

Students' Pronunciation Variations of Labiodental Fricative and Palato-Alveolar Fricative Sounds

Jane Elisya Evaay 1, Maryanti E. Mokoagouw 2*, Sukristiningsih 3

1University of Papua, Amban, Manokwari 98314, Indonesia

2 University of Papua, Amban, Manokwari 98314, Indonesia

3University of Papua, Amban, Manokwari 98314, Indonesia

1janeevaay1999@gmail.com; 2 m.mokoagouw@unipa.ac.id*;

3 ukky20042000@yahoo.co.uk

* Corresponding author

Received:
16 September 2022

Revised:
15 November 2022

Accepted:
17 November 2022

Published:
29 November 2022

Abstract

This study aims at finding out the pronunciation variations on labiodental fricative and palato-alveolar fricative sounds produced by Year 2020 students of English Education Department University of Papua (UNIPA). The data were collected through the recording of students pronouncing lists of provided vocabulary of intended sounds. Ten students participated in the research. The research results show that students produced some pronunciation variations of both labiodental fricative and palato-alveolar fricative sounds. The most pronunciation variation occurs in the sound of voiced palato-alveolar fricative [ʒ].

Keywords: pronunciation variations, fricative, labiodental, palato-alveolar

Introduction

Morley (1991) points out that one important component when teaching and learning English as a foreign language (EFL) is pronunciation. This is so since pronunciation is the most crucial part of both speaking and listening skills. Dewi et al. (2017) mention that pronunciation basically refers to how we produce the sound that we use to make meaning. Therefore, good pronunciation will lead to better understanding of one's meaning in either speaking or listening skill.

However, quite a lot of Indonesian EFL students still experience difficulty in pronouncing English words, resulting in misunderstanding of meaning. This is particularly so because there are English sounds that do not exist in the Indonesian sound system so that the students are not familiar to those sounds and do not understand how to produce them (Sulistyorini & Wibowo, 2021). Of all the sounds, it was found that the most difficult sound to produce is either the labiodental fricative or palato-alveolar fricative sounds. According to McMahan (2001:29), fricative is the type of sound which, when produced, the active and passive articulators are brought close together, but not near enough to totally block the oral cavity. This close approximation of the articulators means the air coming from the lungs has to squeeze through a narrow gap at high speed, creating turbulence, or local audible friction, which is heard as hissing for a voiceless fricative, and buzzing for a voiced one. Tiffany & Carrel (1977) mention that English has nine fricative sounds, which are [f, v, θ, ð, s, z, ʃ, ʒ, h]. This article will focus only on four sounds and they are labiodental fricative [f], [v] and palato-alveolar fricative [ʃ], [ʒ]. Labiodental sounds are made when the lower lip is in contact with upper teeth (Weda & Sakti, 2017). Meanwhile, palato-alveolar sounds are made by placing the front part of the tongue toward the roof of the mouth. The tongue touches the ridge and hard palate and the lips are rounded slightly (Utami, 2018).

Some research had been conducted on pronunciation variations made by either Indonesian EFL students or other ESL students. Hakim (2012) found that Javanese students tend to put more stress using the sounds [d] and [ð] when speaking English due to the influence of their Javanese accents. Anam (2018) studied variations on fricative and affricate sounds produced by Indonesian and Thai students. His research found out



that Indonesian students produced [p] and [g] for [f]; while Thai students produced [p^h] for the same sound. For [v], it would be [f] for the Indonesians and [w] for the Thais. In addition, the sound [θ] would be changed into either [th] or deleted [Ø] by the Indonesian students; meanwhile, for the Thais, the sound would become [tʃ], [ʃ], and [Ø]. The sound [ð] would be mostly pronounced as [t] by the Indonesians and as [d] and [ç] by the Thais. Both sounds [z] and [ʒ] would be altered to [s] by both Indonesian and Thai students. The sound [ʒ] would become [s], [ʃ], and [g] for Indonesians and become [ʃ] and [k] for Thais. There is a similarity in pronouncing the sound [dʒ] for both Indonesians and Thais. They would alter the pronunciation into [j], [g], [ç]. Additionally, the Indonesian students would pronounce the sound into [t] and Thai students into [ʃ]. Anissa (2020) researched about pronunciation variations of Buginese students and found out that when pronouncing labiodental sounds, such as [v] and [f], students will alter the sounds into [f] and [p]. Furthermore, Lin (2014) found out that EFL Japanese speakers would add some vowels in English words ending with consonant; while Arabic students would insert vowel [I] in an English initial word.

As can be seen, most of Indonesian EFL students in the previous studies face difficulty in pronouncing particular sounds in English, most specifically fricative and affricate as well as labiodental sounds. However, the subjects of the previous research are mostly students from the western part of Indonesia (Java). For this study, the subjects were the students of the Year 2020 of the English Education Department, the University of Papua, Manokwari. The objective of the study is to find out the pronunciation variations of the labiodental fricative and palato-alveolar fricative sounds produced by the students.

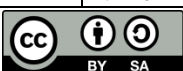
Method

For the research, a total of 56 words were prepared for the pronunciation check: 30 words are for labiodental fricative sound and 26 words are for palato-alveolar fricative sound. For labiodental sound, there were 15 words for voiceless [f] and 15 words for voiced [v]. For palato-alveolar sound, there were 15 words for voiceless [ʃ] and 11 words for voiced [ʒ]. The number of words for voiced palato-alveolar fricative is less than other because the English word having the sound [ʒ] in the initial position is rare so that only one word was used for pronunciation check. As for others, there were 3 words to check on the sound at the initial position, 3 at the middle position, and 3 at the final position.

A total of 10 students from Year 2020 in the English Department of the Faculty of Teacher Training and Education, University of Papua were randomly chosen to participate in the research. Their origin varies, both of Papuan and non-Papuan origins. The students should fulfill the main criteria of: (1) already pass the Pronunciation subject and (2) have studied at the English Department for at least 3 semesters. To obtain the data, word list for pronunciation check were utilized as an instrument. The word list contained both voiced [v] and [ʒ] and voiceless [f] and [ʃ] in English labiodental and palato-alveolar fricative sounds. These certain sounds were presented in three positions (initial, middle, and final). Students were asked to pronounce the words loudly and the pronunciation results were recorded and transcribed. The word list can be seen in the following table.

Table 1. Word List for Labiodental fricative [f] and [v]

Voiceless [f]			
No	Initial Position	Middle Position	Final Position
1	Face	Before	Laugh
2	Flower	After	Stuff
3	Phone	Perform	Golf
4	Physics	Office	Enough
5	Fire	Perfect	Half
Voiced [v]			
No	Initial Position	Middle Position	Final Position
1	Very	Invite	Have
2	Vine	Available	Drive



3	Value	Never	Love
4	View	Survey	Active
5	Virus	Service	Improve

Table 2. Word List for Palato-Alveolar [ʃ] and [ʒ]

Voiceless [ʃ]			
No	Initial Position	Middle Position	Final Position
1	Sure	Ocean	Fish
2	She	Racial	Fresh
3	Shoe	Vacation	Catch
4	Shy	Potential	Wash
5	Sheep	Tension	English
Voiced [ʒ]			
No	Initial Position	Middle Position	Final Position
1	Genre	Usually	Garage
2		Unusual	Mirage
3		Treasure	Prestige
4		Vision	Beige
5		Decision	Sage

There were three stages in the data analysis. The first stage was the identification of all sounds produced by students. In this stage, the voice recording of students pronouncing the intended sounds were checked and transcribed. The second stage was the identification of the sound variations. In this stage, the focus was given to the sound variations on labiodental fricative and palato-alveolar fricative. The results of the identification were then put in the table. The last stage was the data analysis. After identifying the sound variations on labiodental fricative and palato-alveolar fricative produced by the students, those variations were discussed and specific examples of the sounds produced by students were presented.

Findings and discussion

The following table summarizes the results of the students' pronunciation variations on both labiodental fricative and palato-alveolar fricative sounds based on the data transcription.



Table 3. Identification of sound produced by students

Respondents Code	Labiodental						Palato-Alveolar					
	Sound [f] Voiceless			Sound [v] Voiced			Sound [ʃ] Voiceless			Sound [ʒ] Voiced		
	i	m	f	i	m	f	i	m	f	i	m	f
R01	√	√	√	[f]	[f]	[f]	√	√	√	[j]	[s], [ʃ]	[ch]
R02	√	√	√	√	[f]	[f]	√	[s]	√	[j]	[s]	[ch]
R03	√	√	√	√	[f]	[f]	√	√	√	[j]	[s], [ʃ]	[ch]
R04	√	√	√	[f]	[f]	[f]	[s]	√	[s]	[j]	[s], [ʃ]	[ch]
R05	√	√	√	[f]	[f]	[f]	[s]	√	[s], [t]	[j]	[s], [ʃ]	[ch]
R06	√	√	√	[f]	[f]	[f]	√	√	[s]	[j]	[s], [ʃ]	[ch], [s]
R07	√	√	[k(h)]	[f]	[f]	[f]	[s]	√	[s]	[j]	[s], [z], [ʃ]	[s], [g]
R08	[p]	√	[c]	[f]	[f]	[f]	[s]	[s]	[s]	[g]	[s], [ʃ]	[ch], [g]
R09	√	√	√	[f]	[f]	[f]	[s]	√	[s]	[j]	[s], [ʃ]	[ch]
R010	[p]	√	√	[f]	[f]	[f]	√	[s], [k]	[s]	[g]	[s], [ʃ]	[s], [ʃ], [ch], [k]

i = initial, **m** = middle, **f** = final | variations of [f], [v], [ʃ], and [ʒ] produced by the students. Check mark (√) means there was no variation or students could pronounce the sounds in the target language.

As can be seen in the table, for voiceless labiodental fricative sound [f], there were three students producing variations of sound [p] for the initial position and [c] and [k(h)] for the final. For voiced labiodental fricative [v], almost all students pronounced it as [f], except for two students who pronounced the sound [v] correctly in the initial position. For voiceless palato-alveolar fricative sound [ʃ] most students altered the sound for [s]. Additionally, one student pronounced it as [t] at the final position, and one student pronounced it as [k] in the middle position. Meanwhile, for voiced palato-alveolar fricative [ʒ], it was mostly pronounced as either [j] when at the initial position. Two students pronounced this sound as [g]. Then, when positioned in the middle, [ʒ] would be pronounced as either [s] and [ʃ]. When in the final position, this sound would have several variations, such as [ch], [s], [g], and [k].

As evident from the results of the data analysis, students produced some sounds variations for labiodental fricative [f] and [v] and palato-alveolar fricative [ʃ] and [ʒ]. The pronunciation for the [f] sound seemed to encounter no problems; however, it was obvious that the students had difficulty in well-pronouncing the sounds [v], [ʃ], and [ʒ]. Thus, the variation occurred. The findings in this study are somewhat similar to those of Anam (2018) and Anissa (2020). As Anam and Anissa did, this study also found out that students tended to alter the sound [f] into [p] and [v] into [f]. The findings of this study also confirmed the results of Anam's study with regard to Indonesian students' variation of [ʃ] into [s] and [ʒ] into [s], [ʃ], and [g].

Overall, it can be said that the problems with English pronunciation faced by students were related to the fact that some English sounds do not exist in the students' native language as claimed by Lanteigne (2006). Dardjowidjoyo (2009) explains that the Indonesian phonological system basically does not have voiced labiodental fricative [v], voiceless palato-alveolar fricative [ʃ], and voiced palato-alveolar fricative [ʒ].



The explanation on how students substituted voiced labiodental fricative [v] into [f] was due to the non-existence of the phoneme /v/ in Indonesian even though the letter <v> is found in the orthographic system. Yet, this letter is pronounced as /f/. Therefore, it can be assumed that the alteration of voiced labiodental fricative into voiceless labiodental fricative is the interference of Indonesian as the students' first language.

The voiceless palato-alveolar fricative [ʃ] does not exist in the Indonesian phonological system as well. Anam (2018) and Sulistyorini & Wibowo (2021) state that due to the sound being not existing in the Indonesian sound system, students did not understand how to pronounce the sounds [ʃ] and therefore, students often substitute the sound to the one seemingly similar or closest in production based on the place of articulation, which is the sound [s].

The sound /ʒ/ is also not available in the Indonesian phonemic system. Most variation found for this sound is [j]. The sound [j] is a sound that exists in the Indonesian phonemic system as a voiced palatal stop. So, when replacing /ʒ/ with [j], the students maintained the place of articulation, yet they changed the manner of articulation. It can be said that in this case, the students experienced some developmental process, where they tried to replace the non-existing sound with the closest sound in their native language.

The following section will describe the sounds variation produced by Year 2020 students of the English Education Department of the Faculty of Teacher Training and Education, University of Papua.

1. Variation in labiodental fricative [f] and [v] sounds

a) Variation on voiceless labiodental fricative [f] sound

i. Sound [f] in the initial position

The pronunciation variation occurred to sound [f] when positioned at the initial position was [p]. As an example for the word “phone” which should be pronounced as [fəʊn], two students R08 and R10 produced the variation sound of [p] as in [pə:n]. This altered pronunciation was influenced by the mother tongue and because the place of articulation for [p] is also on labiodental.

ii. Sound [f] in the middle position

The pronunciation variation occurred to sound [f] when positioned at the middle position was [v]. For the word “before” [bɪ'fɔ:(r)], student R08 produced variation sound of [v] as in [bɪ'vɔ:(r)]. This student might have slip of the tongue when pronouncing the word, because the sounds [f] and [v] are quite similar.

iii. Sound [f] in the final position

There were two pronunciation variations for sound [f] in the final position, which were [k(h)] and [c]. As an example, the word “laugh” [lɑ:f] were pronounced as either [lɑuk(h)] or [lɑc]. For the word “enough” [ɪ'nʌf], it was pronounced as [ɪ'nʌuk(h)]. For this case, the students might not really know how to pronounce the word.

b) Variation on voiced labiodental fricative [v] sound

i. Sound [v] in the initial position

Eight of of ten students produced sound [v] in the initial position as sound [f], such as ['feri], [fam], ['fælju:], [fju:], and ['færəs]. Only students R02 and R03 could correctly pronounce sound [v] in the target language. For this case, students changed sound [v] to voiceless sound [f] because in Indonesian language those sounds are pronounced as quite the same sound.

ii. Sound [v] in the middle position

All students produced the sound variation for [v] in the middle position as [f]. For example, they pronounced [ɪn'fɑɪt], [ə'faɪləbl], [sarfeɪ], and ['sɜrfɪs] to alter for [ɪn'vaɪt], [ə'vaɪləbl], [sarveɪ], and ['sɜrvɪs]. However, most of them were able to correctly pronounce sound [v] in the word “never” as ['nevə(r)]; only student R010 still



pronounced it as sound [f] to become ['nefə(r)]. Here, the students still pronounced sound [f] for voiced sound [v] because they were influenced with their first language.

iii. Sound [v] in the final position

All students produced variation sound of [f] or the change voiced sound to voiceless sound in all words which sound [v] at the end, such as [hæf], [draɪf], [lʌf], ['æktɪf], and [ɪm'pru:f]. This happened because sound [v] at the final position is rarely used in the Indonesian language.

2. Variation in palato-alveolar fricative [ʃ] and [ʒ] sounds

a) Variation on voiceless palato-alveolar fricative [ʃ] sound

i. Sound [ʃ] in the initial position

Most of the students altered [ʃ] in the initial position to become [s]. The following are examples of the variation. Four students (R04, R07, R08, and R09) pronounced “she” [ʃi:] as [si:]. For “shoe” [ʃu:], four students (R04, R05, R03, and R08) pronounced it as [su:] and [sou:]. Three students (R04, R05, and R07) pronounced “shy” [ʃaɪ] as [saɪ]. Students R04, R07, and R08 pronounced “sheep” [ʃi:p] as [si:p]. Since sound [ʃ] does not exist in the Indonesian sound system, it is altered into the closest sound [s].

ii. Sound [ʃ] in the middle position

Sound [ʃ] in the middle position was altered into either [s] or [k]. As examples, two students (R08 and R010) pronounced “ocean” ['əʊʃn] as ['onsain]. Sound [ʃ] in the word's “vacation” [və'keɪʃn] and “potential” [po'tenʃiəl] was also pronounced as [s] by student R02. Thus, they became [fə'keɪsn] and [po'tensial]. The pronunciation of [ʃ] as [k] occurred for the word “racial” ['reɪʃl]. Student R010 pronounced it as [rikal]. The explanation on why the student pronounced the sound [ʃ] as [k] was probably because the attention was paid to the written form of “racial”, which has the letter “c” in it. This sound [c] in English is sometimes pronounced as [k] as in “conscript” [kən'skrɪpt].

iii. Sound [ʃ] in the final position

Sound [ʃ] in the final position was pronounced as either [s] or [t]. Six students (R04, R05, R06, R07, R08, R09, and R010) pronounced “fish” [fɪʃ], “fresh” [freʃ], “wash” [wɒʃ], and “English” [ɪŋɡlɪʃ] as [fis], [fres], [wɒs], and ['ɪŋɡlɪs]. Meanwhile, the variation of [k] was found in the pronunciation of the word “catch” [kætʃ]. Student R05 did not pronounce [ʃ], but ended it with [t]. For the alteration of [ʃ] to [s], it was again the case of [s] being the closest sound to [ʃ]. Meanwhile, the variation from [ʃ] to [t] for [kætʃ] would probably simply because the student did not know how to pronounce the word well.

b) Variation on voiced palato-alveolar fricative [ʒ] sound

i. Sound [ʒ] in the initial position

There was a total of three variations for sound [ʒ] in the initial position produced by the students. Those variations were [j], [g], and [dʒ]. For the word “genre” [ˈʒɑ:nrə], eight students (R01, R02, R03, R04, R05, R06, R07, and R09) altered [ʒ] to [j]. Thus, the pronunciation became [ˈje:nrə]. Two students (R08 and R010) pronounced the word as [ge:nrə]; thus [ʒ] became [g]. For this situation, students might be confused on how to pronounce consonant /g/ because there are some possibilities of the sound produced from consonant /g/ such as [ʒ], [dʒ], and [g], so students change to the same sound in their first language such as [g], while for the case of the sound change to [j], students might alter the sound to the ones closest in their first language.

ii. Sound [ʒ] in the middle position

When in the middle position, the students varied the sound [ʒ] into [s], [ʃ], and [z]. For words “usually” [ju:ʒuəli] and “unusual” [ʌn'ʒu:sual], all students pronounced them as [ju:suəli] [ʌn'ju:sual]; thus changing [ʒ] to [s]. For the word ‘treasure’ [ˈtreʒə(r)], eight students (R01, R03, R04, R05, R06, R08, R09, and R010) altered [ʒ] to [ʃ], so that it became [ˈtreʃə(r)]. They change the voiced sound to the voiceless sound because they



were affected by the sound “sure” in the word “treasure” that if the word “sure” is separated it will be voiceless. Meanwhile, student R02 produced sound variation of [s] for “treasure”, so that the pronunciation became [ˈtresə(r)]. Another variation for the sound [ʒ] was [z]. Student R07 pronounced [ˈtrezə(r)] as [ˈtrezə(r)]. As for sound [ʒ] in the word’s “vision” [ˈvɪʒn] and “decision” [dɪˈsɪʒn], almost all students pronounced the words as [ˈfɪʃn] and [dɪˈsɪʃn]; thus, altering [ʒ] into [ʃ]. Students R02 and R05 pronounced the words as [ˈfɪʃn] and [deˈsɪʃn], which means that they altered [ʒ] to [s]. Students were still confused about differentiating voiced and voiceless palato-alveolar sounds, so that students pronounced sound [ʃ] because they were not really familiar with voiced sound [ʒ]. They changed sound [ʒ] to [s] because they were affected by consonant “s” in the words. For variation [z] this student might have slip of the tongue when pronouncing the word.

iii. Sound [ʒ] in the final position

There were several variations of the sound [ʒ] in the final position, such as [ch], [g], [s], [ʃ] and [k]. Nine out of ten students pronounced “garage” [gæɾɑ:ʒ], “mirage” [ˈmɪrɑ:ʒ], “prestige” [preˈsti:ʒ], “beige” [berʒ], and “sage” [seɪdʒ] as [gæɾɑ:ch], [mɪrɑ:ch], [preˈsti:ch], [berch], and [seɪdch]; thus, replacing [ʒ] with [ch]. Some other sounds variation were [g] as in [preˈsti:g], [berg], [seɪg] from students R07 and R08. Another variations found were [s] as in [preˈstai:s], [gere:s], [ˈmɪre:s], and [beɪs] from students R06, R07, and R010. Moreover, there are variation of sounds [ʃ] and [k] as [ˈmɪreɪʃ], [beɪk], and [saɪk] from student R010. For this section, students only did not know how to pronounce these words well. For variation [g] students might be affected by their mother tongue or Indonesian language. Meanwhile, for variation [k] this student might want to pronounce the sound as in the first language, i.e., the sound [g] but she had slip of the tongue when pronouncing the words.

Conclusion

Based on the findings and discussion on the pronunciation variations on labiodental fricative and palato-alveolar fricative sounds produced by Year 2020 students of the English Education Department of the Faculty of Teacher Training and Education, the University of Papua, some conclusions can be made.

For voiceless labiodental fricative [f], there are four variations of sounds produced by the students and those are [k(h)], [p], [v], and [c]. For voiced labiodental fricative [v], single variation occurs and the sound produced to alter [v] is [f]. Meanwhile, for voiceless palato-alveolar fricative [ʃ], there are three variations [s], [k], and [t]. Finally, voiced palato-alveolar fricative [ʒ] is the sound with the most pronunciation variations produced by the students. There are a total of seven variations for [ʒ], which are [j], [g], [s], [ʃ], [z], [ch], and [k].

The results suggest that in future teaching, there should be more attention paid to pronouncing voiced sounds as these are the most problematic sounds for students to pronounce. How voiced and voiceless sounds differ when pronounced should also be practiced in the classrooms more often so that students get enough exposure on the sounds.

References

- Anam, Moh. K. (2018). Thai and Indonesian English Students’ Problems in Pronouncing English Fricative and Affricate Sounds: A Case Study in IAIN Kediri. *Proceedings of the Fourth Prasasti International Seminar on Linguistics (Prasasti 2018)*. Fourth Prasasti International Seminar on Linguistics (Prasasti 2018), Surakarta, Indonesia. <https://doi.org/10.2991/prasasti-18.2018.36>
- Annisa, N.C. (2020). The English Pronunciation Of Buginese Students In English Department Of Iain Palopo.1.
- Dardjowidjojo, S. (2009). *English Phonetics and Phonology for Indonesians*. Jakarta: Yayasan Pustaka Obor Indonesia.



- Dewi, R., Mujiyanto, J., & Sukrisno, A. (2017). The Influence Of Brebes Javanese Dialect Toward Students' Pronunciation Of English Speech Sounds. 1, 11.
- Hakim, M. A. R. (2012). An Analysis Of Phonetics b, d, g, j, dʒ and ð into English pronunciation for Java Students (A Study On Java Students at English Department on STAIN Bengkulu Academic Year. *International Journal of Humanities and Social Science*, 2(20), 13.
- Lanteigne, B. (2006). Common, persistent errors in English by Brazilian Portuguese speakers. *TEFL Web Journal*, 4(1), 80.
- Lin, L.-C. (2014). Understanding Pronunciation Variations Facing ESL Students. *International Journal of Humanities and Social Science*, 4(5), 5.
- McMahon, A. M. S. (2001). *An Introduction to English Phonology*. Edinburgh University Press.
- Morley, J. (1991). *The Pronunciation Component in Teaching English to Speakers of Other Languages*. *TESOL Quarterly*, 25(3), 481. <https://doi.org/10.2307/3586981>
- Sulistiyorini, D., & Wibowo, R. A. (2021). An Analysis Of Students Perception And Production Problems Of Pronouncing English Palato Alveolar Sounds. 16.
- Tiffany, W. R. , & Carrel, J. A. (1977). *Phonetics: Theory and Application*. McGraw-Hill College.
- Utami, A. L. (2018). The Analysis Of Junior High School Students' Pronunciation Difficulties In Pronouncing English Consonant Sounds In Private Course In Jambi City. 13.
- Weda, S., & Sakti, A. E. F. (2017). The Effects Of Formal Instruction On The Acquisiton Of English Fricative Consonants Of Indonesian EFL Learners. VIII(2). [https://doi.org/10.18843/rwjasc/v8i2\(1\)/02](https://doi.org/10.18843/rwjasc/v8i2(1)/02)

