The Analysis of Problems In Pronouncing "Dental" Consonants Produced by The Second Semester Students at Muhammadiyah University of Purworejo In The Academic Year Of 2023/2024

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Abstract, This study aims to find out which kinds of consonant types are most commonly mispronounced by second-semester students in the English education and to find out the problems in pronouncing English consonant of dental (/Ɵ/, /ð/) consonant produced by the second semester students of English education. This research is a descriptive qualitative research The subject of research is the second semester students of English language education. The researchers takes 20 students as sample of the research. To collect the data, the researchers use pronunciation test and questionnaire as the secondary instrument are them self. Based on the finding and data analysis, the researcher finds kinds of consonant dominant error for instance Dental /Ɵ/ in final positions (2.69%) and / ð/ in final positions (2.95%). The majority of students struggle with how to place the tip of the tongue between the upper and lower teeth to produce particular consonants, how to force the air to flow between teeth, and how to change tongue position eventually.

Keywords: /Ɵ/, /ð/ Dental Consonants, Pronunciation, Students Problems

1. Introduction

In the globalization era, English is a language used to communicate with other people universally from different countries, cultures, backgrounds, and ethics around the world. As Wibowo (as cited in [1]), language is one of the distinctive characteristics of human beings as a symbol of sound that is meaningful and it produced by arbitrary and customary speech, which is used as a communication tool by a group of people to express feelings and thoughts. Language helps people in the world to communicate and express ideas, thoughts, and feelings from one person to another [2]. It means that It is a powerful tool that enables individuals to not only express themselves but also to interact, negotiate, and build relationships with others.

The other side, English holds an important part in human life and contributes to all aspects, such as; social, politic, culture, technology, economic, education, and so on. English is important to study [3]. It helps people to communicate with other people all over the world. As the foreign language in Indonesia, Indonesian government has decided that English is one of subject curriculums in Indonesian school as cited in [4]. It becomes a local content in elementary school, a compulsory subject of the higher education institution. Therefore, the teaching of English in Indonesia has become increasingly important.

In learning English, there are four basic skills which should be comprehend by the students, they are; English grammar, vocabulary for communicative purposes in English,

and pronunciation of English utterance [5], [6]. Fraser states (as cited in [7]) when communicating in English, it's essential to master grammar, vocabulary, and pronunciation. pronunciation is essential to be learned. Having good pronunciation skills is crucial for effective communication [8]. It is not only helping us convey our ideas clearly but also playing a significant role in how others assess our overall language proficiency. Due to its importance, many universities include pronunciation practice in their English language curriculum for students pursuing an English major [7], [8].

English learners sometimes make mistake in production English sounds and It is known as English pronunciation is difficult to learn [9]. Student need to know more how to pronounce the sounds or particular sounds of English in natural speech, sound combination on with putting particular sounds in particular positions [10].

English sounds can classify into several categories, they are vowel, consonant, and diphthong [11], [12], [13]. Meanwhile, the other expertise have differ insight about pronunciation English consonant, it has various ways and classified into three types. They are a) based on place where the optimum obstruction takes place, b) based on the way in which the air is obstructed by the articulators, c) based on activity of the vocal cords, voiced and voiceless consonants [14], [15].

Based on the result of preleminiary study focusing on the second semester students at muhammadiyah university of purworejo in the academic year of 2023/2024, researchers encountered that during observed phase some students often made mistake in producing English consonants. For example, when a student met the word "cause" he pronounce /kos/, that should be pronounced as /kôz/. It seems that some students have difficulty in pronouncing English during the learning process and strugle in comprehend the pronunciation particularly in tounge position was still a serious problem for the student.

In line with the statement above, the researchers thought that it is important to explore more about the students problem in pronouncing English sound especially the way producing dental consonant in order to help their students in pronouncing them and even new sounds found in the target language.

2. Method

There are six main topics discussed here. Those are research design, data and data source, instrument of the research, technique of collecting data, and technique of analyzing data.

Qualitative research is descriptive, in natural setting and concern in process [16]. another expert explains that qualitative research is a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem through cultural diversity [17], [18]. It is a subjective method that yields a wealth of contextualized data by means of conducting interviews, observations, and participation [18].

The researcher uses descriptive qualitative research. Information about the current situation and the true condition are combined with the descriptive method.

The data and data Source of this study are as follows:

Dental
/Ɵ/   voiceless dental fricative
/ð/   voiced dental fricative

Then, the kind consonants above going to pronounced by 20 students in the second semester of English language education program of Muhammadiyah University of Purworejo in academic year 2022/2023.

An expert defines that research instruments are tools or facilities used by researchers in collecting data so that their work is easier and the results are better, in the sense that they are more accurate, complete and systematic so that they are easier to process [19]. Meanwhile, another definition related qualitative research revealed that the instrument is the researcher themselves [16]. Therefore, in this study researcher used three kinds of instrument. The main instrument is the researcher herself and the supporting instruments are pronunciation test and questionnaire. Thus, the researcher should be validated by herselves and assited by Aura Ai with ToTranscript Application to describe students ability in conducting research. I collecting data, the researcher uses pronunciation test. from dental (/Ɵ/, /ð/).

The role of the researcher in qualitative research is to gather participants' thoughts and emotions, which depends on the method of data collection to gain insight in a research [20]. In line with the theory above here are the steps in collecting the data:
First, the researchers prepares permission to conduct the research. Then prepare the words that must be read and pronounced by students. Then, the researcher instructs students to record during reading the words of consonants after that the students send the recording file to the researcher. The last the researcher instructs the students fill out the questionnaire that has been prepared.

After the researcher collecting the data, the data would be processed utilizing two kind of software application namely Auris AI and ToPhonetics Application to assist researcher in analyzing the data and providing reliable the research result analysis. The steps are follows:
Identifying the students of tongue position error, evaluating the pronunciation, classifying of tongue position error using the formula $X = (\Sigma\ Er)/(\Sigma\ W)\ X\ 100\%$. In which:
X : the percentage of error, Er : various kind of error, W : words Σ : the total number, and explaining the students of tongue position error.

3. Findings

After collecting and analyzing the data, it was discovered that some students made error while producing consonant Dental (/Ɵ/, /ð/). The data distribution can be seen in Table 1.1. The researcher then calculated the proportion of students' pronunciation ability in pronouncing lists of words given to them. The formula for calculating the percentage of students' ability is as follows:

$X = (\Sigma\ Er)/(\Sigma\ W)\ X\ 100\%$

In which:
X: The percentage of error, Er : Various kind of error, W : Words, Σ : The
     total number.

Table 1.1. Respondent Result of Pronunciation

No	Respondent	Respondent Pronunciation			
		Correct		Incorrect	
		Number	Percentage (%)	Number	Percentage (%)
1	ST -1	76	97%	2	3%

2	ST -2	57	73%	21	27%
3	ST -3	58	74%	20	26%
4	ST -4	65	83%	13	17%
5	ST -5	62	79%	16	21%
6	ST -6	57	73%	21	27%
7	ST -7	59	76%	19	24%
8	ST -8	60	77%	18	23%
9	ST -9	62	79%	16	21%
10	ST -10	60	77%	18	23%
11	ST -11	61	78%	17	22%
12	ST -12	54	69%	24	31%
13	ST -13	57	73%	21	27%
14	ST -14	65	83%	13	17%
15	ST -15	75	96%	3	4%
16	ST -16	53	68%	25	32%
17	ST -17	65	83%	13	17%
18	ST -18	55	71%	23	29%
19	ST -19	39	50%	39	50%
20	ST -20	62	79%	16	21%

a. Students' Problem in Pronouncing of Dental Consonants

As stated in [21] in order to correctly pronounce dental consonants, the tongue blade should be placed behind the upper teeth. Moreover, for the two dental fricatives, the top front teeth act as the passive articulator, while the active articulator is the tip of the tongue [21]. Related to this theory, here are the results of students pronouncing in Dental Consonant:

1) Producing Dental Consonant /Ө/

Dental Consonant	Consonant Position	List of Words	Respondent Pronunciation				Average of incorrect
			Correct		Incorrect		
			Number	Percentage (%)	Number	Percentage (%)	
/θ/	Initial	Thick	20	100%	0	0%	1.25%
		Theme	7	35%	13	65%	
		Thing	13	65%	7	35%	
	Medial	Within	12	60%	8	40%	1.60%
		Nothing	11	55%	9	45%	
		Something	12	60%	8	40%	
	Final	Teeth	5	10%	12	80%	2.69%
		With	4	20%	16	80%	
		North	6	90%	11	70%	

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To delve deeper into the difficulties experienced by the participants in pronouncing the consonant /Ɵ/, the researchers distributed questionnaires among them. The results revealed that 13 out of 20 respondents had a basic understanding of pronouncing dental consonants accurately. However, the remaining students were still confused and made mistakes in positioning their tongue. This finding is supported by the students' statements:

"I find it difficult to pronounce the word "Health", because the position of the tongue and mouth always changes. If it's not true, then it could be "head"
"In my opinion, the word Health may be quite difficult because the position of the tongue must be specific."
"When I pronounce the word Within, it's hard to put my tongue in the right position."
"In my opinion, it is difficult to pronounce and emphasize the consonant " Ɵ " in the words Health, Theme and Thick."

The research discovered that participants experienced confusion and hesitation while placing their tongues due to their lack of familiarity with pronouncing stressed words containing the consonant /Ɵ/, whether it was at the beginning, middle, or end of the word. Despite being familiar with these words, respondents found it challenging to produce them.

2) Producing Dental Consonant /ð/

Dental Consonant	Consonant Position	List of Words	Respondent Pronunciation				Average of Incorrect
			Correct		Incorrect		
			Number	Percentage (%)	Number	Percentage (%)	
/ð/	Initial	That	19	95%	1	5%	0.13%
		That	20	100%	0	0%	
		This	19	95%	1	5%	
	Medial	whether	13	65%	7	35%	0.00%
		Leather	15	75%	5	35%	
		Father	18	90%	2	10%	
	Final	Smooth	4	20%	16	80%	2.95%
		Breathe	3	15%	17	85%	
		Clothe	9	45%	11	55%	

According to the findings from the distribution of questionnaires, 75% of the respondents demonstrated a solid grasp of the basic pronunciation of the consonant /ð/. However, some respondents still encountered challenges in distinguishing the correct tongue position when pronouncing these consonants. Below are some of the responses provided by the respondents regarding their difficulties in this area.

"In my opinion, the word Leather is difficult to pronounce, because when you pronounce the first syllable, the position of the tongue is in the middle between the upper and lower teeth, so the vocabulary becomes less clear or the emphasis is less than optimal."
"I feel confused when saying the word Than because sometimes it is read "then" or "than"
"The word that is difficult for me to pronounce is Clothe. Because the pronunciation after the letter "L" then "th" is sometimes difficult to pronounce."

"In my opinion, the word Breathe is quite difficult to pronounce. Because it's hard not to pronounce/disguise the letter "R".

In accordance with the aforementioned statement, students seem to struggle with pronouncing words that contain the consonant /ð/.

4. Discussion

Based on the data, it was found that the position of the tongue in pronunciation influences the accuracy of the words spoken, such as the consonant /Ɵ/ with the position of the tongue between the upper and lower teeth and sticking thinly to the upper teeth accompanied by air being forced out through the narrow gap between the tongue and upper teeth which tends to change to / t/ with the tongue positioned tightly against the upper teeth and an explosion of air occurs due to the cessation of air flow in certain areas of articulation, so that the air is blocked and creates a sound. Since, the students' ability to control the size of the air they expel remains to be developed.

The consonant /ð/ also changes, the position of the tip of the tongue should be between the upper teeth by sticking to the upper teeth and accompanied by a burst of air coming out of a narrow gap, but the position of the tip of the tongue changes by sticking to the roof of the mouth making the sound also change to /d/ . This is often found, especially in words where the consonant /ð/ is at the end of the word.

5. Conclusions

The researcher counted the percentage of errors in pronouncing English consonants sound. It is found two kinds consonants of dominant error, they are dental /Ɵ/ in final positions (2.69%), dental /ð/ in final positions (2.95%). Based on the results of the questionnaire analysis, the errors in pronunciation of the consonants above are predominantly caused by the following:
a. Error in pronouncing Dental /Ɵ/ final positions

Most of the students have problem placing the tip of the tongue between the upper and lower teeth to produce the correct /Ɵ/ in final position sound. Students tend to be hesitant and confused when positioning their tongue because they are not used to pronouncing words using the correct rules for pronouncing the consonant /Ɵ/ in final position.
b. Error in pronouncing Dental /ð/ final positions

Most of the students find problem to place the tongue correctly and precisely to force air through the gaps between the teeth. Students also find it difficult to maintain the correct tongue position when pronouncing the consonant /ð/. An unstable or moving tongue can interfere with pronouncing the sound /ð/ correctly.

6. References

[1]   N. Fajri and A. G. Asyik, "An Error Analysis of English Voiceless Plosive Consonants /p/, /t/, and /k/ of Students at SMAN 11 Banda Aceh," *English Lang. Study Teach.*, vol. 3, no. 2, pp. 19–30, 2022.
[2]   J. A. Miranda and A. Y. Wahyudin, "PRE-SERVICE TEACHERS' STRATEGIES IN IMPROVING STUDENTS' SPEAKING SKILLS," *J. English Lang. Teach. Learn.*, vol. 4, no. 1, pp. 40–47, 2023.
[3]   S. R. Ahmad, "Importance of English communication skills," *Int. J. Appl. Res.*, vol. 2,

no. 3, pp. 478–480.

[4]   *UU Nomor 20 Tahun 2003 tentang Sisdiknas*.

[5]   A. Satria, A. Destianingsih, and S. A. Zahraa, "Improving Basic English Skill of Polbeng First Semester Students by Using Web-Based Learning Materials," *Inovish J.*, vol. 3, no. 1, pp. 118–128, 2018.

[6]   C. A. Karademir and S. Gorgoz, "English Teachers' Problems Encountered in Teaching Four Basic Language Skills," *Int. Educ. Stud.*, vol. 12, no. 4, p. 118, 2019, doi: 10.5539/ies.v12n4p118.

[7]   V. Aulia, "Identifying the Problem of Banjarese Speaking Students in Learning English Pronunciation," *J. English Lang. Stud.*, vol. 3, no. 1, p. 1, 2018, doi: 10.30870/jels.v3i1.2582.

[8]   E. M. I. Hassan, "Pronunciation Problems: A Case Study of English Language Students at Sudan University of Science and Technology," *English Lang. Lit. Stud.*, vol. 4, no. 4, pp. 31–44, 2014, doi: https://doi.org/10.5539/ells.v4n4p31.

[9]   I. Djajaningrat, *The Mapping of Pronunciation Error*. Jakarta: Universitas Darma Persada, 2011.

[10]   G. Tambunsaribu and M. S. Simatupang, "Pronunciation problems faced by Indonesian college students who learn to speak English," *Eur. J. Mol. Clin. Med.*, vol. 8, no. 2, pp. 759–766, 2021.

[11]   P. A. Dosia and A. Rido, "Production of English diphthongs: A speech study," *Teknosastik*, vol. 15, no. 1, pp. 21–35, 2017.

[12]   A. Ambalegin, "Phonological analysis of English consonants pronunciation," *J. Appl. Stud. Lang.*, vol. 5, no. 1, pp. 87–94, 2021, doi: 10.31940/jasl.v5i1.2341.

[13]   F. Katamba, *An introduction to phonology*. NY: Addison Wesley Longman Publishing, 1989.

[14]   A. Y. Chan and D. C. Li, "English and Cantonese phonology in contrast: Explaining Cantonese ESL learners' English pronunciation problems," *Lang. Cult. Curric.*, vol. 13, no. 1, pp. 67–85, 2000.

[15]   A. Ambalegin and F. Hulu, "EFL LEARNERS' PHONOLOGICAL INTERFERENCE OF ENGLISH ARTICULATION," *J. BASIS*, vol. 6, no. 2, p. 145, Oct. 2019, doi: 10.33884/basisupb.v6i2.1415.

[16]   Sugiyono, *Metodelogi Penelitian Kuantitatif dan Kualitatif Dan R&D*. Bandung: ALFABETA, 2019.

[17]   J. W. Cresswell and T. C. Guetterman, *Educational research: planning, conducting, and evaluating quantitative and qualitative research*, 6th Ed. California: Pearson, 2012.

[18]   B. M. Asenahabi, "Basics of research design: A guide to selecting appropriate research design," *Int. J. Contemp. Appl. Res.*, vol. 6, no. 5, pp. 76–89, 2019, [Online]. Available: www.ijcar.net

[19]   S. Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik*. Jakarta: Rineka Cipta, 2019.

[20]   J. Sutton and Z. Austin, "Qualitative Research: Data Collection, Analysis, and Management," *Can. J. Hosp. Pharm.*, vol. 68, no. 3, Jun. 2015, doi: 10.4212/cjhp.v68i3.1456.

[21]   Ramelan and A. Sisbiyanto, *English Suprasegmental and Segmental Phonetics*. Semarang: Semarang University, 1997.