## ANALYSIS OF PHONOLOGICAL ERRORS IN CONSONANT /-t/ AND /-d/ BY ENGLISH TEACHERS IN INDONESIA

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#### Abstract

The phonological errors have received a lot of attention in consonant /-t/ and /-d/ at the final position by English teachers in Indonesia, they have an important role to guide students in practicing English actively and correctly. The teachers however have trouble in pronouncing words that are found to have the suffix -ed as the past or part participle words. This paper aims to see the accuracy of English consonant blends at the final position and want to see the causes of the error by English teacher by applying PRAAT. This study uses a descriptive qualitative method. For the participants, the writers choose 8 English teachers from random levels. The samples are one Javanese person and seven Jakarta people (two males and six females). The result of this research three teachers pronounce 57% almost the same as native speakers, one teacher pronounce 50 % almost the same as native speakers, three teachers pronounce 36% almost the same as native speakers, and the last two teachers pronounce 14% accuracy when compared to native speakers. The results of this study support people's assumptions about phonological errors in producing alveolar sounds. It is found that the teachers are generally influenced by their first language, Indonesian. Then they tend to have a less consideration at the proper pronunciation.

Keywords: Phonological Error, Alveolar Sounds, PRAAT

#### INTRODUCTION

An error is a potential in the teaching and learning process. They had trouble pronouncing the consonants /-t/ and /-d/. They have trouble pronouncing words that are found to have the suffix –ed pronunciation errors in the past tense. (Richards, 1971) stated An error refers to the use of a linguistic item in a way that a fluent or native speaker of the language regards as showing faulty or incomplete learning.

According to H. Douglas Brown, a mistake is a performance error that is either a random guess or a "slip" in that it is a failure to correctly use a known system. An error is a noticeable deviation from the adult grammatical structure of a native speaker that reflects the learner's competence. This study is concerned with systematic errors rather than lapses occurring due to wrong usage or non-systematic mistakes occurring due to bad performance. The errors that learners make can be influenced by a variety of factors. There are:

- 1. Interference errors result from the use of elements from one language while speaking or writing another.
- 2. Intralingual errors: errors reflecting general characteristics of rule learning, such as faulty generalization, incomplete application of rules, and failure to learn conditions under which rules apply.
- 3. Developmental errors occur when learners attempt to build up hypotheses about the target language on the basis of limited experience.



In addition, the effect of phonological errors in consonant /-t/ and /-d/ in words, phrases, or sentences is influenced primarily by the first language. (McKay and Brown, 1980) also said "Adult second language linguistic processes are more vulnerable to the effect of the first language on the second. " This can support that statement with Roach (2009: 11) in Wika (Lapusza and Syatroh, 2019), who stated: "languages have different accents completely; they are pronounced otherwise by folks from different geographical places, from totally different social categories, different ages, and different academic backgrounds.".

The error can be found not only in specific consonant positions, but also in all possible positions, including initial, medial, and final. The researchers wanted to see the accuracy of English consonant blends at the final position of an English teacher in Indonesia in this study. Because the interference of the mother tongue was generally to blame for the difficulties, or because Indonesian teachers did not pay attention to the pronunciation of consonants /-t/ and /- d/ in the final position, which we find in the words of the past. Another hand, teachers are vulnerable because they distribute student pronouncements and use English in a variety of activities, and the highest level enjoys making mistakes with adults. These errors should not be overlooked because they have an impact on learners' progress in the learning process. (Widya and Agustiana, 2020) statement can support that statement. She said that:

".... Some researches showed that the early teaching of English in the non-English speaking country, including Indonesia, does not focus on pronunciation. Priority is often only given to vocabulary and grammar, but not to pronunciation. Teachers pay enough attention to grammar and vocabulary in learning foreign languages and they help students become skillful in listening and reading."

When the vocal organs move, an acoustic signal is produced, resulting in a pattern of disturbance to the air molecules in the airstream. In the formant pattern, we can see evidence of the closing movement going into an obstruction and evidence of the opening movement coming out. When an obstruction is created, we see a decrease in F1 for all points of articulation and changes in F2 and F3 that vary depending on the point of articulation. It is critical to understand the frequency towards which each formant transition is moving as an obstruction is created, as well as the frequency from which the transition emerges as the obstruction is removed. This frequency appears to be associated with the consonantal place and manner, and indifferent vowel contexts, it appears to be roughly the same. As a result, for each consonant, each formant has a "target" frequency that the listener can use to help identify the consonant.

According to (Kelly, 2001), it looks at pronunciation in terms of its constituent parts. Kelly defined pronunciation as having two main components: phonemes (segmental features) and supra-segmental features. However, the consonant /t/ and /d/ are affected by the terms fortis (strong) and lenis (weak), or sometimes mentioned earlier can be voiced or voiceless, which can be described in terms of the manner and place of articulation.

When it comes to consonants/t/ and/d/, the place of articulation is alveolar. Alveolar sounds are produced by raising the tip of the tongue towards the ridge that is directly behind the upper front teeth, known as the alveolar ridge. On the other hand, plosives are sounds produced by the complete closure of the mouth, causing the air to be blocked for a fraction of a second before being released with a small burst of sound, which is known as a plosion (it sounds like a very small explosion).



This analysis can be carried out by conducting an acoustic phonetics study with PRAAT and comparing the accuracy of the teacher's pronunciation of consonants/-t/and/-d/at final position to identify factors causing pronunciation errors. Praat, on the other hand, was intended to assume strong phonetics for users while also providing a clear visual presentation of operational procedures. Praat was invented in 1992 by Paul Boersma and David Weenink of the University of Amsterdam's Institute of Phonetics Sciences. Praat enables the analysis of various aspects of speech, such as pitch, formant, intensity, and voice quality. The formant frequencies were extracted and the sizes of formants F1 and F2 were measured using spectrograms.

Furthermore, to support this aim, previous studies have been used to give guidelines for conducting this research. They are chosen randomly to be presented here. (Lapusza and Syatroh, 2019) in the title "Phonological Errors Between Javanese And Sundanese Of Bilabial And Labio-Dental Sounds In Tongue Twister Activity." It conducted a study on fifth-semester IKIP Siliwangi Bandung students aged twenty to twenty-one (four males and six females). This paper aims to prove the assumptions about Javanese people, who are famous for their Bedok sounds, and about Sundanese people's difficulties in saying f and v. The writers use qualitative methods with descriptive qualitative design. The result of that research was that Javanese people had 57% phonological errors in bilabial sounds and Sundanese people had 59% phonological errors in labio-dental sounds.

Another research is (Widya and Agustiana, 2020) It is titled "English Vowels Pronunciation Accuracy: an Acoustic Phonetics Study with PRAAT". Speech production is acoustically using PRAAT software and by taking minimal pairs as research data. The results showed that, out of four participants, there was only one person who could correctly distinguish front and back vowels, while the other three participants failed to distinguish them at certain vowel sounds. And then (Abdul-Kadir, Sudirman and Safri, 2010) in the title "Modelling of the Arabic Plosive Consonants Characteristics based on Spectrogram". And then (Susilawati and Putri, 2018): Their title is "Derivation And Affixation Process In The Speech Of Dananjaya Hettiarachchi". They discussed the derivation and affixation processes in English speech. From the data collection, the researchers found that adjective formation is the most commonly used in the derivational process, which consists of six variations in 13 words.

The next research (Wulandari, Rodliyah and Fatimah, 2018) in her research "Using PRAAT for Analysing Segmental Features of Speech Produced by the Students of English Study Program of Universitas Brawijaya." The result of this research reveals that due to the lack of how to disambiguate the correct pronunciation of vowel sounds within the given words the participant tends to produce inaccurate pronunciation. Which are reflected by the result of the spectrum score range: F1 and F2. Some proposed techniques of teaching segmental were drilling, teaching minimal pairs, chanting with jazz chant, and rhyming with tongue twisters, to modify learners' segmental features.

Overall, the focus of this research was to compare the accuracy of English teachers' pronunciation of English consonants/t/and/d/in the final position to the standard pronunciation of native English speakers and to identify factors causing pronunciation errors. Teachers have an important role in the learning process and give learners' output skills, so this research wants to see how far as the expertise of teachers goes and be aware of the pronunciation of consonants/t/and/d/in final position. It will be discovered by comparing the sounds of native and non-native speakers acoustically. And we hoped to be useful for future language learning in terms of pronunciation, especially past sentences.



#### METHOD

This respondents were Indonesian English teachers who were teaching in a formal school or university. They have been teaching for more than two years as a professional teacher and have an educational background in English language. Aside from that, there are differences among subjects, such as different places of living with varying degrees of skill, habits, and teaching levels. The variation comes from the writers' desire to make them representative of the population of English teachers who wish to be researched. This study was carried out in their rooms, with their smartphones serving as a tool.

This study was analyzed using an acoustic-phonetic approach, using a computer program phonetic analysis (PRAAT) as a tool to analyze the accuracy of the phonemes. The data discovered is recordings of the respondents' voices after they said it in the Jotform application. The information was gathered from the questioners who participated by sending personal messages.

To deal with the issue, this study used a descriptive qualitative method based on empirically observed facts or phenomena among the users. This research was conducted in three stages: (1) data collection, (2) data analysis, and (3) result presentation.

The first step has been completed: categorizing words to be recorded. The words chosen are words that the respondents are familiar with and contain the consonants/t/and/d/in final position. The total number of words classified is five, with five words, five phrases, and four sentences related to the problem.

The second step is that the writer will then share the link to the objects via personal (primary source) to record the voice of the object when the English words and phrases are pronounced. Respondents were asked to read the words in the word table once and record them. It is hoped that the object will read naturally. Recordings can be made by using a recording or mobile phone using the Jotform application. After the recorded data is collected, the data is then analyzed in the Praat application. Before being analyzed using Praat, the recorded sound data is converted into WAV format. This is because the Praat application can only analyze voice recordings in WAV format.

The third step is to analyze the recorded data using Praat. The researcher analyzed the size of the sound obtained from the respondents based on the acoustic-phonetic components in the spectrogram window. Furthermore, the results of the component sizes are inputted into Microsoft Excel to identify the average accuracy of the resulting data components. Then the results are made into a percentage using Microsoft Excel. In the final analysis, the researchers formulated the data analysis result.

#### **RESULTS AND DISCUSSION**

#### Results

As previously stated, this section displays and analyzes the speech characteristics of English teachers in Indonesia. The speech features are tabulated in a graphic created with PRAAT software. The following tables show the tabulation results of the graphic form of both a native English speaker and the teachers' speech features.



No	Word	Formant 1	Formant 2
1	Parked	967 Hz	1821 Hz
2	Stayed	950 Hz	1918 Hz
3	Returned	977 Hz	1861 Hz
4	Watched	1338 Hz	1845 Hz
5	Seated	948 Hz	1838 Hz
6	Ragged	1019 Hz	1853 Hz
7	Finished	1071 Hz	1843 Hz
8	Laughed	1115 Hz	1810 Hz
9	Wicked	1030 Hz	1911 Hz
10	Attended	1078 Hz	1898 Hz
11	Aged	1063 HZ	2170 Hz
12	Event	985 Hz	1828 Hz
13	Wreatched	999 Hz	1777 Hz
14	Invited	596 Hz	1755 Hz

 Table 1

 The tabulation result of the native speaker's speech features

The spectrogram used in this study has a spectrogram range setting of 0–5000 Hz. This tool is used to categorize recorded data based on consonant/t and/or/d at the final position. We got the sound of native speakers' from U-Dictionary, in the US version, The component measurement results are then entered into Microsoft Excel to calculate the average size of the resulting components based on word choice.

The research gives grey as the color of the table result. That is of significance if the teachers' pronouncements are almost identical to native speakers. Not only that one, but also the research gives circle to the data that shows signing for those who falsely pronounce the plosive of consonants/-t/and/-d/, and for the data that gives strip, it is for signing that the teachers didn't pronounce the plosive of consonants/-t/and/-d/at final position.

<u>Respondent 1</u>	
From	: Jakarta
Teaching level	: Preschool
Teaching period	: 9 years
Activity using English	: Teaching in the class
Total almost perfect	: 8 words

		Table					
The tabulation result of the teacher 1 speaker's speech features							
No	Word	Native speaker		Teacher 1			
No	Word	(F1)	(F2)	(F1)	(F2)		
1	Parked	967 Hz	1821 Hz	546 Hz	1794 Hz		
2	Stayed	950 Hz	1918 Hz	599 Hz	2066 Hz		
3	Returned	977 Hz	1861 Hz	803 Hz	1682 Hz		
4	Watched	1338 Hz	1845 Hz	774 Hz	2261 Hz		
5	Seated	948 Hz	1838 Hz	1289 Hz	2332 Hz		
6	Ragged	1019 Hz	1853 Hz	591 Hz	1949 Hz		

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7	Finished	1071 Hz	1843 Hz	694 Hz	1619 Hz
8	Laughed	1115 Hz	1810 Hz	616 Hz	1433 Hz
9	Wicked	1030 Hz	1911 Hz	707 Hz	1527 Hz
10	Attended	1078 Hz	1898 Hz	749 Hz	1875 Hz
11	Aged	1063 HZ	2170 Hz	913 Hz	2618 Hz
12	event	985 Hz	1828 Hz	682 Hz	1941 Hz
13	Wreatched	999 Hz	1777 Hz	617 Hz	2374 Hz
14	Invited	596 Hz	1755 Hz	606 Hz	1279 Hz

## **Respondent 2**

From	: Jawa Timur
Teaching level	:-
Teaching period	: 2,5 years
Activity using English	: Teaching in the class, Daily conversation, Formal conversation
Total almost perfect	: 7 words

		Ladie	e 1.3				
The tabulation result of the teacher 2 speaker's speech features							
No	Word	Native speaker		Teacher 2			
INU	woru	(F1)	(F2)	(F1)	(F2)		
1	Parked	967 Hz	1821 Hz	916 Hz	1444 Hz		
2	Stayed	950 Hz	1918 Hz	499 Hz	1743 Hz		
3	Returned	977 Hz	1861 Hz	649 Hz	1475 Hz		
4	Watched	1338 Hz	1845 Hz	1001 Hz	2527 Hz		
5	Seated	948 Hz	1838 Hz	876 Hz	2279 Hz		
6	Ragged	1019 Hz	1853 Hz	723 Hz	1686 Hz		
7	Finished	1071 Hz	1843 Hz	905 Hz	2586 Hz		
8	Laughed	1115 Hz	1810 Hz	1088 Hz	2278 Hz		
9	Wicked	1030 Hz	1911 Hz	1471 Hz	2334 Hz		
10	Attended	1078 Hz	1898 Hz	670 Hz	1699 Hz		
11	Aged	1063 HZ	2170 Hz	655 Hz	2089 Hz		
12	event	985 Hz	1828 Hz	1013 Hz	2182 Hz		
13	Wreatched	999 Hz	1777 Hz	709 Hz	2265 Hz		
14	Invited	596 Hz	1755 Hz	607 Hz	1245 Hz		

Table 1.3
The tabulation result of the teacher 2 speaker's speech features

## **Respondent 3**

From
Teaching level
Teaching period
Activity using English
Total almost perfect

: Jakarta
: Elementary school
: 6 years
. Taashing in the aloo

: Teaching in the class

: 8 words

The tabulation			speech features	
Word	Native	speaker	Teac	cher 3
woru	(F1)	(F2)	(F1)	(F2)
Parked	967 Hz	1821 Hz	626 Hz	2170 Hz
	Word	The tabulation result of the teacWordNative(F1)	Word <u>Native speaker</u> (F1) (F2)	The tabulation result of the teacher 3 speaker's speech featuresWordNative speakerTeach(F1)(F2)(F1)

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2	Stayed	950 Hz	1918 Hz	433 Hz	1970 Hz
3	Returned	977 Hz	1861 Hz	778 Hz	1401 Hz
4	Watched	1338 Hz	1845 Hz	623 Hz	2111 Hz
5	Seated	948 Hz	1838 Hz	636 Hz	1962 Hz
6	Ragged	1019 Hz	1853 Hz	838 Hz	1971 Hz
7	Finished	1071 Hz	1843 Hz	584 Hz	1994 Hz
8	Laughed	1115 Hz	1810 Hz	798 Hz	1870 Hz
9	Wicked	1030 Hz	1911 Hz	787 Hz	2124 Hz
10	Attended	1078 Hz	1898 Hz	655 Hz	1958 Hz
11	Aged	1063 HZ	2170 Hz	653 Hz	1619 Hz
12	event	985 Hz	1828 Hz	765 Hz	1973 Hz
13	Wreatched	999 Hz	1777 Hz	651 Hz	2054 Hz
14	Invited	596 Hz	1755 Hz	519 Hz	2377 Hz

## **Respondent 4**

Teaching level	
Teaching period	
Activity using English	
Total almost perfect	

: Jakarta

: Kindergarten

: 5 years

: Teaching in the class, Daily conversation

: 2 words

#### Table 1.5

No	Word	Native speaker		Teacher 4	
INO	woru	(F1)	(F2)	(F1)	(F2)
1	Parked	967 Hz	1821 Hz	507 Hz	816 Hz
2	Stayed	950 Hz	1918 Hz	581 Hz	1768 Hz
3	Returned	977 Hz	1861 Hz	646 Hz	2221 Hz
4	Watched	1338 Hz	1845 Hz	670 Hz	787 Hz
5	Seated	948 Hz	1838 Hz	548 Hz	788 Hz
6	Ragged	1019 Hz	1853 Hz	437 Hz	911 Hz
7	Finished	1071 Hz	1843 Hz	545 Hz	775 Hz
8	Laughed	1115 Hz	1810 Hz	675 Hz	737 Hz
9	Wicked	1030 Hz	1911 Hz	560 Hz	2079 Hz
10	Attended	1078 Hz	1898 Hz	544 Hz	908 Hz
11	Aged	1063 HZ	2170 Hz	320 Hz	559 Hz
12	event	985 Hz	1828 Hz	552 Hz	1033 Hz
13	Wreatched	999 Hz	1777 Hz	455 Hz	734 Hz
14	Invited	596 Hz	1755 Hz	459 Hz	724 Hz

## <u>Respondent 5</u>

From	: Jakarta
Teaching level	: Intermediate
Teaching period	: 11 years
Activity using English	: Teaching in the class, Daily conversation, Formal conversation
Total almost perfect	: 5 words



	The tabulation result of the teacher 5 speaker's speech features						
No	Word	Native speaker		Teacher 5			
INO	woru	(F1)	(F2)	(F1)	(F2)		
1	Parked	967 Hz	1821 Hz	944 Hz	2143 Hz		
2	Stayed	950 Hz	1918 Hz	842 Hz	1894 Hz		
3	Returned	977 Hz	1861 Hz	1261 Hz	2265 Hz		
4	Watched	1338 Hz	1845 Hz	634 Hz	1941 Hz		
5	Seated	948 Hz	1838 Hz	541 Hz	1953 Hz		
6	Ragged	1019 Hz	1853 Hz	646 Hz	1921 Hz		
7	Finished	1071 Hz	1843 Hz	622 Hz	2440 Hz		
8	Laughed	1115 Hz	1810 Hz	676 Hz	2380 Hz		
9	Wicked	1030 Hz	1911 Hz	568 Hz	2510 Hz		
10	Attended	1078 Hz	1898 Hz	518 Hz	2233 Hz		
11	Aged	1063 HZ	2170 Hz	736 Hz	2461 Hz		
12	event	985 Hz	1828 Hz	693 Hz	2407 Hz		
13	Wreatched	999 Hz	1777 Hz	666 Hz	2409 Hz		
14	Invited	596 Hz	1755 Hz	524 Hz	2454 Hz		

Table 1.6

#### **Respondent 6** From : Jakarta Teaching level : Advanced Teaching period : 10 years Activity using English : Teaching in the class Total almost perfect : 8 words

	1	Table	17		
	The tabulation re			speech features	
No	Word	Native speaker		Teacher 6	
NU	woru	(F1)	(F2)	( <b>F1</b> )	<b>(F2)</b>
1	Parked	967 Hz	1821 Hz	-	-
2	Stayed	950 Hz	1918 Hz	990 Hz	2077 Hz
3	Returned	977 Hz	1861 Hz	690 Hz	1758 Hz
4	Watched	1338 Hz	1845 Hz	1095 Hz	2163 Hz
5	Seated	948 Hz	1838 Hz	842 Hz	1861 Hz
6	Ragged	1019 Hz	1853 Hz	1116 Hz	2180 Hz
7	Finished	1071 Hz	1843 Hz	619 Hz	1987 Hz
8	Laughed	1115 Hz	1810 Hz	-	-
9	Wicked	1030 Hz	1911 Hz	903 Hz	2397 Hz
10	Attended	1078 Hz	1898 Hz	726 Hz	2109 Hz
11	Aged	1063 HZ	2170 Hz	897 Hz	2306 Hz
12	event	985 Hz	1828 Hz	1181 Hz	1353 Hz
13	Wreatched	999 Hz	1777 Hz	431 Hz	1847 Hz
14	Invited	596 Hz	1755 Hz	426 Hz	1369 Hz



Respondent 7	
From	: Jakarta
Teaching level	: University
Teaching period	: 5 years
Activity using English	: Teaching in the class
Total almost perfect	: 5 words

#### Table 1.8

2         Stayed         950 Hz         1918 Hz         775 Hz         2168 Hz           3         Returned         977 Hz         1861 Hz         491 Hz         2195 Hz           4         Watched         1338 Hz         1845 Hz         774 Hz         2311 Hz           5         Seated         948 Hz         1838 Hz         667 Hz         1892 Hz		The tabulation result of the teacher 7 speaker's speech features					
(F1)(F2)(F1)(F2)1Parked967 Hz1821 Hz799 Hz1682 Hz2Stayed950 Hz1918 Hz775 Hz2168 Hz3Returned977 Hz1861 Hz491 Hz2195 Hz4Watched1338 Hz1845 Hz774 Hz2311 Hz5Seated948 Hz1838 Hz667 Hz1892 Hz6Ragged1019 Hz1853 Hz814 Hz1849 Hz7Finished1071 Hz1843 Hz738 Hz2345 Hz8Laughed1115 Hz1810 Hz1114 Hz2355 Hz9Wicked1030 Hz1911 Hz697 Hz1995 Hz10Attended1078 Hz1898 Hz412 Hz2088 Hz11Aged1063 HZ2170 Hz618 Hz2842 Hz12event985 Hz1828 Hz608 Hz2402 Hz	Na	Native		speaker	I		
2         Stayed         950 Hz         1918 Hz         775 Hz         2168 Hz           3         Returned         977 Hz         1861 Hz         491 Hz         2195 Hz           4         Watched         1338 Hz         1845 Hz         774 Hz         2311 Hz           5         Seated         948 Hz         1838 Hz         667 Hz         1892 Hz           6         Ragged         1019 Hz         1853 Hz         814 Hz         1849 Hz           7         Finished         1071 Hz         1843 Hz         738 Hz         2345 Hz           8         Laughed         1115 Hz         1810 Hz         1114 Hz         2355 Hz           9         Wicked         1030 Hz         1911 Hz         697 Hz         1995 Hz           10         Attended         1078 Hz         1898 Hz         412 Hz         2088 Hz           11         Aged         1063 HZ         2170 Hz         618 Hz         2842 Hz           12         event         985 Hz         1828 Hz         608 Hz         2402 Hz	INO	word	(F1)	(F2)	(F1)	(F2)	
3         Returned         977 Hz         1861 Hz         491 Hz         2195 Hz           4         Watched         1338 Hz         1845 Hz         774 Hz         2311 Hz           5         Seated         948 Hz         1838 Hz         667 Hz         1892 Hz           6         Ragged         1019 Hz         1853 Hz         814 Hz         1849 Hz           7         Finished         1071 Hz         1843 Hz         738 Hz         2345 Hz           8         Laughed         1115 Hz         1810 Hz         1114 Hz         2355 Hz           9         Wicked         1030 Hz         1911 Hz         697 Hz         1995 Hz           10         Attended         1078 Hz         1898 Hz         412 Hz         2088 Hz           11         Aged         1063 HZ         2170 Hz         618 Hz         2842 Hz           12         event         985 Hz         1828 Hz         608 Hz         2402 Hz	1	Parked	967 Hz	1821 Hz	799 Hz	1682 Hz	
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5Seated948 Hz1838 Hz667 Hz1892 Hz6Ragged1019 Hz1853 Hz814 Hz1849 Hz7Finished1071 Hz1843 Hz738 Hz2345 Hz8Laughed1115 Hz1810 Hz1114 Hz2355 Hz9Wicked1030 Hz1911 Hz697 Hz1995 Hz10Attended1078 Hz1898 Hz412 Hz2088 Hz11Aged1063 HZ2170 Hz618 Hz2842 Hz12event985 Hz1828 Hz608 Hz2402 Hz	3	Returned	977 Hz	1861 Hz	491 Hz	2195 Hz	
6Ragged1019 Hz1853 Hz814 Hz1849 Hz7Finished1071 Hz1843 Hz738 Hz2345 Hz8Laughed1115 Hz1810 Hz1114 Hz2355 Hz9Wicked1030 Hz1911 Hz697 Hz1995 Hz10Attended1078 Hz1898 Hz412 Hz2088 Hz11Aged1063 HZ2170 Hz618 Hz2842 Hz12event985 Hz1828 Hz608 Hz2402 Hz	4	Watched	1338 Hz	1845 Hz	774 Hz	2311 Hz	
7         Finished         1071 Hz         1843 Hz         738 Hz         2345 Hz           8         Laughed         1115 Hz         1810 Hz         1114 Hz         2355 Hz           9         Wicked         1030 Hz         1911 Hz         697 Hz         1995 Hz           10         Attended         1078 Hz         1898 Hz         412 Hz         2088 Hz           11         Aged         1063 HZ         2170 Hz         618 Hz         2842 Hz           12         event         985 Hz         1828 Hz         608 Hz         2402 Hz	5	Seated	948 Hz	1838 Hz	667 Hz	1892 Hz	
8Laughed1115 Hz1810 Hz1114 Hz2355 Hz9Wicked1030 Hz1911 Hz697 Hz1995 Hz10Attended1078 Hz1898 Hz412 Hz2088 Hz11Aged1063 HZ2170 Hz618 Hz2842 Hz12event985 Hz1828 Hz608 Hz2402 Hz	6	Ragged	1019 Hz	1853 Hz	814 Hz	1849 Hz	
9         Wicked         1030 Hz         1911 Hz         697 Hz         1995 Hz           10         Attended         1078 Hz         1898 Hz         412 Hz         2088 Hz           11         Aged         1063 HZ         2170 Hz         618 Hz         2842 Hz           12         event         985 Hz         1828 Hz         608 Hz         2402 Hz	7	Finished	1071 Hz	1843 Hz	738 Hz	2345 Hz	
10Attended1078 Hz1898 Hz412 Hz2088 Hz11Aged1063 HZ2170 Hz618 Hz2842 Hz12event985 Hz1828 Hz608 Hz2402 Hz	8	Laughed	1115 Hz	1810 Hz	1114 Hz	2355 Hz	
11Aged1063 HZ2170 Hz618 Hz2842 Hz12event985 Hz1828 Hz608 Hz2402 Hz	9	Wicked	1030 Hz	1911 Hz	697 Hz	1995 Hz	
<b>12</b> event 985 Hz 1828 Hz 608 Hz 2402 Hz	10	Attended	1078 Hz	1898 Hz	412 Hz	2088 Hz	
	11	Aged	1063 HZ	2170 Hz	618 Hz	2842 Hz	
13         Wreatched         999 Hz         1777 Hz         707 Hz         1886 Hz	12	event	985 Hz	1828 Hz	608 Hz	2402 Hz	
	13	Wreatched	999 Hz	1777 Hz	707 Hz	1886 Hz	
14         Invited         596 Hz         1755 Hz         461 Hz         2629 Hz	14	Invited	596 Hz	1755 Hz	461 Hz	2629 Hz	

#### **Respondent 8**

: Jakarta
: Primary and upper secondary
: 4 years
: Teahing in the class, Daily conversation, Formal conversation
: 5 words

	The tabulation result of the teacher 8 speaker's speech features						
No	Ward	Native speaker		Teacher 8			
No	Word	(F1)	(F2)	(F1)	(F2)		
1	Parked	967 Hz	1821 Hz	809 Hz	2104 Hz		
2	Stayed	950 Hz	1918 Hz	709 Hz	2123 Hz		
3	Returned	977 Hz	1861 Hz	-	-		
4	Watched	1338 Hz	1845 Hz	610 Hz	1952 Hz		
5	Seated	948 Hz	1838 Hz	765 Hz	1991 Hz		
6	Ragged	1019 Hz	1853 Hz	854 Hz	1633 Hz		
7	Finished	1071 Hz	1843 Hz	735 Hz	2120 Hz		
8	Laughed	1115 Hz	1810 Hz	912 Hz	2088 Hz		

# Table 1.9



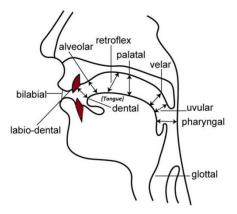
9	Wicked	1030 Hz	1911 Hz	796 Hz	2129 Hz
10	Attended	1078 Hz	1898 Hz	837 Hz	2028 Hz
11	Aged	1063 HZ	2170 Hz	792 Hz	2060 Hz
12	event	985 Hz	1828 Hz	535 Hz	1503 Hz
13	Wreatched	999 Hz	1777 Hz	755 Hz	1882 Hz
14	Invited	596 Hz	1755 Hz	472 Hz	1907 Hz

#### Discussion

The spectrogram's peaks form a pattern known as a formant. There are parameters in the form of formants for the human voice, where the formants in the human voice are not limited in number, but only three formants can be analyzed for research purposes.

When the human vocal cords vibrate, a sound wave with a fundamental frequency of pitch passes through the vocal tract, which includes the larynx, nasal cavity, and oral cavity. When the wave with the fundamental frequency passes through the vocal track, it resonates, resulting in a resonant wave with a frequency different from the fundamental frequency. The formant frequency is the name given to this new resonant frequency. The formant frequency formed in each word has a different value depending on the shape of the vocal track through which it passes.

Using Praat to compare the object's voice to native speakers, it was discovered that some data were incorrect in pronouncing the consonants/t/ and/d/, both in manner and place of articulation, which were circled in red. The placement should be in (Voiceless Alveolar Stop) for consonant /t/ and (Voicel Alveolar Stop) for consonant /d/ but in data, several of them become consonant /k/ (Voiceless Velar Stop) and consonant /tʃ / (Voiceless Palatal Affricate).



Sounds are made by raising the tip of the tongue towards the ridge that is right behind the upper front teeth, called the alveolar ridge. For example, /'watft/ being /'watf/ sounds are made by raising the blade of the tongue towards the part of the palate just behind the alveolar ridge. Another fact is that when the object is pronounced /past/, those sounds are made by raising the back of the tongue towards the soft palate. Then what should sound /'wik?id/ became /' wik /.

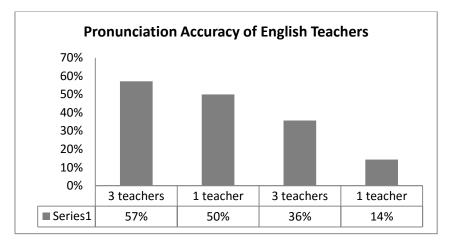
However, we find alveolar phonemes more difficult to produce in regular verbs in the simple past tense, as they did with /-t/ and /-d/. (Rodríguez Ludeña, 2016) explained that to correctly distinguish the three past tense pronunciations in regular verbs, "it is important to pay attention to the pronunciation of the ending of the verb in the infinitive form (not to its writing) and to identify if it is a voiceless sound (the vocal cords do not vibrate) or if it is a voiced sound (vibration of the vocal cords)"



Consonant /t/ and /d/ are affected the terms fortis (strong) and lenis (weak), voiced or voiceless. In order to correctly produce the phonemes/t/,/d/, and /id/, individuals must be able to recognize that /t/ is pronounced after all voiceless consonant phonemes. (/p/, /k/, /f/, / $\theta$ /, /s/, /ʃ/, /tʃ/, [except /t/] and /d/ is produced after all voiced consonant phonemes (/b/, /g/, /v/, / $\partial$ /, /z/, /z/,/dz/, /w/, /j/, /l/, /r/, /m/, /n/ and /ŋ/ [except /d/], and vowels.

From this research, it was also found that there were errors made by English teachers in issuing explosions in the suffixed. That is, when the sound that should be issued is /steed/, the popping sound should be /d/ because the last word in "stay" is a vowel. So that the explosion that should be produced is the sound of /-d/ but what is heard in the object's explosion is /-t/.

What was found again was that some of the words spoken by the English teacher did not have the consonant bursts /-t/ and /-d/in some minimal pairs of words. That is the sound of /rɪ'tə:nd/ and /'læft/ because the sound produced is only the sound of /n/ and /f/ that can be heard at the final position.



According to the data, English teachers in Indonesia pronouncing consonants/t/ and/d/in final position, 3 teachers from 8 teachers pronounce 57% almost the same as native speakers, 1 teacher from 8 teachers pronounce 50% almost the same as native speakers, 3 teachers from 8 teachers pronounce 36% almost the same as native speakers, and the last two teachers pronounce only 14% accuracy when compared to native speakers.

#### CONCLUSION

Based on our findings, we frequently encounter teachers or students who are influenced by a variety of factors:

- 1. Mother language, in which all of our subjects are Indonesian natives, the majority of whom only use English for formal instruction. The teachers were informed of this when filling out the questionnaire and recording it in the Jotform application. When comparing English Teachers in Indonesia to Native Speakers, the intensity is clearly different.
- 2. A error pronounce because of failure to pay attention to the pronunciation of the suffixed during the learning process or in daily conversation.
- 3. Frequently disregard the consonant sounds /t/ and /d/ at the end of the previous word.
- 4. Lack of knowledge of the elements how to pronounce correctly suffix -ed in the past tense.



#### ACKNOWLEDGMENTS

Alhamdulillah, I thank Allah SWT for blessing me with health and the ability to write this article. The researcher would like to thank the following people:

- 1. I am grateful to Ibu, Bapak, and all the families who have morally and materially supported me.
- 2. I am grateful to my lecturer for guiding me, giving me advice, and correcting all of my errors in this article.
- 3. I am grateful to my best friends for always offering me advice and motivation. This article could not have been completed without your assistance.
- 4. I am thankful to my self for everything you've done. I appreciate everything you've done for me. Whether happy or sad, healthy or sick, lucky or unlucky.

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