruct the airstream from the lungs, causing turbulence. It is a voiceless sound, so is produced without vibration from the vocal cords.

2) Put your tongue under your top row of teeth and blow. Make sure there is a small space between your teeth and tongue. Don't make any sound with your throat.

At this point, some students may still be struggling to produce the sound. There are several ways to give extra instruction. If the sound being taught uses easily-visible articulators, mirrors

or 'selfie-cameras' can be employed to give students a visual reference for what they are doing. In English, bilabial, labio-dental and dental sounds can easily be viewed in this way.

As mentioned previously, [θ] is often substituted for [s]. When producing [s], the tongue is not visible, whereas when producing [θ], the tongue is usually visible to some degree. If students are unable to see their tongue, they are likely to be producing the wrong sound. It can help to give an exaggerated model of the sound by protruding your tongue out further than you might normally do, so students can clearly see the difference between the two sounds.

Another method of ensuring correct articulation is to ask students to place their index finger over their lips, as if about to say 'Shh!' Tell students that in order to produce the sound correctly, their tongue must make contact with their finger. Whilst this is not strictly true, it forces students to position their tongue further forward than when producing [s].

Note that some students may feel shy about sticking their tongue out in front of their peers, so it is important to create a comfortable environment in which to practise. Humour and light-heartedness can be very useful in this situation.

Step 3 - Practice

Once students are able to accurately produce the sound, give them time to practise. This could be done in the following ways.

Brainstorming and practising words
Ask students to brainstorm words that contain the sound. Make a list on the board and ask students to practice the words in pairs, while offering peer-feedback.

Writing and reading sentences

Write sentences (or ask students to) using several words containing the sound, and ask them to practise reading aloud in pairs with peer feedback.

Thhhhhhhhhink! - extending the length of sounds

When practising words, ask students to extend the length of the sound being practised. As fricatives are continuant sounds, they can be extended for as long as there is breath in the speakers lungs. Model this before asking students to try. By producing a sound for several seconds, students have more time to check if they are producing the sound accurately.

L1 VS L2

Ask students to say words using the incorrect L1 phoneme, and the correct English one. This helps to further differentiate between the two sounds.

Recordings

Ask students to record themselves reading sentences. This can be done with smartphones or any other technology available, in the classroom or at home. Students can listen back and critique themselves, before re-recording sentences until they are satisfied. These recordings can be submitted for evaluation if you have access to an online educational platform, such as Edmodo, Google Classroom, or Seesaw (all available at time of writing). Teachers may also wish to share model recordings for students to practice with.

Dictation

Ask students to dictate a passage to their partner. Every time the reader fails to produce the phoneme being practiced, their partner bangs on the table. After both students have completed

this task, ask them to underline all instances of the target phoneme and repeat the task. Students could also deliberately mispronounce words and ask their partner to identify these.

Dialogues

Students read a written dialogue, and bang on their desk every time their partner fails to accurately produce the target sound.

Conclusion

Pronunciation lessons can be intimidating for both students and teachers, but with proper preparation and instruction, teachers should be able to provide rewarding lessons that give students greater confidence when speaking English. It is the author's hope that the ideas described above will be useful not only as a guide for teaching fricatives, but also as a starting point for other pronunciation lessons.

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