Prosodic Frequency in Signaling Linguistic Distinctions at UNIMED First Year Non-native French Students

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Abstract

This study is specifically concerned with the effect of frequency on linguistic distinctions and has two major purposes: (1) to investigate the prosodic frequency of twelve French selected utterances and (2) to demonstrate the comparative frequencies between French native and non-native speakers. This study was conducted in French Pedagogy Program at UNIMED Medan in 2015. Data for this study were obtained from the help of twenty one (3 males and 18 females) university students and one French native speaker who were determined as subjects. Experiments were held at the Department's language laboratory and recorded on audiotape and processed with Praat. The results did not support the expectations that the subjects could pronounce the utterances the same as what native speaker did. On the basis of the results of this research, it can be concluded that the prosodic frequencies of the non-native speakers are significantly different from the native speaker in the levels of tone, pitch contour and duration; however, linguistic distinctions could not bring negative impacts of meanings or could be minimized although the prosody was not the same. The differently prosodic frequencies were caused by some factors, such as, lack of knowledge of phonetics and phonology, of systematic practice, and of understanding French patterns. Students did not have good technique and did not understand the composition of French alphabets. They had problems in the pronunciation of vowels (voyelles orales), nasalized vowels (voyelles nasales), sounded or unsounded final consonants, and shift (liaison).

Keywords: prosodic frequency, linguistic distinction, utterance, French non-native speakers, effect of prosody

1. Introduction

In line with the development of science in experimental phonetics, speech frequency can be measured with the aids of Computerized Speech Research Environment (CRSE) which is supported by Praat software program. This program analyzes the speech by using spectrogram to measure three aspects, for example, the frequency, duration, and intensity. After recording it is then being transferred to the computer to know that speech can be seen, heard repeatedly, and manipulated to determine the high and low tones. This program can become proofs by each student to know what he/she has done when speaking. Therefore, this program is hoped to increase student's competence in French.

Speech is normally continuous and can be recorded by involving a set of complicated audio signals. The involvement of these audio signals is of course aimed at producing artificial sounds. Thus, artificial sounds can only be heard and repeated several times depending on the needs. Speech signals can be in the form of voiced or unvoiced. Voiced sounds have fundamental frequency (F0) which owns its harmonic components which are manufactured by vocal cords (vocal folds). These components are then synthesized in the vocal tract which has the ability to modify this excitation signal. This modification produces the formant (pole) and sometimes the ant formant (zero) frequencies. In each formant frequency, an amplitude as well as band with is available. Furthermore, the fundamental frequency and formant frequencies become two most important concepts in speech synthesis as well as in speech processing.

In relation to unvoiced sounds, they do not have fundamental frequency in excitation signal; thus, these sounds do not have harmonic structure. This excitation signal is called white noise. The characteristics of this noise is that the airflow is managed out by a constriction in the vocal tract and this constriction may usually happen in several places which are located between glottis and mouth. Meanwhile, a number of sounds are manufactured with complete stoppage of airflow. The unvoiced sounds are silent; in addition, these sounds are less steady than the voiced ones. What about whispering? This question is considered so special because when whispering is voiced then there is no fundamental frequency in the excitation but the first formant frequencies produced by vocal tract are clearly perceived. In English speech, signals of the three vowels (/a/ /i/ /u/) are displayed in time- and frequency-domain. Their fundamental frequencies are in the level of about 100 Hz. Another commonly used method to describe a speech signal is the spectrogram which is a time-frequency-amplitude presentation of a signal.

In Medan French is included as one of extracurricular subjects at high and vocational schools as well as lectures at some universities. This research was inspired by a fact that some students were not capable in pronouncing words, phrases, and sentences in proper intonation. To minimize this incapability the handbook *Audition Pronunciation* was formally taught at French Department at UNIMED Medan. Language laboratory and multimedia facilities were being used in the lecture. The use of the handbook was aimed at improving pronunciation. So far, the students whose ages were between eighteen to nineteen were traditionally influenced by their ethnic languages or by Bahasa Indonesia.

As a result, they formed their own idiolects; for example, students whose language is Karo Batak speak French with their native accent. Step by step, these problems could be minimized by practicing the handbook. Since this *Audition Pronunciation* is not conventional but advanced with computerized system, students were introduced with Praat software. Question that can be raised from this study is: How different is the prosodic frequency between male and female students in signaling linguistic distinctions in some selected French utterances?

2. Review of Related Literature

When giving comments on Saussure's Cours de Linguistique Generale, Fibriasari (2012) argues that Saussure used phonetics to illustrate phonemes and to place them in syntagmatic axis; however, what Saussure perhaps forgot is that words, but not sound, cannot differ when they are not sounded (see also Bally and Sechehaye 1916). She quoted Léon (1966) as saying that the sound [p] in French is an occlusive consonant, for example, the word épais [ɛpɛ], a sourdes consonant (not vibrate) in Pate [pɑt] as well as forte consonant, i.e., fitting [pa]. As a scientific study of sounds, phonetics examines the components of sound, more specifically the physical aspects. When a listener listens to utterances, he/she uses ears as the main tool; utterances can become the typical characteristics of oral language. Verhaar (1999) states about the importance of phonetics and phonology in the study of utterances. Concerning the utterance Léon (2005) argues that "phonétique est l'étude de la production, de la transmission et de la perception des sons de la parole." In addition, the consonant [s] in French has a higher frequency than tot her consonants like the sound [ʃ] as in the word sou [su] and chou [ʃu].

Auditive phonetics studies sound and how brain analyzes and transmitsit to the sense reciter to produce feedback sound. For example, to hear sound of syllable pressure (une syllabe acccentuée), brain differentiates whether it is short or long, whether it is powerful, in normal frequency, or a combination of the three. Sensitivity of man's ears to hear the sound has minimum and maximum limits and these limits varies among human beings. In French studies on auditory phonetics is commonly called Psychologie expérimentale which is used to detect the type of man's sound, emotion, and attitude as well as the origin of the region and speaker's social status. Consider what Antes (2007) argues: the phonologie suprasegmentale à tout ce qui touche au-dela de ces segments individuels. Elle Traité facteurs surtout de deux qui portent sur le group rythmique ou la phrase entière et notre qi influence Comprehension: l'accentuation et intonation (Suprasegmental phonology is marking the characteristics of the individual segments. Beep suprasegmental covers two factors, namely the group rhythm on the mode that affects the pressure (accent) and the intonation to understand listener).

2.1 Word frequency

Fibriasari (2012) describes the frequency of sound effect on high and low tones of a sound. Sound frequencies determine high or low tone of a sound. In other words, the frequency of the sound according to Lehiste (1970) is the number of vibrations in one second (Lehiste, 1970; Johnson, 2003). The frequency determines the pitch or tone. It is a very difficult thing to describe concretely about the sound, because the sounds can be uttered but can not be accurately observed. However, from the standpoint of physics, sound can be measured and illustrated in a graph depicting sinusiodal waves; waves may repeatedly (Hayward, 2000) so that the sound can be described as a series of cycles.

Piantadosi (2015:1) argues that one of the most puzzling facts about human language is also one of the most basic: words occur according to a famously systematic frequency distribution such that there are few very high frequency words that account for most of the tokens in text (e.g. "a", "the", "I", etc.), and many low frequency words (e.g. "accordion", "catamaran", ravioli"). He also adds that what is striking is that the distribution is mathematically simple; roughly obeying a power law known as Zipf's law but this study does not involve Zipf's law. In his experiments Piantadosi (ibid:18) concluded that word frequencies are extremely interesting so word frequencies are one of the most basic properties of humans' communicative system and play a critical role in language processing and acquisition. It is, in short, remarkable that they can be well characterized by a simple mathematical law. With good cause, many have attempted to derive this law from more basic principles. Notably, theories of language production or discourse do not explain the law.

Diessel (2007:109) states that one aspect that all dynamical models of grammar emphasize is that frequency of occurrence is an important determinant of linguistic structure and language use. With reference to Bod (2003), Bybee and Hopper (2001) Diesel then argues that there is a wealth of recent results suggesting that frequency has an impact on the comprehension, production, and emergence of linguistic categories and rules. His paper tries to discuss the influence of frequency on the use and structure of language and considers the psychological mechanisms that underlie the various frequency effects. Diesel (ibid:123-124) concluded that the various frequency effects are based on psychological mechanisms, such as, the strengthening of linguistic representations, the strengthening of linguistic expectations, and the development of automatized chunks.

Gries (2008:403) discusses the dispersions and adjusted frequencies in corpora and argues that the most frequently used statistic in corpus linguistics is the frequency of occurence of some linguistic variable or the frequency of co-occurence of two or more linguistic variables. Although this paper is not much related to what he has written but his paper gives inspiration that individual, words or grammatical patterns can be considered as materials for later study. In case of the role of fundamental frequency in signaling linguistic stress and affect McRoberts, Studdert-Kennedy, and Shankweiler (1994:113) argue that speech communications often convey both linguistic content and the speaker's affective state. They also believe that speakers use fundamental frequency to convey several linguistic distinctions, including both segmental features such consonant voicing and vowel height, and prosodic, or suprasegmental features, which typically extend over more than a single segment. The result of their study shows that the control of linguistic intonation is functionally separable from the affective use of F0.

In their current work on representation of fundamental frequency variation Laskowski, Heldner, and Edlund (2008:1) argue that this representation is useful for modeling prosodic sequences for prediction of speaker change in the context of conversational spoken dialogue systems; however, the representation is potentially useful for any prosodic sequence modeling task.

Zellers and Post (2009:377) stated that prosodic studies have generally focused on structure and signals at the level of the individual sentence or utterance, yet it is becoming increasingly apparent that prosody also provides valuable cues for signaling discourse structure in units larger than single utterances. They also argue that prosody is used as a way of helping to maintain coherent discourses by indicating, for example, the newness of referents in utterances; it can also be used on the level of whole utterances to signal how those utterances relate to one another in terms of their content, and specifically their discourse topic. Zellers and Post assumed that there is a specific prosodic cue, or a consistent set of specific prosodic cues, that are associated with signalling topic structure in Standard Southern British English.

Pell (1999:1-2) carried out a study on groups of right hemisphere-damaged (RHD)'s involvement in expressive prosodic functions. He studied the utterances which simultaneously specified three prosodic distinctions (emphatic stress, sentence modality, emotional tone) using fundamental frequency (F0). What he got from his research is that RHD speakers tended to produce F0 patterns that resembled normal productions in overall shape, but with significantly less F0 variation. The RHD patients were also less reliable than normal speakers at transmitting emphasis or emotional contrasts when judged from the listener's perspective.

2.2 Duration

Fibriasari (2012) quoted Sugiyono as saying that duration is the time needed to realize a segment which is measured in millisecond units. If the segment is a modus, the time range is usually called tempo (time). Duration can also be interpreted as the time consideration of articulatory sequences and dimension of time of acoustic signs. Lehiste (1970) argued that duration can be associated with quantity which functions as free variables in the phonological systems of a language. Therefore, the term intrinsic duration can be applied in the context of duration of a segment which is determined by phonetic quality.

2.3 Syllable

Abry (2007) makes statement as the following: describes that*il existe deux sortes de syllabes, les syllabes ouvertes qui se terminent par une voyelle (CV) et les syllabes fermées qui se terminent par une consonne (CVC).* In French there are two forms of syllables, such as, C (onsonant) V(ocal) and CVC. The first relates to free cutting while the second is meant to close word cutting. Eighty percent of word cutting in French is grouped into free cutting.

2.4 Error analysis

Purwadi (2000:3) argues that errors in language are caused by the competence of the language users. In this case the users do not understand the grammar of language they use. Therefore, errors in using language are considered systemic, that is, because language users do not know the language systems they use. Corder in Tarigan and Tarigan (1990:77) proposed that language errors are meant to break the language codes. This code breaking not only is physical but also means the indications of the imperfectness of knowledge and mastery to the code. These errors are usually caused by acceptability whether or not language—oral or written—is accepted by native speakers or by language teachers. When language users of Bahasa Indonesia make errors, for instance, the treatment that can be applied is corrections which are carried out by native speakers of Bahasa Indonesia. When the language which is used by language users is judged wrong by native speakers of Bahasa Indonesia so the users are proved to make errors. In addition, Tarigan and Tarigan (1990:75-76) stated that the meaning of language errors is related to factor of competence. They argued that the language users do not know the language systems they are using and that language error is consistent and systematic. These errors can take for a long time whenever they are not corrected.

3. Research Method

3.1 Subjects

There were 3 male and 18 female students involved in this experiment and they were chosen randomly and might have passed the lecture of French Producion Orale 'Speaking' in Semester 1 from French Department at UNIMED Medan. Some of them studied French or attended French Course at Language Courses while they were high school students. All subjects were native speakers of Bahasa Indonesia and they were indicated to have no problems in communication. All subjects also displayed acceptable hearing in all levels for both ears. In addition, there was only one French native speaker.

3.2 Test Utterances

Following previous work on acoustic characteristics and ethnic language prosody (Syarfina, 2008; Fibriasari 2012), twelve utterances having grammatical constructions in French were chosen as test items and the utterances were also provided with their syllables:

1. *Kinds of utterances*

(1) *C' est un neuf*
This COP DET new thing
'This is something new'

(2) *Comment allez vouz?*
What go you
'How are you'

(3) *De temps en temps*
On time on time

(10) *Ils veullent une voiture*
3PL want DET car
'They want a car'

(11) *Peindre en blanc*
become on white
'White in colour'

(12) *Quelle honte*
QUESS beauty
'How beautiful it is'

'Sometimes'

(4) *Des haricots*
DET bean
'Beans'

(5) *Dix ans*
ten years
'Ten years'

(6) *En haut*
on upper
'in the upper position'

(7) *Il est bleu*
3SG COP blue
'Blue in color'

(8) *Il est ouvert*
3SG COP opened
'It is opened'

(9) *Ils arrivent*
3PL arrive
'They have already arrived'

2. Number of syllables
(1) se-toe-noef.
(2) kɔ-mâ-tâ- le-vu
(3) də-tâ-zâ-tâ.
(4) de-a-Ri-ko.
(5) di-zâ.
(6) â-o.
(7) i-le-blø.
(8) i-le-tu-vɛR.
(9) il-za-Riv
(10) il-vøl-Tyn-vwa-TyR.
(11) pē- drâ – blâ.
(12) kɛl-Õt

The twelve utterances were selected for the following reasons: 1) they are meaningful as statements, both with and without contrastive stress; 2) they are used in daily conversation; 3) they consist of syllables, nasalization, and friction; and 4) they become standards in the French Department at UNIMED Medan. Each utterance was composed of low and high frequency which was matched with syllable length and stress placement. When spoken, each utterance was spoken with multiple variations in the prosodic form of the utterance and only correct pronunciation was used as main materials. Each utterance has emphatic tone. This resulted in a corpus of 656 productions of each item (1 student repeated 1 utterance three times) or 36 productions per subject in total. It should be highlighted that there were different productions from male and female students.

The native speaker's pronunciation should cover four aspects, for example, liaison obligatoire, liaison fakultatif, liaison interdit, and enchainement and there were twelve sound recordings which were used as comparison. Male students have to fulfill the aspects above and there were 36 sound recordings produced by them. While, female students should also meet the characteristics of the four aspects and there were totally 216 sound recordings produced by females.

3.3 Procedure

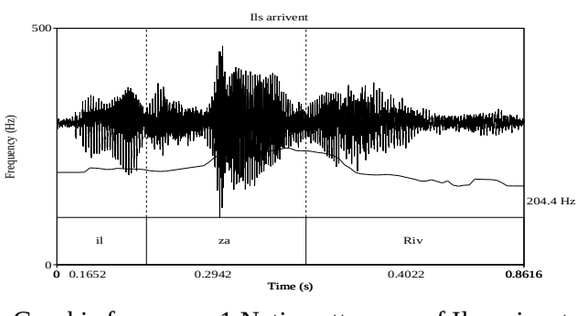
Subjects were tested individually in a language laboratory with non-conference model and sat comfortably at tables with a directional microphone placed 10 cm in front of their mouths and a small binder containing the stimulus cards placed before them. Subjects were recorded using a Sony portable radio-cassette player and had to read the card placed in front of them. Subjects were then asked to read the utterances and allowed to repeat the utterances at any time especially when researcher did not completely satisfy with their performance (such ''corrections'' were observed highly infrequently). The acceptable pronunciation for each utterance at any given trial was chosen as analytical material.

3.4 Acoustic Analyses

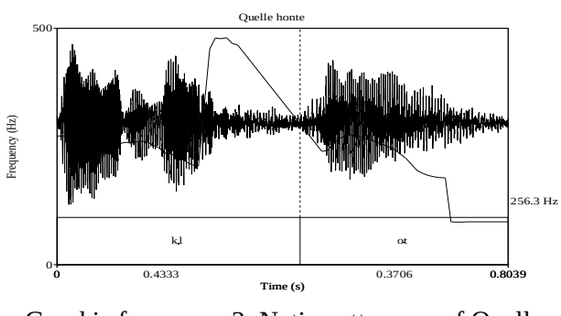
All utterances were digitized at rates of 20 kHz to 120 kHz and then acoustically analyzed using the Praat 14.025 version generated by the Institute of Phonetic Sciences, University of Amsterdam. The responses were computed to capture each student's ability. Measures with regard to amplitude were not omitted. These acoustic analyses help the researcher to monitor what have been done by subjects about the utterances provided in this study. What is interesting in these acoustic analyses is that results show varieties of frequencies because the subjects come from different ethnic groups.

4. Results and Discussion

The utterances in (1) to (12) are pronounced by native speaker in which the prosodic frequencies range differently in the levels of 254.8 Hz, 262.3 Hz, 229.3 Hz, 228.2 Hz, 230.6 Hz, 240.2 Hz, 222.4 Hz, 212.1 Hz, 204.4 Hz, 224.6 Hz, 244.5 Hz, and 256.3 Hz respectively. Of the twelve utterances, the lowest prosodic frequency reaches the level of 204.4 Hz and the highest is in the level of 256.3 Hz as displayed in Graphic frequencies 1 and 2. The level value between the lowest and the highest frequency is around 51.8 Hz. This value shows that the lowest and the highest frequencies are in the significant condition. This condition is not easily achieved by the non-native students who are involved in this experiment.

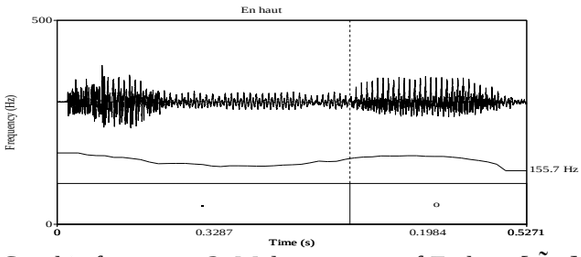


Graphic frequency 1.Native utterance of Ils arrivent [il za Riv]

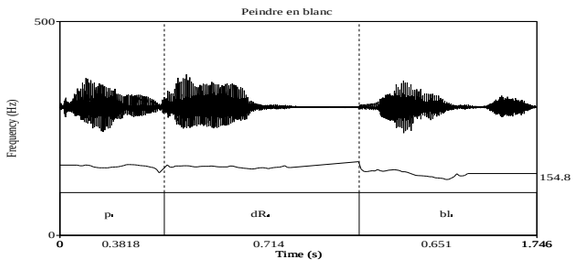


Graphic frequency 2. Native utterance of Quelle honte [kɛl õt]

The prosodic frequencies of the twelve utterances which were spoken by male students show some varieties; low prosodic frequencies are respectively recorded as follows: 138.5 Hz, 152.9 Hz, 142 Hz, 132.7 Hz, 133.6 Hz, 130.2 Hz, 134.4 Hz, 141.3 Hz,148.5 Hz, 149 Hz, 140.3 Hz, and 127.9 Hz; high frequencies can be displayed as the following: 186.5 Hz, 157.3 Hz, 182.3 Hz, 181.3 Hz, 148.7 Hz, 155.7 Hz, 158.4 Hz, 167.3 Hz, 170.5 Hz, 162.6 Hz, 184.2 Hz, and 148.3 Hz. Among all male students' prosodic frequencies, representatively, the lowest frequency is in the level of 130.2 Hz exhibited in the utterance (6) that can be seen in Graphic frequency 3 and the highest frequency is 184 Hz shown in the utterance (11) which is visually drawn in Graphic frequency 4.
The level value between the lowest and the highest frequency in this case is around 53.8 Hz. This value indicates that the lowest and the highest frequencies are in the significant circumstance. This circumstance means that the subjects are determined in the difficulty in getting the level which is marked by the native speaker.

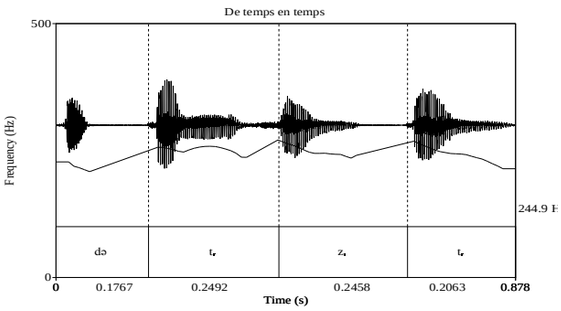


Graphic frequency 3. Male utterance of En haut [ɑ̃ o]

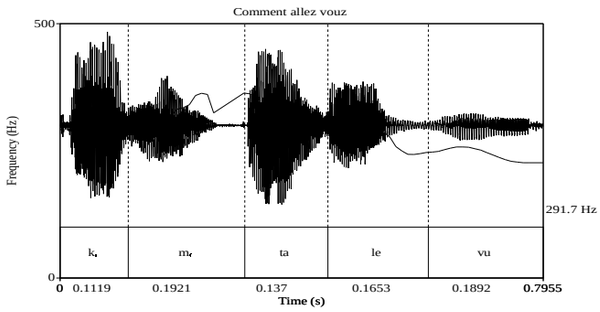


Graphic frequency 4. Male utterance of Peindre en blanc [pɛ̃ dRɑ̃ blɑ̃]

Meanwhile, among female students, the utterances in (1) to (12) have various prosodic frequencies; low prosodic frequencies appear in the levels of 170.7 Hz, 222.2 Hz, 167.4 Hz, 195 Hz, 181.9 Hz, 174. 2 Hz, 185.5 Hz, 214.8 Hz, 173.5 Hz, 195.4 Hz, 198.9 Hz, and 167.9 Hz; high frequencies reach the levels of 277.5 Hz, 303 Hz, 285.1 Hz, 287.6 Hz, 268.2 Hz, 279.3 Hz, 268 Hz, 268 Hz, 268 Hz, 279.9 Hz, 263.3 Hz, and 287.4 Hz. Of all female students' frequencies, the lowest frequency is in the level of 167.4 Hz appearing in the utterance (3) (see Graphic frequency 5) while the highest is 303 Hz disclosed in utterance (2) (Graphic frequency 6). All these prosodic frequencies are still considered in the significant range of tones compared to what have been produced by the native speaker of French. This value proves that the difference between the lowest and the highest frequencies are in the significant orientation. This orientation can be interpreted that the subjects are not able to follow the frequency as shown by the native speaker.



Graphic frequency 5. Female utterance of De temps en temps [də tɑ̃ zɑ̃ tɑ̃]



Graphic frequency 6. Female utterance of Comment allez vouz [kɔ mɑ̃ ta le vu]

In graphic frequency 5 the students' prosodic frequency of the utterance *de temps en temps*has not yet reached the frequency which was spoken by native speaker. The students' frequency is below native's one. In the experiment, there has occurred the shift (*liaison*) of the [s] to become declining. However, the utterance *comments allez vous?* When being uttered by students has not also yet approached the frequency produced by native. The contour made by students did not show the same as what has been recorded by native. Students' prosody started from low point and this does not indicate a question. In the end, students closed the utterance in declining tone although the tone for a question should be rising.

Table 1: The prosodic frequencies of syllables between native and students

Utter-ance	Native-based frequency (in Hz)			Female student-based frequency (in Hz)			Male student-based frequency (in Hz)		
	Initial low	Final high	Final	Initial low	Initial high	Final	Initial low	Initial high	Final
1	58.43	84.84	1.485	17.71	**55.73**	3.459	27.43	69.9	2.899
2	**66.89**	85.26	1.077	21.02	64.73	3.559	26.21	70.61	2.039
3	**57.34**	84.84	1.184	**27.61**	76.59	3.919	29.45	69.63	2.839
4	61.69	86.73	0.957	18.01	72.73	2.919	29.12	69.92	2.179
5	60.2	**83.27**	0.817	19.9	64.21	3.499	30.11	76.61	**2.019**
6	60.74	**88.97**	0.709	15.98	67.64	3.579	25.08	**67.61**	3.339
7	60.09	84.54	0.934	**12.5**	56.31	**4.539**	25.86	72.72	2.659
8	62.79	84.79	**0.986**	16.56	62.5	3.919	26.73	73.83	3.479
9	61.29	86.95	0.986	18.17	67.49	4.139	**42.76**	76.59	2.919
10	61.71	87.77	**1.441**	19.14	**85.9**	**1.639**	42.06	**79.12**	**3.559**
11	59.19	85.22	1.378	16.51	58.87	3.979	28.27	74.09	2.599
12	60.73	87.88	1.329	17.14	60.28	3.939	**24.86**	75.67	3.319

Some pronunciation mistakes which are commonly made by students who speak French come to happen on vocal sounding. Of eleven French vowels, such as, [a], [ɛ], [e], [ə], [i], [y], [ɔ], [o], [u], [o],[œ] students tend to use several of them, for instance, [y], [ɔ], [o] and [œ] and they always make mistakes in their pronunciation. It is concluded that the mistakes occurred because they did not have good technique and did not understand the composition of French alphabets. There are four kinds of mistakes which are generally carried out by students, such as, the pronunciation of vowels (*voyelles orales*), nasalized vowels (*voyelles nasales*), sounded or unsounded final consonants, and shift (*liaison*).

Meanwhile, from the audio recordings, the prosodic frequencies of the syllables of the twelve utterances are recorded to show different tone, pitch contour, and duration. In Table 1, in the "initial low" box the lowest frequency spoken by the native is in the level of 57.34 Hz and the highest is 66.89 Hz. In the "final high" box the lowest frequency sits in the level of 83.27 Hz and the highest 88.97 Hz (see bold figures). In the "final" box the lowest shows the level of 0.986 Hz and the highest frequency made by the native is in the level of 1.441 Hz and the lowest is o.986 Hz.

Among female students, in the "initial low" box, the lowest frequency is recorded at the level of 12.5 Hz and the highest is in the level of 27.61 Hz. In the "initial high" box, the lowest prosodic frequency is noted in the level of 55.73 Hz and the highest is 85.9 Hz. In addition, in the "final" box the lowest frequency is in the level of 1.639 Hz and highest frequency is shown in the level of 4.539 Hz.

Among male students, from the "initial low" box, the lowest frequency is detected to show the level of 24.86 Hz and the higest is in the level of 42.76 Hz. In the "initial high" box, the lowest is indicated in the level of 67.61 Hz and the highest sits in the level of 79.12 Hz. At last, in the "final" box, the lowest frequency is recorded to show the level of 2.019 Hz and the highest prosodic frequency is noted to mention the level of 3.559 Hz.

5. Conclusion and Suggestions

5.1 Conclusion

The students' abilities in French pronunciation indicate less improvement in the levels of tone, pitch contour and duration although they had passed the lecture *Audition Pronunciation*. Pronunciation mistakes come to happen on vocal sounding. Of eleven French vowels, students tend to use several of them, for instance, [y], [ɔ], [o] and [œ] and they make mistakes because they did not have good technique and enough knowledge in the composition of French alphabets. There are four kinds of mistakes, such as, the pronunciation of vowels (*voyelles orales*), nasalized vowels (*voyelles nasales*), sounded or unsounded final consonants, and shift (*liaison*). Of the twelve utterances spoken by the native speaker, the lowest prosodic frequency reaches 204.4 Hz and the highest is 256.3 Hz. Among all male students' pronunciation, the lowest prosodic frequency sits in the level of 130.2 Hz and the highest frequency is recorded at the level of 184 Hz. Of all female students, the lowest frequency is in the level of 167.4 Hz and the highest is 303 Hz. All these levels of prosodic frequencies are still in the significant range of tones compared to what have been produced by the native speaker of French although the students' frequencies are categorized below the native's ones. The contour made by the students did not show the same as what has been recorded by the native. Students's prosody always started from low point. In the end, students closed the utterance in declining tone although the tone of a question should be rising.

5.2 Suggestions

In terms of contents of Audition Pronunciation guide book, some suggestions are available in the followings:

1. Learning materials should be revised to correspond to the students' needs and abilities of especially those who are beginners.
2. The instructional materials should not quite complex, theoretical, and inapplicable so the students are easy to understand the explanation and unrepresentative examples.
3. Linguistic terms, for example, acclusif, velaire, vacuité, Cavite, arrondi, etc. should have simple explanations so the students easily understand them.
4. Teach students with sufficient knowledge of phonetics and phonology.
5. Praat should be more taught to students to make them familiar with it.
6. Minimize the text display, schemas, and tables.
7. Each explanation has to be accompanied with clear illustrations and examples.

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