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Author: Siti Maharani Malayu and Yuddi Adrian MuliadiDOI: 10.32734/lwsa.v3i4.1147Electronic ISSN: 2654-7066Print ISSN: 2654-7058

Volume 3 Issue 4 – 2020 TALENTA Conference Series: Local Wisdom, Social, and Arts (LWSA)



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LWSA Conference Series 03 (2020)

**TALENTA** Conference Series



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# Japanese Verba Analysis on The Use of Duration, Intensity, and Frequency by Indonesian and Malaysia Teachers

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#### Abstract

This research is focused on case studies involving six speakers, native and non-native, in pronouncing Japanese verbs. This research includes an acoustic phonetic study with the help of the PRAAT application which is used to calculate the duration, intensity, and frequency of speech. The subject of discussion in this study were eight Japanese verbs. The research is focused on looking at the similarities and differences of teachers from Indonesia and Malaysia in terms of duration, intensity, and frequency compared with native speech. The research method for obtaining a comparison of the duration, intensity, and frequency of speakers is descriptive-analysis by presenting data in the form of numeric tables and graphs. This study involved two native speakers and six non-native speakers, namely four speakers from Indonesia and two from Malaysia. The data collection method uses PRAAT with audio files as the main data source. The results of this study indicate that the eight target verbs [au], [iku], [isogu], [demasu], [dekakeru], [orinai], [hairimasu], and [norikaemasu] occur variations in terms of duration, intensity, and frequencies spoken by non-natively. For non-native women, the tendency is not too far different from native, both non-native from Indonesia and from Malaysia. However, there was a significant variation for non-native males. Non-native speakers from Malaysia tended to be the same for minimum measures of intensity and frequency, while those from Indonesia tended to be the same for maximum measures of intensity and frequency, while those from Indonesia tended to be the same for maximum measures of intensity and frequency, while those from Indonesia tended to be the native duration. Meanwhile, there were variations in intensity and frequency between non-natives from Indonesia and Malaysia.

Keywords: Duration; intensity; frequency of non-native verbs

#### 1. Introduction

Japanese is a language that has a different form of language from other foreign languages. The form of the language can be observed from the pronunciation, vocabulary, grammar, grammar, ways of expression, and the variety of language used. The variety of Japanese is highly influenced by socio-cultural factors such as region, social class, gender differences, and age [1].

When viewed from the form of Japanese which is very different from Indonesian and Malaysian, it is possible for Japanese learners to find difficulties in learning Japanese. Even in teaching Japanese, what the researcher shows in the teaching and learning process in class will not be separated from the various difficulties that must be faced.

According to Tsujimura [2], languages in this world are usually divided into three types in relation to how stress and pitch are manifested in words. There are stress-accent languages, tonal languages, and pitch-accent languages. The third type of language is a pitch-accent language such as Japanese. A pitch-accent language is similar to tone language in that each mora in a word is associated with a certain tone, such as high notes, low notes, decreasing notes.

Studying Japanese as a foreign language in Indonesia and Malaysia cannot be separated from facing problems or difficulties in the learning process. This problem is caused by various factors, including the factor of the mother tongue. According to previous studies including [3] - [6] stated that the mother tongue has a strong influence on the target language learning process.

In Indonesia, when teachers teach new vocabulary words to their students, they are usually pronounced with the same accent in each word. For example in the word *buku* (consisting of two syllables); *lemari* (consisting of three syllables); *interaksi* (consisting of four syllables), the first syllable is pronounced in a low tone and the next is pronounced in a high tone or vice versa. This happens because the vocabulary in Indonesian and Malaysian does not use a tone system to differentiate meaning.

Unlike the Japanese language, there are many words that are homonymized, so that to distinguish the meaning, it can be seen from the kanji letters and also the meaning of the word can be distinguished from the pitch accent tone of the word according to the context contained in the sentence. Every word in Japanese has an accent that corresponds to the number of syllables and the existing tone accent pattern. Japanese teachers in Indonesia have a native language of the regional language and Indonesian, while Japanese teachers in Malaysia have a native language of Malaysia and English. English recognizes the stress accent language system that differentiates meanings, for example in the word white house; distinct accent can differentiate the meaning between "the presidential palace in America", and "a white house".

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In accordance with what has been described above, it is estimated that Malaysian teachers with a background of proficiency in English are better at teaching Japanese vocabulary than Indonesian teachers.

Does the teacher's native language background affect the frequency, intensity, and duration of pronunciation of Japanese vocabulary? In this study, the Japanese language teachers in Indonesia and Malaysia were analyzed in their speech upon the target verb type.

#### 2. Methodology

This study uses a qualitative descriptive research method to obtain a more detailed picture of the use of duration, intensity, and frequency of Japanese speech sounds. Speech sounds are processed with instruments so that various aspects and acoustic features of the speech sounds can be visualized and used as a basis for further measurements.

The data used in this study are speech data in the form of Japanese words in the verb category, namely *au*, *iku*, *isogu*, *demasu*, *dekakeru*, *orinai*, *hairimasu*, and *norikaemasu*.

The data sources in this study were four respondents who spoke the target word, namely two Japanese language teachers from the Faculty of Cultural Science of USU, Indonesia and two Japanese language teachers from USM, Malaysia. The speech model is the utterance of native Japanese speakers which were acquired from OJAD (Online Japanese Accent Dictionary).

The data collection technique was done by recording the eight target words from the native speaker category as a model in this study. Furthermore, the recording of utterances to two Japanese language teachers at the USU Faculty of Cultural Sciences (FIB) and two Japanese language teachers at Universiti Sains Malaysia (USM) were used as data and data sources in this study. The research data is in the form of recorded data collected through recording using a recording device. The recording device used was the Sony IC Recorder ICD-UX300F.

The results of data analysis with the Praat program were carried out to compare the size of the duration, intensity, and frequency of the eight target words spoken by native speakers with Japanese speakers from FIB USU, Indonesia and USM, Malaysia.

In this study, the speech model acquired from OJAD was called Native, and the Japanese language teachers respondents at USU FIB were called RI1 for women and RI2 for men, while the informants from USM Japanese teaching staff were called RM1 for men and RM2 for women.

#### 2.1. Discussion

Acoustic features consist of frequency or melodic structure, duration or temporal structure, and intensity related to loudness of sound. These three studies refer to suprasegmental elements whose data accuracy can only be obtained by measuring device. In this case the tool in question is Praat.

#### 2.1.1. Duration

Duration is the time span required for the realization of a segment which is measured in milliseconds [7]. Segmentation in speech can be in the form of sentences, phrases, words, and sounds. The duration in a single cycle is called a period. Denoted by the letter T (Time). Measured in abbreviated units of seconds or milliseconds (ms).

#### 2.1.2. Intesity

Intensity is related to how loud the sound is. The acoustic characteristic intensity is measured in decibels (dB). In a sound signal, the intensity of the speech is represented in the magnitude of the amplitude in the sound wave. The greater the amplitude, the higher the sound intensity. In general, vowels have a greater amplitude than consonants [8]

According to [9], the level of loudness can be determined by connecting it with its acoustic partner, namely intensity, which is a measure of acoustic energy. Lack of strength (also known as intensity) is sometimes considered a marker of stress.

#### 2.1.3. Frequency

Frequency is a sound that determines the pitch of a sound. The sound frequency affects the pitch of a sound. The higher the frequency, or the shorter the cycle, the higher the pitch of the sound. In speech sounds, the realization of this acoustic feature is influenced by the thickness or thinness of the vocal cords and the tension or loosening of the vocal cords [7]. [10] stated that frequency is a term that comes from the physics study of sound, and is used in acoustic phonetics. Frequency refers to the number of occurrences of sound waves in units of time and is measured in hertz (Hz).

118

#### 2.2. Results of the Research

#### 2.2.1. Duration of Verbs

Determination of the measured duration is the time required in one speech. In this study there are eight target words. The unit of duration is measured in seconds (s). The following is the duration data of the eight target words by native and respondent.

Table 1. Duration Comparison									
Target Words	Speaker								
Target Words	Native	RI1	RI2	RM1	RM2				
[au]	0.26 s	0.25	0.31	0.26	0.31				
		S	S	S	S				
[iku]	0.36 s	0.36	0.37	0.34	0.30				
		S	S	S	S				
[isogu]	0.48 s	0.35	0.50	0.38	0.54				
		S	S	S	S				
[demasu]	0.38 s	0.66	0.39	0.39	0.43				
		S	S	S	S				
[dekakeru]	0.64 s	0.63	0.90	0.58	0.72				
		S	S	S	S				
[orinai]	0.46 s	0.57	0.54	0.43	0.57				
		S	S	S	S				
[hairimasu]	0.64 s	0.75	0.71	0.65	0.69				
		S	S	S	S				
[norikaemasu]	0.75 s	0.99	0.91	0.86	0.96				
		S	S	S	S				

Based on the table above, it can be seen that for the word target [au] between speakers of the Japanese language teachers, USU

FIB and USM, the same duration is obtained. For respondents, R11 is equal to RM1, the duration is the same as native. Meanwhile, the duration of R12 and RM2 are both longer, namely 0.31s.

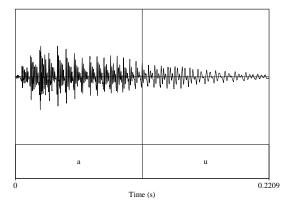


Fig 1. Duration of [au] native

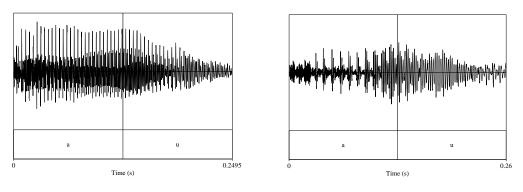


Fig 2. Duration of [au] RI1

Fig 3. Duration of [au] RM1

For the target word [iku] the native duration is 0.36s, this is the same as that obtained by RI1 (0.36s) and RI2 (0.37s) speakers, while for speakers from Malaysia the duration is shorter.

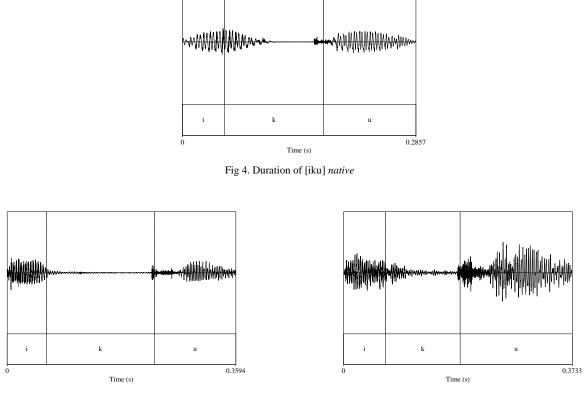


Figure 5. Duration of [iku] RI1

Figure 6. Duration [iku] RI2

In the target word [isogu] native duration of 0.48s, there are no speakers with the same duration, only RI2 speakers (0.50s) that are close to its duration.

For target word [demasu] with native duration of 0.38s, there were two speakers of RI2 (0.39s) and RM1 (0.39s) with the same duration.

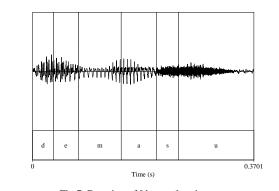


Fig 7. Duration of [demasu] native

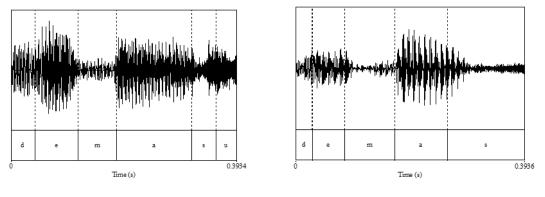


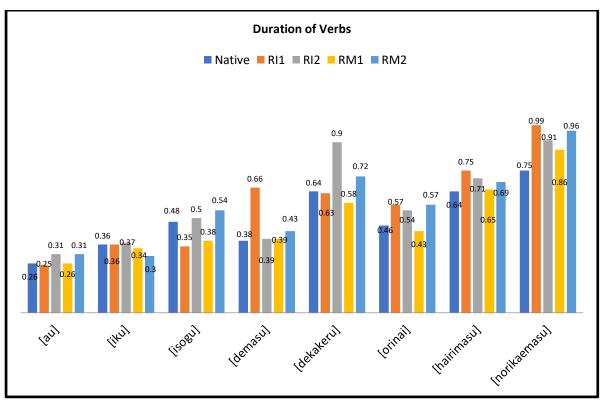
Figure 8. Duration of [demasu] RI2

Figure 9. Duration of [demasu] RM1

In the target word [dekakeru] the native duration is 0.64s, only RI1 speakers (0.63s) have the same duration.

Furthermore, in the target word [orinai] the native duration is 0.46s, the speaker is RM1 (0.43s) the duration is close. Likewise, the target word [hairimasu] has a native duration of 0.64s, speakers of RM1 (0.65s) whose duration is close. Lastly, for the target word [norikaemasu], the native duration is 0.75s, not even one pentura has the duration close to it.

Overall, male speakers from Malaysia (RM1) had more duration, which was the same as the native duration, namely 50%. Meanwhile, from Indonesia, female speakers (RI1) have a duration that is close to the 37.5% native duration. Only 25% of male speakers from Indonesia (RI2) were close to the native duration. For female speakers from Malaysia (RM2) not one target word has the same duration as the native duration. When compared, the percentage among speakers from Indonesia is better, namely 62.5%, while from Malaysia it is 50%.



Graph 1. Comparison of Verbs Duration

#### 2.2.2. Intensity of Verbs

In determining the measured intensity is related to the loudness of the sound. Sound signal, the intensity of the speech is represented in the amplitude of the sound wave. The greater the amplitude, the higher the sound intensity. In this study there are eight target words. The unit of intensity is measured in decibels (dB). The following is the intensity data of the eight target words by native and respondents.

	Table 2. Comparison of Intensity											
		Target Words										
Spea	ker	[au]	[iku	[isogu	[demasu	[dekakeru	[orinai	[hairimasu	[norikaemasu			
			]	]	]	]	]	]	]			
Nativ	Min	65.8	26.0	62.96	57.16 dB	36.91 dB	62.62 dB	58.13 dB	34.76 dB			
е		3 dB	0 dB	dB								
	Ma	76.31	73.79	62.96	75.96 dB	82.12 dB	74.72 dB	78.92 dB	72.98 dB			
	х	dB	dB	dB								
RI1	Min	73.9	44.05	70.41 dB	67.72 dB	52.83 dB	68.54 dB	66.25 dB	50.44 dB			
		0 dB	dB									
	Ma	80.9	74.70	84.79	78.94 dB	82.40 dB	81.52 dB	82.950 dB	81.17 dB			
	х	2 dB	dB	dB								
RI2	Min	74.13	56.70	65.74	69.90 dB	50.99 dB	70.85 dB	65.40 dB	53.82 dB			
		dB	dB	dB								
	Ma	84.45	81.03	85.08	84.64 dB	84.60 dB	86.09 dB	85.11 dB	85.02 dB			
	х	dB	dB	dB								
RM1	Min	71.70	42.13	61.37 dB	58.72 dB	46.17 dB	66.96 dB	61.27 dB	47.66 dB			
		dB	dB									
	Ma	80.61	75.06	83.83	80.36 dB	78.39 dB	80.56 dB	80.97 dB	79.70 dB			
	х	dB	dB	dB								
RM2	Min	67.57	46.9	52.72	58.45 dB	45.96 dB	58.67 dB	62.43 dB	45.15 dB			
		dB	5 dB	dB								

Table 2. Comparison of Intensity

Ma	74.75	73.02	79.57	74.52 dB	75.16 dB	71.10 dB	79.01 dB	76.88 dB
х	dB	dB	dB					

Based on the data above, it can be seen that, in the word [au], the intensity of native speech is min 68.83dB and max 78.31dB so that the closest intensity is RM2's speech, which is min 67.57dB and max 74.75dB. Meanwhile, the other three respondents found that the minimum and maximum intensity was higher than the native intensity.

In [iku] word, the native speech intensity is min 26.00dB and max 73.79dB. There are no respondents who are the same or close to the minimum and maximum intensity as well as the native intensity. Only at the maximum intensity of the RI1 respondents which approached the native intensity, namely 74.70dB, so was the speech of the respondent's RM2 73.02dB.

In [isogu] word, the intensity of native speech is parallel, which is the same between the minimum and maximum intensity, which is 62.96dB. The intensity of the respondents who approached was the speech of the respondents RI2 min 65.74dB and RM1 min 61.37dB. Overall, there were no respondents with the same intensity or close to the parallel native intensity. Everyone's Frequency was different.

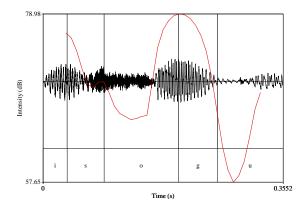


Fig 10. Intensity of [isogu] native

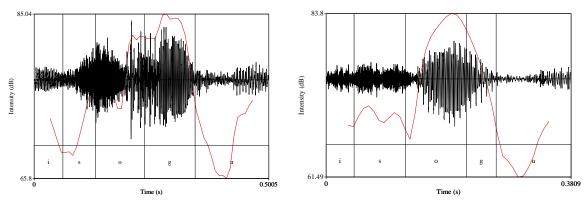


Figure 11. Intensity of [isogu] RI2

Figure 12. Intensity of [isogu] RM1

In [demasu] word, native speech intensity is min 57.16dB and max 75.96dB. In this word, respondents RM2 approached the minimum and maximum intensity of native speech, namely min 58.45dB max 74.52dB, while respondent RM1 approached at min intensity 58.72dB. None of the respondents from Indonesia approached the native intensity speech.

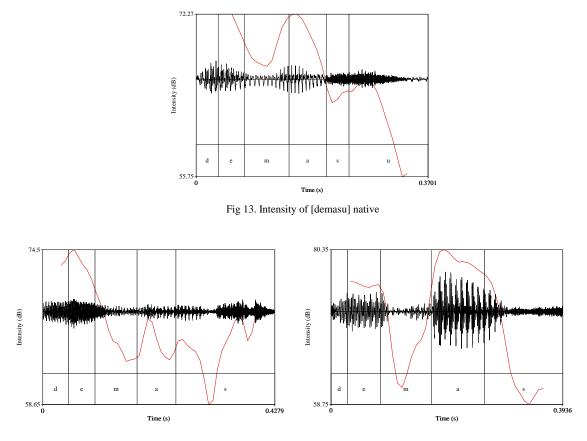


Figure 14. Intensity of [demasu] RM2

Figure 15. Intensity of [demasu] RM1

In [dekakeru] word, the native speech intensity is min 36.91dB and max 82.12dB. Here the respondents from Indonesia approached the maximum intensity, namely RI1 82.40dB and RI2 84.60dB. Meanwhile, none of the respondents' speech from Malaysia came close to the native intensity speech.

In [orinai] word, the native speech intensity is min 62.62dB and max 74.72dB. Not a single respondent is the same or comes close to the native intensity speech, either from the minimum or maximum intensity.

In [hairimasu] word, the native speech intensity is min 58.13dB and max 78.92dB. Respondents from Malaysia approached for maximum intensities of RM1 80.97dB and RM2 79.01dB. Meanwhile, none of the respondents' speech from Indonesia came close to the native intensity speech.

In [norikaemasu] word, the native speech intensity is min 34.76dB and max 72.98dB. Based on the intensity of the native speech, not a single respondent is the same or comes close to the native intensity speech, both from the minimum and maximum intensity.

Overall, for respondents from the Japanese language teaching staff at USM, Malaysia, there are nine intensities that are close to the intensity of native speech. Meanwhile, respondents from the Japanese language teachers at USU's FIB, Indonesia, only had four intensities that were close to native intensity speech. The dominant intensity approaching the intensity of native speech is the maximum intensity, namely five maximum intensities from Malaysian respondents and three maximum intensities from Indonesian respondents.

#### 2.2.3. Frequency of Verbs

Frequency is a sound that determines the pitch of a sound. The higher the frequency, or the shorter the cycle, the higher the pitch of the sound. Frequency is used to measure waves traveling rhythmically with a count per unit time measured in Hertz (Hz). In this study there are eight target words. The following is the frequency data of the eight target words by native and respondent.

Table 3. Comparison of Frequency

Target Words	Speaker							
Target Words	Native	RI1	RI2	RM1	RM2			

[au]	Min	181.28 Hz	199.78 Hz	119.41 Hz	96.06 Hz	165.66 Hz
	Max	292.57 Hz	238.73 Hz	207.19 Hz	121.48 Hz	178.81 Hz
[iku]	Min	160.07 Hz	186.70 Hz	127.31 Hz	107.59 Hz	167.44 Hz
	Max	269.38 Hz	262.63 Hz	364.48 Hz	122.03 Hz	188.45 Hz
[isogu]	Min	146.28 Hz	245.41 Hz	97.37 Hz	93.08 Hz	162.00 Hz
	Max	308.01 Hz	292.33 Hz	410.90 Hz	128.46 Hz	340.50 Hz
[demasu]	Min	176.56 Hz	212.87 Hz	142.36 Hz	95.32 Hz	147.73 Hz
	Max	589.96 Hz	262.47 Hz	171.31 Hz	108.97 Hz	527.41 Hz
[dekakeru]	Min	148.35 Hz	202.12 Hz	127.97 Hz	75.91 Hz	145.21 Hz
	Max	290.55 Hz	280.91 Hz	314.27 Hz	149.50 Hz	566.96 Hz
[orinai]	Min	143.15 Hz	213.93 Hz	124.10 Hz	82.69 Hz	151.41 Hz
	Max	322.74 Hz	250.60 Hz	211.16 Hz	121.85 Hz	182.66 Hz
[hairimasu]	Min	189.26 Hz	235.50 Hz	128.19 Hz	96.85 Hz	176.46 Hz
	Max	311.25 Hz	259.22 Hz	211.08 Hz	117.89 Hz	194.59 Hz
[norikaemasu]	Min	182.84 Hz	218.81 Hz	127.95 Hz	85.13 Hz	138.95 Hz
	Max	310.52 Hz	297.04 Hz	430.11 Hz	559.34 Hz	238.16 Hz

Based on the data above, it can be seen that, in the word [au] the native speech frequency is min 181.28Hz and max 292.57Hz so that the closest frequency is the speech of the RI1 respondent, which is min 199.78Hz. While the other three respondents obtained varied results, none of which came close to the native frequency, both the minimum and maximum frequencies.

In [iku] word, the native speech frequency is min 160.07Hz and max 269.38Hz. Respondent RI1 approached the maximum frequency of native speech, namely 262.63Hz, while respondents RM2 approached the maximum frequency of native speech, namely 167.44Hz.

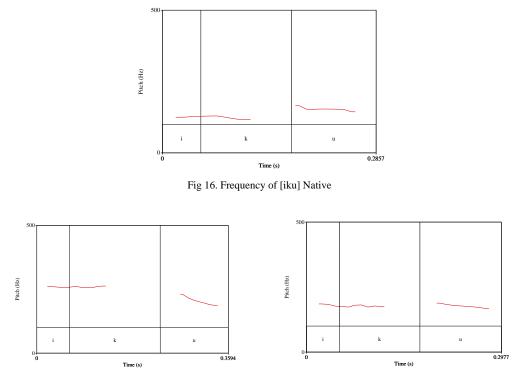


Figure 17. Frequency of [iku] RI1

Figure 18. Frequency of [iku] RM2

In [isogu] word, the native speech frequency is min 146.28Hz and max 308.01Hz. The respondent's approach frequency is the speech of the respondent RI1 max 292.33Hz. While other respondents, none of the frequency is the same or close to the native frequency, all of them vary between the minimum and maximum frequencies.

In [demasu] the native speech frequency is min 176.56Hz and max 589.96Hz. In this word, RM2 respondents approached the maximum native frequency speech, which is max 527.41Hz, while none of the other respondents approached native frequency speech.

In [dekakeru] the native speech frequency is min 148.35Hz and max 290.55Hz. Here, respondents from Indonesia approached the maximum frequency, namely RI1 280.91Hz and Malaysian respondents approached the native minimum frequency speech, which was RM2 145.21Hz. Meanwhile, none of the other two respondents approached native frequency speech.

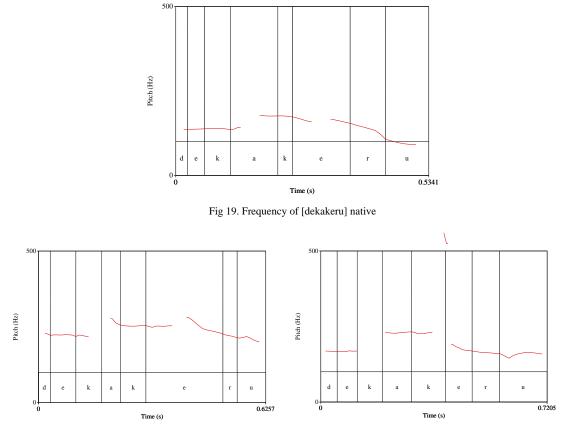


Figure 20. Frequency of [dekakeru] RI1

Figure 21. Frequency of [dekakeru] RM2

In [orinai] the native speech frequency is 143.15Hz and max 322.74Hz. Only RM2 respondents at the minimum frequency which approached, namely min 151.41Hz, while the other respondents did not approach the native frequency speech, both from the minimum and maximum frequencies.

In [hairimasu] word, the native speech frequency is min 189.26Hz and max 311.25Hz. Respondents from Indonesia approached for the maximum frequency of RM1 259.22Hz and respondents from RM2 176.46Hz at the minimum native frequency.

In [norikaemasu] the native speech frequency was 182.84Hz and max 310.52Hz. Based on the native speech frequency, only RI1 respondents approached the maximum frequency, namely 297.04Hz, while other respondents did not approach native frequency speech, both from the minimum and maximum frequencies.

	rable 4. requercy of veros										
Responden	[au]	[iku	[isogu	[demasu	[dekakeru	[orinai	[hairimasu	[norikaemas			
t		]	]	]	]	]	]	u]			
Native											
awal	129.9	124.8	142.02	119.3 Hz	136.2 Hz	117.7 Hz	128.2 Hz	117.8 Hz			
	Hz	Hz	Hz								
naik	181.8		206.03	167.0 Hz	176.8 Hz	204.7 Hz	205.0 Hz	209.5 Hz			
	Hz		Hz								
turun		116.7									
		Hz									
naik		165.4									
		Hz									

Table 4. Frequency of Verbs

final	104.7	143.9 Hz	107.9 Hz	91.5 Hz	91.9 Hz	83.7 Hz	149.0 Hz	148.9 Hz
Min	Hz 129.9	116.7	107.9 Hz	91.5 Hz	91.9 Hz	83.7 Hz	128.2 Hz	117.8 Hz
	Hz	Hz						
Max	181.8	165.4	206.03	167.0 Hz	176.8 Hz	204.7 Hz	205.0 Hz	209.5 Hz
	Hz	Hz	Hz					
RI1		88.4	8/5/		888 ( 11	888 (	8// 8 //	
awal	232.1	264. 2 Hz	245.4 Hz	219.2 Hz	223.4 Hz	230.4 Hz	241.8 Hz	221.1 Hz
naik	Hz 238.1	Z 11Z	292.3		277.1 Hz	250 Hz	259.1 Hz	225.5 H
Патк	Hz		Hz		277.1112		200.1112	220.011
turun		87.6			248.6 Hz	233.8		
		5 Hz				Hz		
naik		229.1			281.1 Hz			296.6 H
	185.5	Hz						
final	199.8	186.9	256.8	262.2 Hz	202.2 Hz	212.9 Hz	246.5 Hz	240.9 H
Min	Hz 199.8	Hz 87.6	Hz 245.4	219.2 Hz	202.2 Hz	212.9 Hz	241.8 Hz	221.1 H
IVIIII	Hz	67.0 5 Hz	240.4 Hz	Z13.Z HZ	ΖυΖ.Ζ ΠΖ	ZIZ.3 NZ	241.0 NZ	ZZI.I Π
Max	238.1	264.	292.3	262.2 Hz	281.1 Hz	250 Hz	259.1 Hz	296.6 H
	Hz	2 Hz	Hz		2011112	200 112	200.112	200.011
RI2								
awal	160.4	324.	159.1 Hz	169 Hz	141.7 Hz	158.1 Hz	158.3 Hz	165.4 H
	Hz	3 Hz						
naik	205	335.		171.4 Hz	310.5 Hz	211.1 Hz	205.5 Hz	350.5 H
	Hz	6 Hz	07.0.11				(00.0.1)	
turun	119.4 u-	167 4-	97.3 Hz				188.9 Hz	111.7 H
naik	Hz 192	Hz	407.9				209.2 Hz	196 H:
Пак	Hz		Hz				200.2112	10011
final	134.5	127.3	142.7 Hz	142.3 Hz	128 Hz	124 Hz	128.2 Hz	131.3 H
	Hz	Hz						
Min	119.4	127.3	97.3 Hz	142.3 Hz	128 Hz	124 Hz	128.2 Hz	111.7 H
	Hz	Hz						
Max	205	335.	407.9	171.4 Hz	310.5 Hz	211.1 Hz	209.2 Hz	350.5 H
D144	Hz	6 Hz	Hz					
RM1	96.0	113.4	116.8 Hz	99.42 Hz	89.54 Hz	100.6 Hz	96.91 Hz	120.9 H
awal	30.U 8 Hz	Hz	110.0 NZ	33.4Z NZ	03.34 HZ	IUU.0 NZ	30.31 NZ	IZU.3 N.
naik	0 112	112		109 Hz	146.9 Hz	119.9 Hz	117 Hz	558.5 H
turun				100 112	110.0 112	10.0 112		84.93 H
naik								
final	121.5	117	93.08	106.1 Hz	84.85 Hz	80.14 Hz	110 Hz	553.8 H
	Hz	Hz	Hz					
Min	96.0	113.4	93.08	99.42 Hz	84.85 Hz	80.14 Hz	96.91 Hz	84.93 H
	8 Hz	Hz	Hz	122.11				
Max	121.5	117	116.8 Hz	109 Hz	146.9 Hz	119.9 Hz	117 Hz	558.5 H
RM2	Hz	Hz						
awal	175.2	185.3	351.8	147.8 Hz	230.1 Hz	168.1 Hz	186.8 Hz	169.9 H
awdi	Hz	Hz	JJI.0 Hz	147.0 112	200.1112	100.1 (12	100.0 112	ח ה.הטו
naik	112	112	112		568.9 Hz	182.6 Hz		264.3 H
turun		175			22010 112	179.1 Hz	177.1 Hz	20.01
		Hz						

naik		188.4					191.3 Hz	
		Hz						
naik							192.8 Hz	
final	165.8	167.4	175.2 Hz	482.8 Hz	173.3 Hz	151.5 Hz	176.4 Hz	150.3 Hz
	Hz	Hz						
Min	165.8	167.4	175.2 Hz	147.8 Hz	173.3 Hz	151.5 Hz	176.4 Hz	150.3 Hz
	Hz	Hz						
Max	175.2	188.4	351.8	482.8 Hz	568.9 Hz	182.6 Hz	192.8 Hz	264.3 Hz
	Hz	Hz	Hz					

Overall, for respondents from the Japanese language teachers at USU's FIB, Indonesia, there are six frequencies that are close to the frequency of native speech. Meanwhile, respondents from USM Language teachers, Malaysia only had five frequencies that were close to native frequency speech. The dominant frequency that approaches the frequency of native speech by respondents from Indonesia is the maximum frequency of five frequencies. Meanwhile, the dominant frequency approaching the native speech frequency by Malaysian respondents is the minimum frequency, which is four frequencies. Of the frequencies that are close to the frequency of native speech, all are female respondents, both from Indonesia and from Malaysia. Meanwhile, none of the male respondents approached the frequency of native speech.

#### 3. Conclusion

Based on the data analysis of the speech of the four respondents on the eight verbs compared to native speech, in terms of duration, intensity, and frequency, it can be concluded that. Male speakers from Malaysia (RM1) had the same duration as the native duration, namely 50%. Meanwhile, from Indonesia, female speakers (RI1) have a duration that is close to the 37.5% native duration. Only 25% of male speakers from Indonesia (RI2) were close to the native duration. The percentage of speakers from Indonesia is better, namely 62.5%, while from Malaysia 50%.

On the intensity of respondents from Malaysia, there are nine intensities that are close to the intensity of native speech. Meanwhile, there were only four respondents from Indonesia that approached native intensity speech. The dominant intensity approaching the intensity of native speech is the maximum intensity, namely five maximum intensities from Malaysian respondents and three maximum intensities from Indonesian respondents.

In terms of frequency, there are six respondents from Indonesia that are close to the frequency of native speech, including five maximum frequencies. Meanwhile, respondents from Malaysia only had five frequencies, including four minimum frequencies. The frequencies that are close to the frequency of these native speeches are all female respondents, both from Indonesia and from Malaysia.

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