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ERRONEOUS PRODUCTION OF *APICO-DENTAL* FRICATIVE CONSONANT SOUNDS BY JAVANESE HIGH SCHOOL STUDENTS

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INTISARI

Skripsi ini bertujuan meneliti kesalahan dalam produksi bunyi-bunyi konsonan frikatif *apico-dental* oleh siswa Jawa sekolah menengah atas. Secara khusus, penelitian ini bertujuan mengidentifikasikan perubahan dan perbedaan tingkat intensitas ketika memproduksi bunyi *apico-dental* seperti [θ] dan [ð]. Data yang digunakan dalam penelitian ini adalah 30 kata yang mengandung bunyi-bunyi konsonan frikatif *apico-dental* pada awal, tengah, dan akhir kata yang kemudian dibuat dalam kalimat. Hasil penelitian menunjukkan bahwa jarak pada tingkat intensitas antara *Oxford Advanced Learner's Dictionary* (OALD) dan pembelajar bahasa Inggris berbeda. Pada posisi awal, produksi suara [θ] memiliki jarak 52.92 dB – 59.60 dB sedangkan perubahan berada di jarak 65.83 dB – 70.98 dB; posisi tengah berada pada 78.94 dB – 79.87 dB sedangkan perubahan berada di 74.74 dB – 76.03 dB; pada posisi akhir jarak berada di 85.73 dB – 88.52 dB sedangkan perubahan berada di 72.81 dB – 77.35 dB. Pada produksi suara [ð], jarak pada posisi awal berada di 61.6 dB- 62.33 dB sedangkan perubahan ada pada 76.47 dB – 82.08 dB; di posisi tengah jarak berada di 81.64 dB – 84.23 dB sedangkan perubahan terjadi di 70.81 dB – 75.97 dB; posisi akhir jarak ada pada 81.95 dB – 83.21 dB sedangkan perubahan terjadi di 74.27 dB -79.98 dB. Dalam proses pengujaran, terdapat tujuh kesalahan bunyi yang terjadi pada kata terpilih yang mengandung bunyi [θ] dan [ð] yakni [t], [t^h], [tʃ], [s], penghapusan bunyi [θ], [d], dan [nd].

Kata Kunci: Bunyi konsonan frikatif *apico-dental,* tingkat intensitas, kesalahan, pengucapan.

ABSTRACT

This research paper aims to investigate the errors in the production of *apico-dental* fricative consonant sounds by Javanese high school students. Particularly, it attempts to investigate deviation and the different intensity level in producing *apico-dental* fricative sounds such as [θ] and [ð]. The data used in this research were 30 words containing *apico-dental* fricatives in initial, medial, and final positions. The results of the research show that the range intensity level between *Oxford Advanced Learner's Dictionary* (OALD) and English learners is different. In initial position, the production of [θ] sound has range 52.92 dB – 59.60 dB while the deviations are at 65.83 dB – 70.98 dB; in the middle is 78.94 dB – 79.87 dB while the deviations are at 74.74 dB – 76.03 dB; in final position the range is at 85.73 dB – 88.52 dB while the deviations are at 72.81 dB – 77.35 dB. In the production of [ð] sound, the range in initial position is 61.6 dB- 62.33 dB while the deviations are at 76.47 dB – 82.08 dB; in medial position the range is 81.64 dB – 84.23 dB while the deviations occurred at 70.81 dB – 75.97 dB; in final position the range is 81.95 dB – 83.21 dB while the deviations occurred at 74.27 dB -79.98 dB. In the pronunciation process, there are seven possible errors, namely [t], [t^h], [tʃ], [s], the deletion of [θ], [d], and [nd].

Keywords: *apico-dental* fricative sounds, intensity level, error, production

INTRODUCTION

As English learners, Indonesians have typical problems in pronunciation. The use of Bahasa Indonesia as the mother tongue influences English pronunciation which can cause the error in producing English sound. Lanteigne, cited in Tiono (2008) states that the difficulties in learning English occur due to the fact that some of English sounds do not exist in the mother tongue of the learners.

The Javanese students who learn English can face the difficult problem especially in producing English sounds. They are accustomed to use their local language so the error can be produced while pronouncing words especially English. "The diversity of local languages certainly influence the way of the pronouncing or producing language, while its local language is used as mother tongue in daily pronunciation. For example, in Yogyakarta, the Javanese language is commonly used as mother tongue in daily conversation" (Septianhardini, 2012, p. 152)

The deviations occurred since the subjects in this research are English learners. The deviations are investigated by the manner of articulation, placed of the tongue, and the difference of intensity level compared by the recorded voice in digital form of *Oxford Advanced Learner's Dictionary* (OALD, 2010) and English learner. In the comparison of the intensity level, PRAAT (Praat, 2012) is chosen as software to compare the difference of intensity level between the digital form of OALD and Javanese high school students' actual pronunciation. The intensity level is applied on the production of *apico-dental* fricative sounds. The comparison of intensity level between OALD and English learners are used to make a range level as a measure in the production of [θ] and [ð] sounds. In addition, the error production is seen when the intensity level is not in a range.

Problems in pronunciation

In communicating, the production of sounds is important for the listeners in order to produce the meaning that can be accepted. For instance, as English foreign learners, English sounds should be pronounced correctly in order to make people understand the uttered words. With regard to its pronunciation, English is quite difficult to pronounce for Indonesian learners. Vernick and Nesgoda (cited in Tiono, 2008, p. 80) indentifies that in the area of pronunciation, English language can be categorized as a difficult language to master that may find difficulties in learning to speak English well for language learners.

In addition, Lanteigne (cited in Tiono, 2008, p.80) confirms that the absence of English sounds in the mother tongue of the learners is a reason of difficulties in learning English. Furthermore, Swan and Smith, (cited in Kencana, 2011, p. 16) state that an English learners likely to carry the signature of his or her mother tongue, by virtue both of what goes wrong and of what does not. This is most striking in the case of pronunciation, where the phonological structure of speaker's first language and the associated 'articulatory setting' of the lips, tongue, jaws, etc. usually affect his or her English speech quite strongly.

The sounds of [θ] and [ð] are two consonant sounds in dental fricative that is difficult to produce by Indonesians. This statement is strengthened by Dardjowidjoyo (2009) stating that the most difficult sound pronounced is the sound of [θ] and [ð]. There are three types of problems involved; firstly, the problem on pronunciation, and secondly the problem spelling. In the problem of pronunciation, Indonesian does not have the sound of [θ] and [ð] while in spelling the problem is one cannot be sure whether a word written with 'th' is to be pronounced as [θ] or [ð] sound. Therefore, the deviation sounds occurred while producing those sounds.

THE DEVIATION IN PRODUCTION OF *APICO-DENTAL* FRICATIVE CONSONANT SOUNDS

This part investigates the intensity level of *apico-dental* sounds in selected words using PRAAT. The comparison of the intensity is shown by figures of each selected pronounced words. The different intensity level is compared between the voice in digital form of *Oxford Advanced Learner's Dictionary* (OALD, 2010) and English learners. Intensity level is a measure to decide the sensitivity of production sound. The wave shows movement of intensity level in the production of sound. This figure shows the description of intensity level graph in the production of [θ] sound in the word *think.*

Fig.1 The intensity level graph

The description of the intensity level graph described as follow:

1. Dashed line
   This line moves automatically when the sound produced. This line also decides the intensity level in the production of sound so when this line moves, the number of intensity level changes (number 4). To decide the intensity level of each sound production, the recorded sound should be listened carefully and repeatedly. This line should be paused when the sound produced and the number of intensity level can be seen (number 4).
2. Intensity level's wave
   This wave shows the sensitivity in the production of sound. When the sound produced, the wave moves and follows the production of sound.
3. Maximum limit of intensity level
   This point shows the maximum limit of intensity level when the sound produced. It is the highest limit of intensity level in the production of sound.
4. The intensity level in the production of sound
   Number 4 shows the number of intensity level when the sound produced. This number changes automatically based on movement of the dashed line (number 1). A unit of intensity measurement is stated in decibel (dB). According to figure 1, as an example, it means that the production of [θ] sound in word *think* occurred at the level 52.92 dB.

Intensity Level in Deviation Sounds of *apico-dental* [θ] and [ð]

A. The Word *think*

In the intensity level of [θ] sound in the word *think* compared by the production sound from OALD, the figures show the difference of intensity level when the subject pronounced the word *think.* Based on Oxford, the intensity level while producing [θ] sound in the word *think* occurred at 52.92 dB (figure 2) while in the deviation of [θ] sound, the intensity level has further increase. In the deviation of the sound [θ] with [t], the intensity level is at 65.84 dB (figure 3).

Fig.2 the intensity level in initial sound of [θ] in word *think* (OALD)

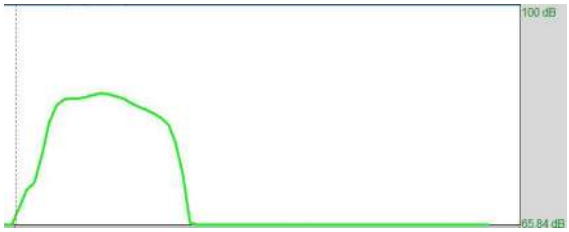

Fig.3 the intensity level of deviation [θ→t] in word *think*

B. The Word *there*

In the production of [ð] sound while pronouncing *there,* the intensity level is at 61.6 dB (figure 4) which is produced by OALD. The substitution in the word *there* is the deviation of [ð] sound with [d]. In this substitution, the intensity level is at 76.47 dB (figure 5).

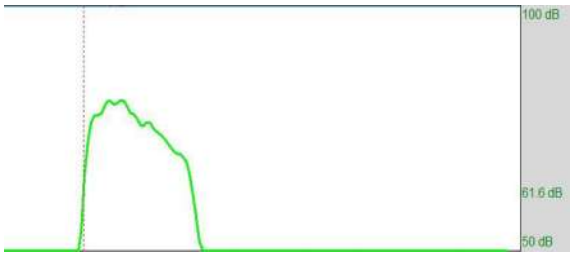

Fig.4 the intensity level in initial sound of [ð] in word *there* (OALD)

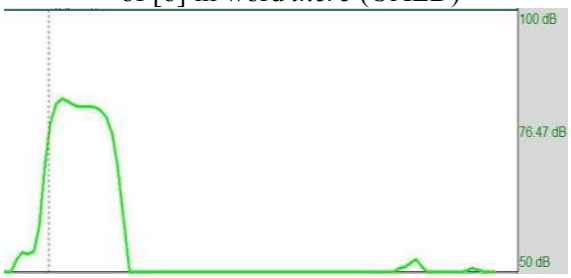

Fig.5 the intensity level of deviation [ð→d] in word *there*

C. The word anything

Figure 6 shows the intensity level of OALD's pronunciation in the word *anything.* In the production medial sound of [θ] in word *anything,* the intensity level is at 82.88 DB. Nevertheless, the deviation of [θ] sound in the word *anything* occurred at level 74.74 dB (figure 7). In this intensity level, the sound of [θ] deviates with [t] sound. Thus, the intensity level in the production of [θ] sound in the word *anything* is at 80.25 dB while the deviated sound as [t] occurred at 74.74 dB.

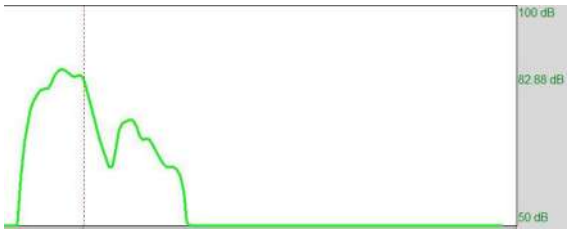

Fig.6 the intensity level in medial sound of [θ] in word *anything* (OALD)

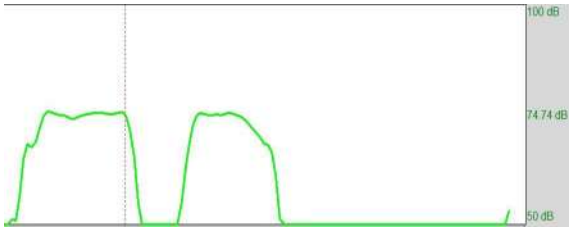

Fig.7 the intensity level of deviation [θ→t] in word *anything*

D. The word *weather*

In medial sound of [ð] sound, the deviation of [ð] with [t] sound also occurred. These figures are the comparison of intensity level between OALD and English learner while producing the sound of [ð] in the word *weather.*

Fig.8 the intensity level in medial sound of [ð] in word *weather* (OALD)

Fig.9 the intensity of deviation [ð→t] in word *weather*

In the intensity level of [ð] sound while pronouncing the word *weather,* the intensity level is at 82.56 dB (figure 8) which is produced by OALD. However, the deviation occurred when the level is at 70.81 dB (figure 9). In this level, the sound deviates with [t] sound. Thus, the intensity level while producing [ð] sound in the word *weather* is at 82.39 dB while the error production occurred at 70.81 dB.

E. The word *tooth*

The deviation of [θ] with [t] sound also occurred in the final word *tooth*, one of the selected words containing [θ] sound. The following figures are the comparison of intensity level in the deviation of [θ] with [t] in the word *teeth.*

Fig.10 the intensity level in final sound of [θ] in word *tooth* (OALD)

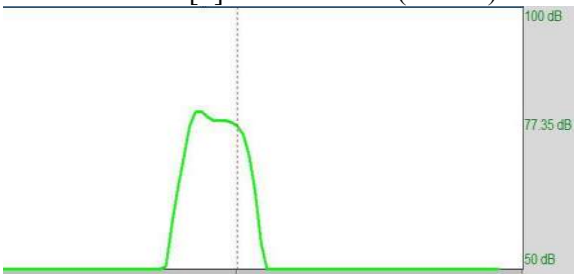

Fig.11 the intensity level of deviation [θ→t] in word *tooth*

In the intensity level of [θ] sound while pronouncing the word *tooth,* the sound of [θ] occurred at 87.05 dB produced by OALD (figure 10). In the deviation of [θ] sound in the word *tooth,* the intensity level decreased when the sound of [θ] deviates with [t]. In this deviation, the sound of [t] in the word *tooth* occurred at the level 77.35 dB (figure 11). Based on the comparison in the production of [θ] sound in word *tooth*, it can be concluded that the intensity level of [θ] sound while pronouncing *tooth,* the [θ] sound occurred at 86.36 while the error occurred at 77.35 dB.

F. The word *bathe*

The substitution of [ð] to [t] sound also occurred in the word *bathe.* These figures show the difference of intensity level between OALD and English learner while producing the sound of [ð] in the word *bathe.*

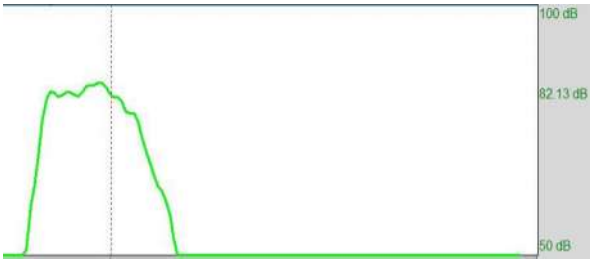

Fig.12 the intensity level in final sound of [ð] in word *bathe* (OALD)

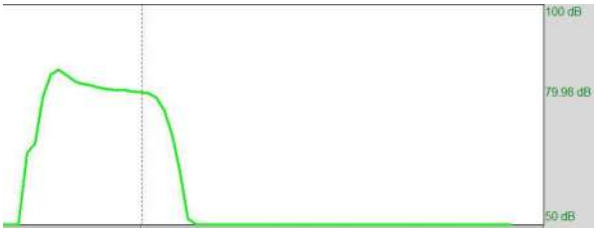

Fig.13 the intensity level of deviation [ð→t] in word *bathe*

Based on OALD's, the sound of [ð] occurred at the level 82.13 dB while pronouncing the word *bathe* (figure 12). However, the substitution occurred at the level 79.98 dB (figure 13). Thus, the intensity level of [ð] sound in the word *bathe* is at 82.13 dB while the deviation occurred at 79.98 dB.

Deviations in Production of *apico-dental* Sounds

This part presents the result of the data analysis from 30 selected words pronounced by 20 Javanese high school students. The following discusses the findings:

A. The sound of [θ]

The [θ] sound is categorized as voiceless *apico-dental* fricative. Catford (2001) states that the sound [θ] is named

apico- because the tongue can be positioned in different ways against the upper teeth, and against the front and back subzones of the teeth. In this way, *apico-* is positioned against the *dental* zone. Voiceless *apico-dental* fricative is produced by touching the point of the tongue to the tip of the teeth. The production of [θ] sound is explained "Silently raise the point of the tongue, and lets its apex and rim just touch the cutting edge of the teeth. Holding this articulation start up *pulmonic* pressure initiation, resultant egressive air stream, and the result should be an *apico-dental* fricative [θ]" (Catford, 2001, p. 85).

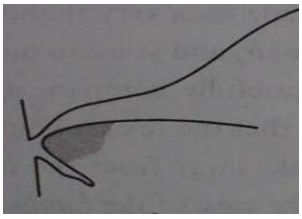

Fig.14 voiceless *apico-dental* fricative [θ] (Catford, 2001, p. 86)

The production of [θ] sound deviates because Indonesian has difficulty to produce the sound of [θ] clearly. It is stated that the English phoneme [θ] is one of the most difficult sounds to pronounce by Indonesians learning English since there is no word in Indonesia having this sound. (Dardjowidjoyo, 2009). In this research, the [θ] sound produced with five possible errors; the deviation of [θ] with voiceless *dental* stop [t], voiceless aspirated *dental* stop [t^h], voiceless *palate-alveolar* affricate [tʃ], voiceless *alveolar* fricative [s], and the deletion of voiceless *apico-dental* fricative [θ]. The table bellow shows the student's actual pronunciation of [θ] sound in initial, medial, and final words containing the sound of [θ].

Positions	Words	Deviations	Sound Category
Initial	Think Thumb Theatre Thick Thief Thin Thirsty Three Thursday Throw	[θ→t]	voiceless *apico-dental* stop
	Think	[θ→ t^h]	voiceless *aspirated apico-dental* stop
	Three	[θ→tʃ]	voiceless *palate-alveolar* affricate
Medial	Anything Bathroom	[θ→t]	voiceless *apico-dental* stop
	Birthday	[θ→ Ø]	(consonant deletion)
		[θ→s]	voiceless *alveolar* fricative
Final	Earth Health Tooth	[θ→t]	voiceless *apico-dental* stop

Table.1 Deviations of Voiceless *apico-dental* Fricative Consonant Sound [θ]

B. The sound of [ð]

The [ð] sound is categorized as voiced *apico-dental* fricative consonant sound. This sound has two similarities to the sound of [θ] based on characteristics in producing consonant sound; they are place of articulation and the manner of articulation. In the place of articulation, the [ð] sound is also produced by placing the tongue tip between the upper and lower teeth. The manner articulation of [ð] sound is also similar to [θ] sound which the air escapes through the tongue sides and produces hissing sound. The difference of the sound of [θ] and [ð] is distinguished by the vibration. The sound of [ð] has vibration or more voicing rather than [θ] sound.

As [θ] sound, the sound of [ð] is difficult to produce for Indonesians. In producing both sounds, Indonesians also tend deviate the sound into some possible errors. In this research, the sound of [ð] deviates with three possible errors in initial,

medial, and final of selected words; they are the deviation of [ð] with voiced *alveolar* stop [d], [nd] sound (nasal consonant followed by voiced *alveolar* stop), and voiceless *apico-dental* stop [t].

Positions	Words	Deviation	Sound Category
Initial	They Then There This The	[ð→d]	voiced *alveolar* stop
	There	[ð→nd]	nasal consonant followed by voiced *alveolar* stop
Medial	Weather Although	[ð→t]	voiceless *apico-dental* stop
	Mother	[ð→d]	voiced *alveolar* stop
		-	voiced *apico-dental* fricative
Final	Bathe Clothe Soothe	[ð→t]	voiceless *apico-dental* stop

Table.2 Deviations of Voiced *apico-dental* Fricative Consonant Sound [ð]

CONCLUSION

The results of this study show that Indonesians as English learners especially Javanese high school students have difficulties in producing *apico-dental* fricative consonant sounds in initial, medial, and final of the selected words. This suggests that in different positions of the selected words, the students produce the error sounds. Error production occurred when the intensity level from the deviations of students' actual pronunciation in producing selected words containing *apico-dental* sounds is not in a range from the base intensity level in the production of [θ] and [ð] sounds for each position. By comparing the range, it can be concluded that the students lack skills in producing [θ] and [ð] and it indicates that both English and Indonesia have different sound quality.

There are some factors that influence the students' actual pronunciation. The first possible reason for the error is the absence of sounds [θ] and [ð] in Indonesian and Javanese. For example, the students change the sound of [θ] to [t] sound in all the selected words containing [θ] sound. In English, the letter 'th' is pronounced as [θ] based on International Phonetic Alphabet in the pronunciation of [θ] sound. The students produce the sound of [t] when they read letter 'th' in the selected words containing [θ] sound. The second possible reason is students' unawareness when reading the English word of the sound [θ] and [ð]. Naturally, the students produce the deviation sounds in pronouncing the sound [θ] and [ð] in those words. The position of the tongue also causes error production of sound [θ] and [ð]. Students are unable position the tongue properly to produce the sounds [θ] and [ð]. When Javanese students have natural position of the tongue, they will produce the error sound of English *apico-dental.* The students tend to produce the sounds of *apico-dental* fricative with some deviations.

With regard to error production of English sounds, especially in the error production of [θ] and [ð] sounds, the problem can be solved by giving exercises on English pronunciation. The exercises in English pronunciation should be given intensively while learning English in their daily activity. Thus, they can position the tongue properly so that English sounds can be produced correctly.

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