A CROSS-SECTIONAL STUDY ON STUDENTS' ABILITY IN IDENTIFYING AND DISCRIMINATING ENGLISH FRICATIVE SOUNDS

(Studi Cross-Sectional Pada Kemampuan Siswa Dalam Mengidentifikasi dan Mendiskriminasi Bunyi English Fricative)

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ABSTRACT

The objectives of this research were to know the students' ability in identifying and discriminating English fricative sounds of labiodental /f/ and /v/ and interdental /θ/ and /ð/ in initial, medial and final position of the word. This research was design as quantitative descriptive and cross-sectional. In identification test, the mean score of fifth semester students test was 6.8, descrimination test (AX) the mean score was 39.15, and 3 AFC discrimination test (ABX) was 9. While in seventh semester students, the mean score in identification test was 12.8, descrimination test (AX) was 42.3, and 3 AFC discrimination test (ABX) was 10.39. The result showed that among three tests, students did many mistakes in identification test, yet among the 24 sounds in this test, the sound (ð) in the medial position of the word "mother" was the most correct word perceived by the students. In discrimination test and 3 AFC discrimination test showed that students did well in this test although in 3 AFC discrimination test, there were only a few students could discriminate the sounds of the word "bath, bad, and bath". Students are poor in identifying sounds than discriminating sounds. They were able to discriminate two or three words which have the similarity than identify them.

Keywords : English Fricative, Identifying and Discriminating Sounds.

INTRODUCTION

When we use language as a tool to communicate, not only how we pronounce the word but also how we perceive its sound. Especially the same or similar sounds but have different meaning. As a listener, she/he will pay more attention to the speaker, except using ear to listen, usually the listener see the speaker mouth to catch the meaning. This is being important for EFL learner to improve and practice their listening ability. Because sometimes, when we hear one or two words being pronounced, it is rather difficult if they mention the words like “save and safe” or “breath and bread”.

The sounds may make the student confuse to identify and discriminate. They should recognize the word when they listen. They might make mistakes after listening and identifying or discriminating the sounds, for example the word “seethe” can be “seed” or “van” can be “ban”, because when things are close to each other in perceptual space they will get confused with each other in identification

One of the materials of phonetic is English fricative. English interdental fricative /ð/ and /θ/, the sounds are the universal difficulty and very rare in the world’s language and are thus extra difficulty Maddieson (2005). English fricative, interdental, it can be difficult to distinguish between the sounds because there are both written with “th” (Denham & Lobeck, 2009). In English labiodental fricatives /f/ and /v/ are distinctive sounds because they contrast in words like ‘few’ and ‘view’ or ‘save’ and ‘safe’. The sounds may make the students confuse. They should recognize the words being pronounced by the speaker. They might make mistakes after listening and identifying or discriminating the sounds because when things are close to each other in perceptual space they will get confused with each other in identification.

Based on the illustration above, the objective the study were to know the students’ ability in identifying and discriminating English fricative sounds of labiodental /f/ and /v/ and interdental /ð/ and /θ/ of the words.

REVIEW OF LITERATURE

Phonetics is the study of speech sound: how they are articulated (articulatory phonetics), their physical properties (acoustic phonetics), how they are perceived (auditory/perceptual phonetics). Phonology is the study of sound system of language, how the particular sounds used in each language form an integrated system for encoding information and how such systems differ from one language to another (Valli & Lucas, 2000).

Speech perception is the process by which the sounds of language are heard, interpreted and understood. Several experiments have been concerned with the question of how individual speech sounds are discriminated, i.e., how listeners can tell that they are the same or different. It has been found that humans are very good at identifying small differences between two speech sounds, an ability which has been termed categorical perception. Perception of phonetic segments/contrasts is experimentally tested using two general kinds of tasks: identification and discrimination. As we know, language is made up of sounds, words and structure. Following this idea, to be able to communicate orally, one must have the ability to distinguish between the contrasting sound units in the target language. The normal tendency of a learner, when they come across sounds which do not exist in the mother tongue, is to substitute the sound with the one closest in his mother tongue. These unfamiliar sounds pose production problems. Therefore, learning English as a Foreign Language (EFL) should begin by listening to the characteristic English speech sounds, including stress and intonation patterns (Al-Mahrooqi, Coombe, Al-Maamari, & Thakur, 2017).

Several experiments have been concerned with the question of how individual speech sounds are discriminate, for example how listeners can tell that the sounds are the same or different. Experiment show that listeners are able to perceive a word even when one or two sounds in the sound sequence are replaced by nose (Warren, 1970 & Samuel, 1981) or when speech is produced in very noisy condition (Gut, 2009).

Perception of phonetic segments/contrasts is experimentally tested using two general kinds of tasks: identification and discrimination. In an identification task, recorded stimulus materials are presented, one at a time, and listeners indicate their categorization of each presentation as an instance of a phonetic category, either by providing some sort of oral or written response (open-set task) or by selecting one of a set of response alternatives (usually orthographic symbol or key words) provided by the experimenter (closed-set task). In discrimination task, two or more stimuli are presented, and the listener makes a decision about the relationship between the stimuli, i.e., whether they are the same or different. Many variations of each of these kinds of tasks have been used in L2 speech perception studies with adults (Katamba, 2005).

For the sound it can be identify as same (recognition) or different (discrimination). For example “bite” and “cab”. The initial and the final letters, respectively, in bite and cab are the same: b, However, how the /b/ sounds is made differs in each word. Listen carefully: /b/ in the initial position, influenced by the long /i/ is a more drawn-out sound than /b/ in the final position, influenced by /a/, which here is short. Even though they are the same letter, they sound different. The ability to identify the differences in phonemes as they change according to the sounds that precede or follow them is termed auditory acuity or auditory discrimination. This skill of

auditory discrimination is critical for modification and long-term management of accents (Menon, 2006).

RESEARCH METHOD

This research was design asquantitative descriptive. A cross-sectional design was chosen to investigate the ability and the difference of the result between fifth and seventh semester students.

Identification Test

In identification test, the students were asked to identifysounds they heard and wrote them in the available columns in their answer sheet. The students heard the sounds which were related to English fricative sounds of labiodentals /f/ and /v/ and /θ/ and /ð/. For example, /θ/ “think and thin”, /ð/ “that and there”, /v/“van and voice”. Those words were present in isolation initial, medial, and final positions as the target sounds. The students heard the words being pronounced by the speaker and they are allowed to ask for repetition just twice.

Discrimination Test (AX) and 3 Alternative Forced Choice Discrimination Test (ABX)

In discrimination test, as Logan and Pruitt (1995) divided it into three basic formats: AX, ABX and category change tasks. In discrimination test, the researcher gave the instruction to the students to determine it by marking in the column on their answer sheet whether the sounds of the words are the same or different. For example, the sounds “bath” and “bat”, “breathe” and “bread”, “vest” and “best”. The instructions in discrimination test (AX) are: column 1 if the first sound is different from the second sound, and column 2 if the sounds are the same. The instructions in 3AFC discrimination test (ABX) are: column 1 if the first sound is the same as the second sound, column 2 if the first sound is the same as the third sound, column 3 if the first sound is different from the second and third sound.

In analyzing the data, the correct and incorrect answers were analyzed for their types based on the students answer sheets. Their correct and incorrect in initial, medial and final position were counted for each type of tasks (identification, discrimination, and 3 alternative forced choice discrimination test). The average of the students’ result in three tests were counted by using mean.

FINDING AND DISCUSSION

1. Students' result of Identification Test of Sounds labiodental /f/ and /v/ and interdental /ð/ and /θ/.

Labiodental and Interdental Sounds (f, v, ð and θ)			
Semester 5		Semester 7	
Participant	Total correct answer	Participant	Total correct answer
1	7	1	14
2	8	2	8
3	7	3	13
4	9	4	12
5	5	5	11
6	4	6	10
7	4	7	16
8	5	8	12
9	7	9	20
10	8	10	13
11	3	11	10
12	6	12	7
13	9	13	10
14	11	14	14
15	7	15	15
16	5	16	9
17	8	17	15
18	8	18	13
19	7	**Mean Score = 12.3**	
20	8		
Mean Score = 6.8			

The fifth semester students got the mean score 6.8 and seventh semester students got the mean score 12.3. There is only one student in fifth semester could identify 11 sounds correctly, nine sounds could be identified by two students and there are five students identified seventh and eight sounds correctly. We can see that the lowest score is three. In seventh semester students, the average they could identify sounds are above 10 sounds. The highest score is 20, followed by 16 sounds that could be

identified by one student, 15 and 14 sounds by two students and 13 sounds by three students. The lowest score of seventh semester student is seven.
Identifying sound could be difficult for the students. It is about how they produce and perceive the sound when they hear. It becomes important for EFL learner and should pay more attention for the learner to study and practice more and more. It gives different sensation when they are asked to give the answer or guess what the speaker mention after hearing a single word or more than they just discriminate sounds. If they get used to pronounce the word incorrectly, thus they feel the word is unfamiliar for them or they actually know the word being pronounced by the speaker but after listen and perceive it, they do not know, feel confuse and think more because many similar sounds of words or phrases such as “feet” and “feed” or phrase “I scream” and “ice cream”.

2. Discrimination Test

a. Discrimination Test (AX)

Labiodental and Interdental Sounds (f, v, ð and θ)			
Semester 5		Semester 7	
Participant	Total correct answer	Participant	Total correct answer
1	44	1	40
2	36	2	39
3	25	3	41
4	40	4	45
5	35	5	42
6	37	6	38
7	44	7	43
8	37	8	46
9	40	9	42
10	44	10	44
11	36	11	44
12	39	12	43
13	45	13	45
14	43	14	43
15	42	15	44
16	42	16	42
17	38	17	42
18	43	18	39

19	35	**Mean Score = 42.3**
20	38	
Mean Score = 39.15		

The fifth semester students got the mean score 39.15, while seventh semester students got the mean score 42.3. The highest score of fifth semester students is 45, it is only one student. The 43, 42, 40, 38, 36, and 35 sounds could be discriminated by each of the two students. The seventh semester students in this test, they did well. Based on the result above, found that the highest score is 46. The lowest score of seventh semester students is 38. Discriminating sound which is not based on our language background is not easy for some of the EFL learner.

The similar sounds also can be discriminated incorrectly by them. It might cause by some factors such as how long they study, how often they practice and always listen to the similar sounds and distinguish them. Chan (2007) argues that the perception problems L2 speakers' face may be due to their misconception of word pronunciation other than their shortcomings in the discrimination of acoustic differences. Leaner's mental representation for perception may be mediated by predetermined word pronunciations. Input of acoustic signals may be converted to forms which fit their distorted mental representation. As a result, incorrect perceptual judgments may likely occur. Mother tongue interference, which has been maintained as a main contributor to production problems, is argued to have played a minimal role in perception.

The students have to be more focused, they have to listen carefully to be able to distinguish the sounds. If they do not know the meaning, they do not listen carefully and feel that the sounds are unfamiliar, then it will be difficult for them. Other cases such as lack of vocabularies, hearing loss, out of focused, it might indicate of poor discrimination sounds. Listening to the L2 sound which is far different from the students' L1 is not easy, except if they always improve their listening and vocabulary. In discrimination test (AX), each student in fifth and seven semester students they did well in this test

b. 3 Alternative Forced Choice Discrimination Test (ABX)

Labiodental and Interdental Sounds (f, v, ð and θ)			
Semester 5		Semester 7	
Participant	Total correct answer	Participant	Total correct answer
1	10	1	11
2	10	2	9

3	2	3	11
4	9	4	8
5	10	5	12
6	7	6	10
7	9	7	11
8	9	8	11
9	7	9	10
10	10	10	11
11	10	11	11
12	9	12	10
13	10	13	10
14	11	14	10
15	9	15	12
16	9	16	11
17	9	17	10
18	12	18	9
19	8	**Mean Score = 10.39**	
20	10		
Mean Score = 9			

The fifth semester students got the mean score 9 and seventh semester students got the mean score 10.39. They did well in this test. There is one student in fifth semester discriminated all the sounds correctly, which means that it is the highest score. One student discriminated 11 sounds and each of seven students able discriminated 10 and 9 sounds correctly. Furthermore, there is one student who able discriminated only two sounds among 12 which means that it is the lowest score. The seventh semester students in ABX test showed that there are two students were able to discriminate all of the sounds among 18 students, 11 sounds by seven students, 10 sounds by six students, 9 sounds by two students and the last is 8 sounds by only one student. The lowest score of seventh semester students is 8.

Speech perception and speech production are inherently interrelated. We must be able to speak what we can perceive and we must have the ability to perceive the sounds that our speech mechanism produced (Gelfand, 2013).

In 3AFC discrimination test, there are only a few students could discriminate the sound of the word “bath, bad, and bath”. the first sound is the same with the third sound but some of the students discriminated it that the first sound is the same with the second sound, the sound “sleeve and sleep and sleek”are different word but some of the students discriminated it that the sound “sleeve” is the same with “sleep”, and the sound of the word “sleeve” is the same with “sleek”, there are 13 students

discriminated it incorrectly. There are eight students could not discriminate the sound of the word “tree and tea and three” and eight students also could not discriminate the sound of the word “panther and panted and pander” correctly.

CONCLUSION

Identification and discrimination are the two terms related to speech perception. Students made comparative judgment about the similar sounds of word. The result showed that seventh semester students did well than the students in seventh semester. The students made many mistakes in identifying interdental sounds /θ/ and /ð/. Students were confused to perceive the sounds. They also did not recognize the sounds they heard and feel difficult to distinguish them. The students were good to perceive the sounds in discrimination test than in identification test, it might because to discriminate is easier than to identify sounds because if they listen to unfamiliar words it will be difficult for them to make decision because one sound can be perceive into two or more.

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