

AN ANALYSIS OF STUDENTS' PRONUNCIATION MASTERY OF DENTAL FRICATIVE AND ALVEOLAR PLOSIVE SOUNDS

Dede Juliardi, Endang Susilawati, Eusabinus Bunau

English Education Study Program FKIP Untan Pontianak

Emai: dedejuniar@gmail.com, endang.susilawati@fkip.untan.ac.id, eusabinus@yahoo.com

Abstract

The objective of this research was to 1) to know the students' pronunciation mastery of dental fricative [θ] [ð] and alveolar plosive [t] [d] sounds, 2) To find out which sound is the most mispronounced by the students. This research was classified as a descriptive research, in which the research instrument was reading texts. The population of this research was English students in Teacher Training and Education Faculty, Tanjungpura University. The sample of this research was 30 students in Introduction to Linguistics classes. The data were collected through performance test. There were 20 sentences in the reading text with total dental fricative and alveolar plosive sounds phonetic transcription are 1200 transcriptions. The research found that 1) there were 557 correct pronunciations out of 1200 or 54.75%, 2) the percentage of students correct pronunciation was 46.41% with the mean score 43.25%, 3) from 30 students, there were only eight students above score 60 or at least they can pronounce 24 dental fricatives and alveolar plosive sounds out of 40 sounds. The most mispronounced sound was voiced dental fricative sound [ð]. There were 278 incorrect pronunciation out of 300 (92.67%). As a conclusion, the students pronunciation mastery of dental fricative and alveolar plosive sounds were 'fair'.

Keywords: Alveolar Plosive Sounds, Dental Fricative Sounds, Pronunciation Mastery

INTRODUCTION

English, in Indonesia, is studied as the first foreign language. There are three language components that students need to consider in English; they are vocabulary, pronunciation, and grammar. These three components are like the legs of a tripod and need to be studied simultaneously. These components should be applied in the four essential skills, such as listening, speaking, reading, and writing. Speaking skill is included as productive or active skills. Speaking skill, furthermore, is the ability to convey a message orally or in spoken language. In communicating messages in spoken language, learners require to possess proper pronunciation.

Pronunciation is the most important and challenging problem that learners must face

when studying English. According to Sihombing (2014, p.388) mostly students cannot speak fluently because they are lack of pronunciation of how to pronounce the words correctly. Furthermore, she explains that they have difficulty in their conversation comprehending or understanding with someone they talk to because lack of ability to pronounce the words. Pronunciation is essential because proper pronunciation will make effective communication. Pennington and Rogerson-Revell (2019) stated that "pronunciation is a much more important and pervasive feature of communication than is generally recognized" (p.1). Incorrect pronunciation can lead to a negative impression, misunderstanding, and ineffective communication.

Pronunciation is the most important and challenging problem that learners must face when studying English. Mostly the English students in FKIP Untan cannot speak fluently because they are lack of pronunciation of how to pronounce the words correctly. Furthermore, they have difficulty in their conversation comprehending or understanding with someone they talk to because lack of ability to pronounce the words. Pronunciation is essential because proper pronunciation will make effective communication. Incorrect pronunciation can lead to a negative impression, misunderstanding, and ineffective communication.

The difficulty in learning English is caused by many factors but the primary factors are language transfer or L1 interference and intralingual interference. Language transfer refers to speakers or writers use knowledge from one language to another language. Meanwhile, intralingual interference refers to the negative transfer of language items within the target language. According to Richard (2014, p. 5), sentences in the target language may exhibit interference from the mother tongue. Therefore, the purpose of this study are to know the students' pronunciation mastery of dental fricative and alveolar plosive sounds.

Pronunciation has two main features; those are phonemes and suprasegmental features. A phoneme is a unit of sound that distinguishes one word from another in a particular language. Phonemes are divided into two parts: consonants and vowels. Meanwhile, suprasegmental, also called Prosodic Feature, in phonetics, refers to a speech feature such as stress and intonation (Kelly, 2001, p.1). In this research, the researcher focuses on phonemes of consonants features; voiced and unvoiced sounds, especially, dental fricative sounds [θ] [ð] and alveolar plosive sounds [t] [d].

Mostly, the students tend to pronounce /θ/ as /t/ and /ð/ as /d/. For example, students tend to pronounce 'theme' /θi:m/ as 'team' /ti:m/ and 'they' /ðei/ as 'day' /dei/. These words have a

different meaning. If the students pronounce these words inaccurately, then, it can cause misunderstandings. It happened because dental fricative sounds do not exist in Indonesia. Therefore, it is difficult for the students in Indonesia in pronouncing these sounds.

Indonesian and English language have the differences in term of phonological system. According to Tiono and Yostanto (2019) there are six consonantal sounds that do not exist in Indonesian phonetic system – [v], [θ], [ð], [ɜ], [dʒ], [ʃ], and [tʃ]. Furthermore, the way of pronouncing one particular sound may be different based on "the position of the sound in the word" (Prator & Robinett, 1972, pp. 86-88). As an illustration, [t] in 'taking' [ˈteɪkɪŋ] and in 'atom' [ætəm] is pronounced in a different way. It should be noted that when [t] is positioned in the initial position, it is aspirated. However, if it is put in the medial position, it is no longer aspirated. This is called allophones or variants of a phoneme. This fact also contributes to the area of difficulties in learning English.

Pronunciation refer to the production of sounds that we use to make meaning. According to Jack Richard (2002) "pronunciation is the way a certain sound or sounds are produced" (p.429). Hornby (2010) defines pronunciation as the way a language or a particular word or sound is pronounced (p.1175). Based on Dalton and Seidlhofer (2001, p.3) pronunciation is the production of significant sound in two senses. For the first one, it is used as part of a code of a language. For the second, it is used to achieve meaning in the context of use. That is why a word can be spoken in different ways of an individuals or groups based on many factors such as the area in which they grew, the area in which they now live, their education, their social class, whether they have speech or voice disorder, ethnic groups.

In relation to pronunciation, contrastive analysis should be considered since English and Indonesia have certain differences in the speech sound system. The contrastive analysis of speech sound system between English and

Indonesia itself has a close relation toward pronunciation since mother language affects both of English as foreign and second language. The similarities between English and Indonesian will lead into positive transfer, meanwhile the differences will lead into negative transfer or interference. Thus, it could be inferred that both the similarities and the differences in the speech sound system between L1 and L2 have influence toward the pronunciation of English as L2.

The first group is that the group of sounds that do not exist in Indonesian sound system, for example /æ/, /ʌ/, /ɜ:/, /v/, /θ/, and /ð/. The second group is that sounds that exist in L1 and L2 but they have different phonetic feature, such as: 1) Phonetic features /b/, /d/, /g/, /z/, /s/, /ʃ/, and /dʒ/ do not exist in the final positions of Indonesian words, 2) Phonemic features /p/, /t/, /k/ are never aspirated in Indonesian words wherever they occur, 3) Phonemic features /r/ is never pronounced clearly wherever it occur in the words. The third group is that the spelling of English words. For example, /s/ is sometimes pronounced as /z/ in English, and /a/ is also sometimes pronounced as /æ/, /ə/, and /e/. As a result, the L2 learners fail to produce English words fluently and accurately.

According to Kelly (2001, p.9), the twenty-four distinct consonant phonemes of English can be distinguished along three dimensions: voicing (whether or not the vocal cord is vibrated), place of articulation (where the sounds are made), and manner of articulation (how the airflow is affected).

Voicing or phonation is divided into two basic positions, namely voiceless or unvoiced sound and voiced sound. Voiceless sound means when the vocal fold in the larynx is not vibrated, while voiced sound means when the fold in the larynx is vibrated while someone is producing words or sounds.

The place of articulation of a consonant is the specific location of where the obstruction takes place in the vocal tract between a part of the tongue and the top of the mouth together

with the manner of articulation and the voicing or phonation. There are several places of articulation for English consonants, namely; bilabial, labiodental, dental, alveolar, palatals, velar, and glottal.

Fromkin, Rodman and Hyams (2011, p. 196) explains when we produce bilabials [p], [b], or [m] we articulate by bringing both lips together. We also use our lips to form fricatives [f] and [v], we articulate these sounds by touching the bottom lip to upper teeth. Interdentals [θ] and [ð], both spelled th, are pronounced by inserting the tip of the tongue between the teeth. However, for some speakers the tongue merely touches behind the teeth, making a sound more correctly called dental. Alveolars [t], [d] [n], [s], [z], [l] and [r] are pronounced with the tongue raised in various ways to the alveolar ridge. Palatals [ʃ], [ʒ], [tʃ], [dʒ], and [j], the constriction occurs by raising the front part of the tongue to the palate. Velars [k], [g] and [ŋ], another class of sounds is produced by raising the back of the tongue to the soft palate or velum. The initial and final sounds of the words back, bag and bang are all velar sounds. Glottals [h] [ʔ], the sound of [h] is from the flow of air through the open glottis, and past the tongue and lips as they prepare to pronounce a vowel sound, which always follow [h]. If the air is stopped completely at the glottis by tightly closed vocal cords, the sound upon release of the cords is a glottal stop [ʔ].

Manner of articulation is another distinguishing feature of how consonants are produced. If the place of articulation is which speech organs are in which position for a consonant sound to be created, manner of articulation is how those various speech organs interact with each other, providing a further dimension to how consonants are articulated. As mentioned, sounds are produced by air moving from the lungs through the articulatory organs and being released through the oral and nasal passages. Whereas vowel sounds are articulated with a free airflow, consonant sounds involve

some narrowing of the articulatory passageway or some obstruction of the airflow.

In the production of consonant sounds, the air is moving through an obstacle course created by different configurations of the speech organs. As the air encounters these obstacles, different kinds of sounds are produced. The type of obstacle course the air takes referred to as the manner of articulation. There are several manners of articulation for consonants, namely; stop, fricative, affricate, nasal, liquid, and glide.

In English there are 44 phonemes which are consisted by 24 consonants, 12 vowels and eight diphthongs. Consonants are defined phonetically as sounds made by a closure or narrowing in the vocal tract so that the airflow is either completely blocked, or restricted with an audible friction. Consonants are classified according to 1) place of articulation, 2) manner of articulation and 3) voicing or phonation. Different from consonants, vowel is a sound in the production of which the air stream does not meet an obstruction and there is no noise component. Vowels are classified according to; 1) tongue height, 2) tongue position, 3) lip position, and 4) vowel length.

It is important for the learners to study pronunciation correctly because different sound can change the meaning of utterances. Yet, according to Burns (2003, p. 5) it is more important for the learners to achieve intelligibility, comprehensibility, interpretability. Intelligibility refers to the speaker produces sound patterns which are recognizable as English, comprehensibility refers to the listener is able to understand the meaning what is said, and interpretability refers to the listener is able to understand the purpose of what is said. However, in order to achieve the effectiveness of communication between the speaker and the listener, they need to have an accurate pronunciation.

For example, when the speakers intend to say the word 'theme' [θim], but they tend to say it as 'team' [tim]. 'Theme' and 'team' are different in term of sound and meaning. The

word 'theme' has voiceless dental fricative sound [θ] in the initial sound. Meanwhile, the word 'team' has voiceless alveolar plosive sound in the initial sound. Another example, 'worthy' and 'wordy' are also different in the term of sound and meaning. 'worthy' has voiced dental fricative in the medial sound and 'wordy' has voiced alveolar plosive in the medial sound. Therefore, the speakers need to have an accurate pronunciation to avoid misunderstanding between the speaker and the listener.

The researcher used minimal pairs to identify students' pronunciation. Minimal pairs are sets of words or phrases that differ in just one sound and have different meanings in a specific language in the study of the sound system. It is used to differentiate two sounds in a language. Minimal pairs are pairs of words that merely distinct in one phoneme in the same position (Zsiga, 2013; Yule, 2017). As an example, for English consonants, the pair thin and tin can be used to show that the sound [θ] in thin and [t] in tin exemplify the difference between phonemes /θ/ and /t/. An example for English vowels, the pair rich and reach can be used to show that the sound [ɪ] in rich and [i] in reach exemplify the difference between phonemes /ɪ/ and /i/.

In short, accurate pronunciation is really necessary for the learners to learn. Inaccurate pronunciation can make a different sound and meaning in delivering messages. It can cause misunderstanding and ineffective communication between the speaker and the listener. Therefore, to avoid the ineffectiveness of communication, the learners need to have a good pronunciation.

RESEARCH METHOD

In carrying out the research, it is necessary to describe the method that was used to achieve the goal. Various kinds of method can be applied to achieve the goal of the research, and the appropriate one to be used in this research was descriptive research. Knupfer and McLellan (1996) stated that the descriptive research is a research that involves gathering

data that describe events and the organizes, tabulates, depicts, and describes the data collection. Descriptive research also plays an important role in educational research; it is essential to understand the nature and function of such research because educational events cannot be reduced to a controlled laboratory environment. This research applies descriptive research as the form of this research where it uncovers the problems from this research. As the researcher had described on the background that there are some problems faced by students in pronouncing dental fricative consonant and alveolar plosive sounds.

The population of this research is the fourth semester English students of English Study Program in FKIP Untan in academic year 2018/2019. The numbers of students are 57 students. In this research, the researcher uses purposive sampling. The researcher chooses the fourth semester English students which takes Introduction to Linguistics. In this research the researcher selects fifteen students each class. For this purpose, the total number of samples on this research is thirty students. Fifteen students for each class are considered representative to the population being targeted, as Cohen et al, (2005, p.93) stated “a sample size of thirty is held by many to be the minimum number of cases if researchers plan to use some form of statistical analysis on their data”.

In this research, the researcher analyzed the students' pronunciation in dental fricative and alveolar plosive sounds by using minimal pair performance test. The performance test consists of twenty sentences which include dental fricative and alveolar plosive sounds. Gronlund (1977) defined that the performance test is a test that concern with skill outcome (p.87). It focuses on the procedure, the product or some combination of the two. Thus, the performance test mainly focused on testing the students' oral activity than their written as the learning outcome.

The tool of data collection in this research was reading texts which consist of twenty

sentences. Those sentences contain dental fricative [θ] [ð] and alveolar plosive [t] [d] sounds in English words. For example, thigh, tie, then and den. Thigh contains voiceless dental fricative sound, tie contains voiced alveolar plosive, then contains voiced dental fricative and den contains voiced alveolar plosive.

After performance test was conducted, the recorded data were analyzed. There are three ways in analyzing the data:

1. Coding

Coding means to change the information into symbols either letter or in number. It is necessary to organize the data and to make them easier to be analyzed. Here, the researcher is transcribing phonetically the students' pronunciation into phonetic transcription. The students' pronunciation can be identified after listening to the students' pronunciation from the recorded data for several times.

2. Organizing

After the data are coded, then the researcher organizes the data into several divisions based on the pronunciation rubric. In order to measure the pronunciation quality of dental fricative and alveolar plosive consonant sounds. The researcher adapts the criteria as follow:

Table 1 Pronunciation Rubric

Criteria	Symbol
Correct/intelligible	✓
Mispronounce dental fricative consonant sound	✗
Incorrect/mispronounce words	✗

3. Scoring

The next step of the analysis was calculating the students' performance where the researcher looks at the individual score, the

mean score of the total of the students, and then analyzing the criteria to interpret the final data.

Student's Individual Score:

$$x = \frac{\sum Q}{\sum N} \times 100\%$$

x : the student's individual score
 $\sum Q$: the sum of the correct pronunciation
 $\sum N$: the sum of all pronunciation

Student's Mean Score:

$$M1 = \frac{\sum x}{\sum N} \times 100\%$$

$M1$: the students' mean or average score
 $\sum x$: the sum of the student's score
 $\sum N$: the sum of total number of students

Criterion for Interpreting Data

The researcher uses certain criterion to know how good the students pronounce the English dental fricative and alveolar stops. The criterion is as follow:

Table 2. Percentage of Student's Mean Score

Categories	Percentage of Students' Mean Score
Excellent	76% - 100%
Good	51% - 75%
Fair	26% - 50%
Poor	0% - 25%

RESULT AND DISCUSSION

Result

There were 20 sentences which consist 20 dental fricative and 20 alveolar plosive words pronounced by 30 students. Therefore, there were 1200 phonetic pronunciation transcriptions of dental fricative and alveolar plosive words altogether. From those 1200 phonetic transcription, the researcher found that there were 557 correct pronunciations. The rest of it 669 were mispronounced words.

Table 3. The Total Number and Percentage of Students' Pronunciation

Pronunciation	Number	Percentage
Correct	557	46.67%
Incorrect	643	53.58%

According to the categories above, the students' pronunciation of dental fricative and alveolar plosive sounds are considered as "Fair". There are only 8 students with score above 60 or can produce at least 24 dental fricative and alveolar plosive words over 40. It is very low score, where students and teachers need to pay attention to the pronunciation of English consonants because many students still made incorrect pronunciation of [θ], [ð], [t], and [d].

Discussion

Based on each pair that the students have pronounced, the pair of [θ] and [t], [ð] and [d], they all have different numbers of incorrect pronunciation. The first was minimal pair of [θ] and [t]. This pair consists of word thigh and tie, thread and tread, thin and tin, thorn and torn, theme and team, thug and tug, both and boat, death and debt, faith and fate, ether and eater.

In the first part of the total number of students who made incorrect pronunciation of word "thigh" were 23 students and "tie" were 0 students, "thread" were 27 students and "tread" were 21 students, "thin" were 15 and "tin" were 0 students, "thorn" were 17 students and "torn" were 3 students, "theme" were 16 students and "team" were 1 students, "thug" were 15 students and "tug" were 1 students, "both" were 10 students and "boat" were 7 students, "death" were 11 students and "debt" were 21 students, "faith" were 14 students and "fate" were 15 students, "ether" were 28 and "eater" were 6 students.

In the second part of the total number of students who made incorrect pronunciation of word "then" were 23 students and "den" were 5 students, "there" were 23 students and "dare" were 0 students, "breathe" were 30 students and

“breed” were 22 students, “lather” were 30 students and larder were 3 students, “worthy” were 30 students and “wordy” were 1 students, “loathe” were 30 students and “load” were 28 students, “wreathe” were 30 students and “reed” were 30 students, “scythe” were 29 students and “side” were 29 students, “southern” were 26 students and sudden were 26 students.

Based on the data, all the alveolar plosive sounds have lower number than dental fricative words errors, where the total number for incorrect pronunciation of dental fricative is 454 and for alveolar plosive is 227. It happened because dental fricative sounds are not found in Indonesia.

In accordance with the result of the research, the researcher concluded that the fourth semester students of English Department in FKIP Untan have problem in pronouncing dental fricative sounds because the students are confused to distinguished among [θ], [ð], [t] and [d]. This confusion happened because the students are unaware of incorrect pronunciation of the dental fricative and alveolar plosive sounds in English words.

The students were difficult to pronounce words containing dental fricative. It can be seen from the table of number of incorrect pronunciations per word and category that many students made incorrect pronunciations in dental fricative words such as, breathe [brið], lather [ˈlæðər], worthy [ˈwɜrði], loathe [looð], wreathe [rið], scythe [saɪð], reed [rið].

The students tend to generalize the sounds of [t] and [d], and [θ] and [ð]. For example, the word “side” [said] tend to be pronounced as site[sait], “theme” [θim] tend to be pronounced as team [tim] and “load” [lood] tend to be pronounced as [loot].

Besides, it was not familiar for the students to pronounce dental fricative sounds, perhaps the students believe that the pronunciation of those dental fricative and alveolar plosive sounds will not matter very much with the meaning as long as they have the context.

Therefore, they are reluctant to pronounce it correctly even they know it.

CONCLUSION AND SUGGESTION

Conclusion

It was found that from 30 students, only eight students with score above 60 which is considered as “good” in pronouncing dental fricative and alveolar plosive sounds. The mean score from all the students is 43.25 which means the students’ pronunciation of dental fricative and alveolar plosive are “fair”. This research found that the most mispronounced sound by FKIP Untan English Department students was voiced dental fricative sound. There were 278 incorrect pronunciation out of 300 (92.67%). Pronunciation problems faced by the students are the differences between the learners’ language and the target language. The proportion of incorrect pronunciation between each pair of dental fricative and alveolar plosive are different. The incorrect pronunciation of dental fricative sounds is always bigger than the alveolar plosive. In short, the problem happened because there are no dental fricative sounds found in Indonesia. From the mistakes which was found in this research, some students tend to pronounce dental fricative words into alveolar plosive words. The students tend to generalize dental fricative with alveolar plosive. The absence of dental fricatives and alveolar plosive sounds affect the incorrectness of students’ pronunciation.

Suggestion

After observing to the result of data analysis, the researcher would like to provide some suggestions related to the students’ problem in pronouncing dental fricative and alveolar plosive sounds, namely; 1) the first is a book by Gerald Kelly in 2001 entitled “How to Teach Pronunciation”. This book provides the reader the description of speech, teaching pronunciation, the characteristics of vowels and consonants, word and sentence stress, etc, 2) Another book that also recommended for the

students are a book by Elizabeth C. Zsiga in 2013 entitled “The Sounds of Language: An Introduction to Phonetics and Phonology”. This book will help the students in elaborating basic of articulation and phonetic transcription, 3) Besides books, the students can learn from the dictionary software such as Cambridge dictionary and Oxford dictionary or students can learn from the dictionary websites such as dictionary.com and vocabulary.com, 4) the result of this research can be used by English Study Program, especially to the lecturers that will be teaching phonology in Linguistics class so they will have basic information of their students. As students of EESP, the students need to have good pronunciation because they are going to be a teacher and become model for their students.

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