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Japanese Language Learners of Manado State University's Ability to Produce Long Duration Vowels /aa/, ii/, /uu/, /ee/ and /oo/

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Abstract

Mastery of long vowel pronunciation in Japanese is an important aspect for learners, especially at Universitas Negeri Manado. Long vowels, such as /AA/, /II/, /UU/, /EE/, and /OO/, have a longer duration than short vowels. The purpose of this study was to determine the duration of long vowels produced by students of the Japanese Language Education Study Program and how they differ when compared to native speakers. This research was conducted on students of semester IX (nine) of Japanese Language Education Study Program of Universitas Negeri Manado and a native speaker. The method used is descriptive quantitative where the author processes the data recorded by the speakers using Speech Analyzer application which is a software application to analyze speech sounds to obtain data on the duration of long vowels. After that, it was processed again using Microsoft Excel to calculate the average duration of long vowels from the speakers' speech. The conclusion of this study is the duration of long vowels produced by students from the average obtained are: 149 ms on the vowel /aa/, 142 ms on the vowel /ii/, 127 ms on the vowel /uu/, 251 ms on the vowel /ee/, and 122 ms on the vowel /oo/. The duration mentioned above after being compared with native speakers the results tend to be shorter than native speakers. There are also significant differences with native speakers in some vowel positions in words such as the sound /_aa/ by AK (093 ms), JE (084 ms) and native speakers (195 ms).

Keywords: ***Long vowel duration; university students; native speakers***

1. Introduction

In general, language sounds are divided into vowels, consonants, and semivowels. The difference between vowels and consonants is based on the presence or absence of obstacles in the speech apparatus when pronouncing sounds. Vowel sounds are not accompanied by obstacles to the speech apparatus. In the field of phonology, vowel sounds are symbolized by the letters a, i, u, e, and o. In every language in the world, of course, has its own study of the five fields of linguistics. In language learning there are 4 (four) language skills, namely listening learning (listening), speaking learning (speaking), reading learning (reading), and writing learning (writing) (Lensun, 2015). In this study the authors discuss linguistics in the field of phonetics, which means that it also includes listening learning.

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Furthermore, Muslich (2008) argues that phonetics is a field of science that examines how humans produce language sounds in speech, examines the waves of language sounds that are released, and how human hearing receives language sounds to be analyzed by the human brain. Based on the opinions of these experts, the author himself concludes that phonetics is the science of speech. Based on the point of view of language sounds, phonetics can be divided into 3 types, namely: (1) organic phonetics, (2) acoustic phonetics, (3) auditory phonetics (Bloch & Trager, 1942:11, Verhaar, 1982:12). In Japanese phonology, vowel sounds are symbolized by the letters あ、い、う、え、お in hiragana, and ア、イ、ウ、エ、オ in katakana.

But basically, whether in Japanese or Indonesian, each person produces different vowel qualities when pronouncing vowel sounds. Quality itself is the degree of good or bad or the level or degree of something. One indicator that can be used as a measure of vowel quality is the length of the vowel, which is of course different in Japanese. Japanese is very different from Indonesian, starting from the letters, grammar, even dialect, or also pronunciation. In terms of vowel pronunciation, Japanese words can contain up to two vowels per word with an average speaking speed that is fast. A simple example is in the pronunciation of Japanese vowels, especially the vowels “i” and “u” are usually barely audible (for example: “sensei” is pronounced “sense-”; “suki” sounds like “ski”), and coupled with the average Japanese speaking speed which is usually fast, then a word that should have a long vowel may only sound like one vowel to Indonesian ears. The vowel letter “ii” in Japanese means that the vowel letter “i” is read long. Because of the difference in the pronunciation of the vowels, it can sound like saying “okashi”. In fact, okashi which consists of only one vowel “i” has another meaning, which is cake (お菓子).

Of course, it is not only Indonesia that studies Japanese. Countries in Asia and even other continents also study Japanese and many have even established Japanese language courses. However, the pronunciation produced by each person in each country is certainly different where most are pronounced following the dialect of each country. The issue of long vowels in each country is also different, especially in Indonesia. Meanwhile, Verhaar (2010:19) says that phonetics is a branch of linguistics that examines the “physical” basis of language sounds. There are two aspects of the “physical” basis, namely: the aspect of speech tools and their use in producing language sounds; and the acoustic properties of the sounds that have been produced. According to the first basis, phonetics is called “organic phonetics” (because it concerns the speech organs), or “articulatory phonetics” (because it concerns the articulation of language sounds). According to the second basis, phonetics is called “acoustic phonetics”, because it concerns the sounds of language from the angle of sound as air vibrations. Acoustic phonetics is largely based on physics (about sound), applied to the sounds of language.

The development of Japanese language education in Indonesia is progressing very rapidly, but the teaching of Japanese pronunciation has not received attention, even though Japanese pronunciation is very important to be taught, because there are elements of Japanese sounds that are difficult for Indonesian learners, Najoan (2014). In Indonesian, there are no words that have long vowels, which makes us unaccustomed to pronouncing a vowel with a longer duration. According to the Big Indonesian Dictionary (KBBI) vowels are language sounds produced by vibration of the vocal cords and without constriction in the vocal tract above the pharynx. Vowels are language sounds whose air currents do not experience obstacles,

so there is no articulation. There is no articulation in vowel formation. Obstacles to vowel sounds only on the vocal cords are not commonly called articulation (Verhaar, 1977: 17).

Teaching pronunciation is important for every Japanese learner because there are still many pronunciation errors even by students who are or have studied Japanese a lot sometimes pronounce long vowels in Japanese with the same duration as pronouncing short vowels, or even with a longer duration than native speakers, either because it has become a habit that is difficult to break or unconsciously.

Rounded vowel formation is a vowel that is pronounced with rounded lips. The rounded lip shape can be both open and closed. If open, the vowel is pronounced with the lips in a rounded open position. For example, the vowels [u], [o], and [a]. Unrounded vowel formation is a vowel pronounced with lips that are not rounded or spread wide, such as [i] and [e]. Furthermore, the formation of vowels based on height or top is formed when the lower jaw approaches the upper jaw, such as [i] and [u]. Meanwhile, intermediate vowels are formed when the lower jaw moves away slightly from the upper jaw, such as [e] and [o].

The uniqueness of Japanese vowels is that they consist of two types: long vowels and short vowels. Long vowels in Japanese are called 長母音 (*choobo'in*) or 長音 (*choo'on*). Long sounds when pronounced short will mean very different things (Renariah, 2012). If each vowel sound is counted as 1 mora (beat), then the long vowel is read as 2 mora long. For example, oneesan (older sister) is pronounced o-ne-e-sa-n. Long vowels in Japanese have a big impact. If they are mispronounced, it can lead to misunderstandings. For example, “shujin” means “husband” and “shuujin” means imprisoned person. Even when typing kanji either from a mobile phone keyboard or PC keyboard, if you do not enter the word with the long/short vowel correctly, the kanji that appears is not correct. There are still mispronunciations of Choo'on from Japanese learners, here are some examples:

(1) お-ばあ-さ-ん	(2) お-ば-さ-ん
O- baa- sa--n	O-ba-sa-n
nenek	bibi
(3) それはおかしいです	(4)それはおかしです
Sore wa okasii desu	sore wa okasii desu
Itu Aneh	Itu kue

From the example sentences (1) and (2) above, the word “obaasan” which means grandmother is different from the word “obasan” which means aunt. The same goes for example sentences (3) and (4). The word okashii found in sentence (3) is different in meaning from the word okashi found in sentence (4).

Takamizawa (2004:69) explains that: *Chouon* is a sound in Japanese that when written in katakana, the sound is expressed as [-], the phoneme symbol is /R/ and is pronounced the same as the mouth form of the preceding syllable without change. One choo'on counts as one mora, and cannot stand alone. Furthermore, the definition of *Chouon* according to Iwabuchi (1989:197) in Sudjianto and Dahidi (2009:48) in terms of *haku* or beats, *chouon* consists of 2 beats. In the IPA (*International Phonetic Alphabet*) vocabulary long sounds and double sounds that have 2 beats are marked [ù] such as カード[ka ù do]、有望[yuù bo ù]、かっぱ[kapùa]. To know whether the long sound vocabulary is really pronounced long or 2 beats by the speaker, a tool is needed that can determine the short length of the pronunciation of a vocabulary.

Mulyono (2011:6) says that long vowel sounds in Japanese are twice as long as the vowel sounds あ (a), い (i), う (u), え (e), and お (o). If the length of the あ (a) sound is calculated as one, then the length of the あ (aa) sound is calculated as two. That is, あ (a) is pronounced as a mora and the consecutive あ (aa) sounds are pronounced as two mora. Based on the length of this vowel, the meaning of the word will change. Therefore, it is very important to distinguish the pronunciation of long vowels from short ones.Furthermore, Mulyono also provides the following notes:

1. Writing long vowel sounds in hiragana
    a. Long /a/ vowel sounds are written by adding the letter あ (a), read long with two mora.
    b. Long /i/ vowel sounds are written by adding the letter い (i), read long with two mora.
    c. Long /u/ vowel sounds are written by adding the letter う (u), pronounced long with two mora.
    d. Long /e/ vowel sounds are written by adding the letter え (e), pronounced long with two mora. (exception: some long /e/ sounds are written with え (e), for example: ええ (*ee*), ねえ (*nee*), おねえさん (*oneesan*) sister).
2. Writing long vowel sounds in katakana. All long vowel sounds are written with a "-(center line)" sign. Mulyono also gave examples of Japanese words containing long vowels, namely:

- おじさん (*ojisan)* = uncle : おじいさん (*ojiisan)* = grandfather
- ゆき (yuki) = snow : ゆうき (*yuuki)* = bravery
- え (*e*) = picture :ええ (*ee*) = yes
- とる *(toru*) = take : とおる (*tooru*) = through

- ここ (*koko*) = here :こうこう (*koukou*) = high school
- へや (*heya*) = room :へいや (*heiya*) = field
- カード (*kaado*) = card :タクシー (*takushii*) = taxi
- テープ (*teepu*) = cassette tape :ノート (*nooto*) = notebook
- スーパー (*suupaa*) = supermarket

By knowing the duration of long vowels produced by Japanese Language Education Study Program students, it can be measured how far or close the difference in duration is if taken as a benchmark from a native speaker. The results of measuring the duration of long vowels can be used as feedback for students in honing the pronunciation of Japanese long vowels, so that in the future they can pronounce them better.

2. Research Method

The method used in this research is descriptive quantitative method, which is research aimed at describing or describing using numbers about how long the long vowels produced by students of the Japanese Language Education Study Program are, and how they differ when compared to native speakers.The data collection technique is to record using a *voice recorder* or mobile phone voice recorder application to students of the Japanese Language Education Study Program semester IX (Nine) and *native speakers* by giving a discourse as a research instrument to be read.

Considerations in the selection of respondents are (1) ninth semester students have finished lectures and while completing their final assignments, they have free / flexible time so that it makes it easier for researchers to collect data and (2) researchers want to measure the success rate of Japanese language mastery of UNIMA Japanese language education study program students who studied for 4 years including the ability to master the pronunciation of long vowels.

The technique used to process data is to enter the recording results into the Speech Analyzer application (software application to analyze speech sounds) to obtain data on the duration of long vowels from the research subjects and then calculate the average using Microsoft Excel.

3. Results And Discussion

Based on the results of the analysis using *Speech Analyzer*, the average results of the vocal duration of students and *native speakers* show that the difference in the duration of long vowels between students and *native* speakers is not so far or close. In this case, to conclude whether the duration of long vowels from students is close, close enough or not close to native speakers, the author also takes data from a native speaker as one of the sources. The record of the duration of long vowels from the native speaker's speech is used as a benchmark. The results can be seen in the following table:

Table 1 Average Vowel Length Duration of Student and Native Speaker Speech Results

	AP	AK	JE	YK	*Native Speaker*
/aa_/	195	172	241	126	181
/_aa/	152	093	084	129	195
/ii_/	096	090	173	130	209
/_ii/	076	195	305	069	157
/uu_/	098	068	130	149	205
/_uu/	068	174	175	155	209
/_ee/	209	512	141	143	172
/oo_	111	079	186	144	241
/_oo_/	093	123	075	101	162
/_oo/	097	300	066	091	202

In the table, although in some vowels the difference looks quite striking, but some are close. This means that the average duration of long vowels produced by students is quite good because if we compare it with native speakers, the results are close. However, if we examine carefully there are still certain long vowels whose duration differences are quite striking both among other students and with native speakers. For example, the vowel /_uu/. In this vowel, the recorded duration of AP's utterance is 068 ms. Meanwhile, the duration records of other student speakers' utterances were 174 ms by informant AK, 175 ms by informant JE, 155 ms by informant YK, and 209 ms by the native speaker. The AP speakers have a difference in duration of 106 ms with AK, 107 ms with JE, 087 ms with YK, and 141 ms with the native speaker. Although the difference is only a fraction of a second and looks not so far away, if you hear it, you will feel the difference in duration.

Not only that, in some vocals there are also 2 speakers who have a record of the duration of the utterance shorter than 3 other sources including native speakers. Or even 3 sources. Interestingly, there are some students who have records of long vowel duration that are longer than other students and even native speakers. For example, on the vowel /_ii/. The duration record from informant AK is 195 ms, and informant JE is 305 ms. Meanwhile, the duration record from informant AP is 076 ms, from informant YK is 069 ms, and 157 ms from the native speaker. These results show that sometimes students pronounce long vowels a little longer than native speakers. However, it means that the duration of the vowels produced by these students in the vowel /_ii/ is close to that of native speakers.

Table 2 Average Duration of Long Vowels in the Speech of APs and Native Speakers

	AP	*Native Speaker*
/aa_/	195	181

/_aa/	152	195
/ii_/	096	209
/_ii/	076	157
/uu_/	098	205
/_uu/	068	209
/_ee/	209	172
/oo_	111	241
/_oo_/	093	162
/_oo/	097	202

Table 2 shows the average duration of vowels spoken between AP students and native speakers. It can be seen that in some vowels AP speakers have a longer duration record than native speakers. Namely on the vowel /aa_/, 195 ms. 013 ms longer than native speakers with a duration record of 0.181 ms. Likewise, the vowel /_ee/ with a duration of 209 ms, which means there is a difference of 037 ms with native speakers who have a duration of 172 ms. In fact, although the duration of the results of the speakers' speech, in this case the students, is longer than the native speakers, it cannot be said that one of the two speakers is wrong. Everyone has their own style of speech. But by seeing that the amount of difference between the two is very small, then on the vowels /aa_/ and /_ee/, AP speakers are close to native speakers.

However, in addition to the duration of long vowels that are longer than native speakers, in some vowels AP speakers have a significant difference with native speakers in this case the duration of the results of the AK speakers' speech is shorter. In the vowel /ii_/ the duration of the results of AP speakers' speech is 096 ms. With native speakers who have a duration of 209 ms, the two have a difference of 113 ms.

With this amount of difference, AP speakers are only heard saying 1 vowel letter or not heard saying long vowels. Likewise, in the vowel /_ii/ where the duration of the results of AP speakers' speech is 076 ms. This means that there is a difference of 081 ms with native speakers whose duration of speech results is 157 ms.

The same thing also applies to the other 5 vowels. In the vowel /uu_/, the duration of the AP informant's speech results is 098 ms, while the native speaker's is 205 ms which makes the difference between them 107 ms. Especially the vowel /_uu/ is the one with the biggest difference, which is 141 ms.

Each has a duration of 0.068 ms by AP speakers, and 209 by native speakers. Then on the vowel /oo_/ the duration of the long vowel of the AP informant's speech is 111 ms, having a difference of 130 ms with the native speaker whose speech result duration is 241 ms. Another case with the vowel /_oo_/, which has a duration difference of 069 ms with the total duration of the AP speaker's speech results is 093 ms, and the number of native speaker's speech results is 0.162 ms. The same thing also happens with the vowel /_oo/, where the difference is quite

significant. With the duration of the results of the AP informant's speech of 097 ms and the native speaker's speech of 202 ms, the two have a difference of 105 ms. In some of these vowels, AP speakers are not yet close to native speakers.

But in the vowel /_aa/, AP speakers are close to native speakers. With the duration of the speech result of 152 ms and by the native speaker 195 ms, 043 ms becomes a number that describes the amount of difference in duration on the vowel /_aa/.

Table 3 Average Duration of Long Vowels in the Speech Results of Speaker AK and Native Speakers

	AK	*Native Speaker*
/aa_/	172	181
/_aa/	093	195
/ii_/	090	209
/_ii/	195	157
/uu_/	068	205
/_uu/	174	209
/_ee/	512	172
/oo_/	079	241
/_oo_/	123	162
/_oo/	300	202

Table 3 describes the difference in the average duration of long vowels in the speech of informant AK and native speakers. In the results of informant AK there is also the same uniqueness as the results of informant AP, namely there are vowels whose total duration is longer than native speakers. But there are also vowels whose duration is quite far from native speakers. In terms of the duration of the results of AK's longer speech, on the vowel /_ii/ where the duration of the results of AK's speech is 038 ms longer, namely with a record duration of 195 ms and 157 ms by the native speaker. Likewise, in the vowel /_oo/, the AK speaker has a vocal duration of 300 ms, and the native speaker 202 ms so that the distance between the long vocal durations of the two is 098 ms. Such a large difference in vocal duration is seen in the vowel /_ee/. Speaker AK's duration is 512 ms. However, in this case, speaker AK is 340 ms longer than the native speaker whose duration is 172 ms. Meanwhile, on the vowel /ii_/, AK speakers have a vocal duration that is much shorter than native speakers, namely the duration record is 090 ms. If the benchmark is taken from native speakers with a duration of 209 ms, then the difference between the two is 119 ms. The same thing is also obtained in the vowel /uu_/ with the difference in the duration of the two reaching 137 ms. In this vowel, the duration of AK speakers is 068 ms, and the duration of native speakers is 205 ms. This kind of difference is also obtained in the vowel /_aa/. The duration of AK's source is 093 ms. While the duration of the native speaker is 0.195 ms. This means that the duration difference between the two is 102 ms. And again, in the same case, with AK's duration of 079 ms on the vowel /oo_/, the difference between the two sources is 162 ms when measured from the native speaker with a duration of 241 ms.

But apart from the significant difference in duration with native speakers by AK speakers, in the following 3 vowels AK speakers are close to native speakers. The first one is the vowel /aa_/. The duration of the results of both speeches is 172 ms each by informant AK, and 181 ms by the native speaker. So the difference in duration is 009 ms. The second is the vowel /_uu/. With a record duration of 174 ms by informant AK, a difference of 035 ms is obtained with the native speaker who has a duration of 209 ms on this vowel. The last is the vowel /_oo_/ with the difference between the two being 039 ms. While the duration records are both 123 ms by the AK speaker and 162 ms by the native speaker. The difference in the duration of the three vowels is not included in the category of far difference so that in these vowels AK speakers are close to native speakers. However, if the overall conclusion is drawn, then speaker AK is not yet close to native speakers.

Table 4 Average Duration of Long Vowels in the Speech of JE and Native Speakers

	JE	*Native Speaker*
/aa_/	241	181
/_aa/	084	195
/ii_/	173	209
/_ii/	305	157
/uu_/	130	205
/_uu/	175	209
/_ee/	141	172
/oo_	186	241
/_oo_/	075	162
/_oo/	066	202

By looking at the data in table 4.4, it can be found that JE speakers also have several vowels whose duration records are longer than native speakers. The data can be found in the vowel /aa_/, where the duration of JE's own source is 241 ms, while the duration of the native speaker is 0.181 ms. From these two data, a duration difference of 060 ms is obtained. Referring to this difference, the vowel /aa_/ of JE's source is close to native speakers. In contrast to the vowel /_ii/ where the duration of JE speakers is 305 ms which means the difference between the two is 148 ms with the duration by native speakers 157 ms. The duration of the results of JE's speech is 148 ms longer than that of the native speaker, which means that it describes that JE's speakers say long vowels with a duration almost twice that of native speakers.

In contrast to the longer durations of JE's interviewees, there were also shorter durations of JE's interviewees. The shorter durations of JE's interviewees were indeed the most dominant durations of the results. Student informant 4 was more likely to pronounce long vowels with shorter durations than native speakers, whether the difference was quite far or close. In this case there are several vowels. The first is the vowel /_aa/. The duration of the JE speaker is 084 ms, while that of the native speaker is 195 ms. This means that the difference in the total

duration of the two is 111 ms. In the vowel /uu_/ the difference is quite far, namely 075 ms. In this vowel, the duration of JE's speech is 130 ms and the native speaker's is 205 ms. However, the most distant vocal difference is in the vowel /_oo/, where the duration of JE's source is 066 ms which makes the duration of the difference between the two is 136 ms with the duration of the native speaker's speech results is 202 ms. Meanwhile, the difference of 087 ms is found in the vowel /_oo_/. Vowels whose differences are quite distant with native speakers with a duration of 162 ms and with JE speakers with a duration of 075 ms. However, the results of the analysis on the vowel /oo_/ found that JE speakers with a speech result duration of 186 ms were close to native speakers with a speech result duration of 241 ms. The duration distance is 055 ms. Similarly, in /ii_/, /_uu/, and /_ee/ where JE speakers are close to native speakers. The difference in the number of long vowel durations resulting from speech on the vowel /ii_/ is 036 ms. With the duration of JE speakers is 173 ms, and the duration of native speakers is 209 ms. Whereas in the vowel /_uu/ the difference in duration is 034 ms, with the duration of the JE speaker 175 ms and the duration of the native speaker 209 ms. The last is the vowel /_ee/. The duration of JE speakers on this vowel is 141 ms, while the duration of native speakers is 172 ms. With these results, the total difference in the duration of the two sources is 031 ms. The duration distance is very small so that JE's sources are close to native speakers in this vowel and the three vowels.

Table 5 Average Duration of Long Vowels of YK and Native Speaker's Speech Results

	YK	*Native Speaker*
/aa_/	126	181
/_aa/	129	195
/ii_/	130	209
/_ii/	069	157
/uu_/	149	205
/_uu/	155	209
/_ee/	143	172
/oo_	144	241
/_oo_/	101	162
/_oo/	091	202

If we look carefully, in the table above, YK is the closest to native speakers compared to the other three student speakers. This is because the results of the duration analysis of YK informants tend to have a fairly stable difference with native speakers, or do not have a difference in the amount of duration that is so far adrift like the data we find in some of the sources above. Although there are also some vowels where YK speakers have a significant difference with native speakers.

This is found in the vowel /ii_/. In this vowel, YK speakers have a duration of 130 ms. While the native speaker recorded a duration of 209 ms. The difference in duration is 0079 ms.

Likewise, in the vowel /_ii/, the duration record of the YK informant is 069 ms, and the native speaker is 157 ms. Thus, the difference in the duration of the two sources is 088 ms. Then on the vowel /oo_/, the duration record of the YK informant is 144 ms. The difference between the two becomes 097 ms with a native speaker duration record of 241 ms. It is not much different from the vowel /_ii/ whose difference is quite significant but not as long as the previous vowel difference, which is 088 ms. The duration of the results of YK speakers' speech on this vowel is 069 ms, and the native speaker's is 157 ms. Another case with the vowel /_oo/ where the duration difference between the two speakers on this vowel is the largest. With the duration of the results of YK's speech with a duration of 091 ms and the duration of the results of the native speaker's speech. Meanwhile, on the other hand, on several other vowels YK's sources are quite close or even close to native speakers. As in the vowel /aa_/ the duration of YK's speech results is 126 ms, while the duration of the native speaker's speech results is 181 ms. Then the difference in duration is 055 ms. While on the vowel /_aa/ the duration of YK's speech results is 129 ms, with the results of the native speaker's speech 195 ms. The difference in the duration of the two sources is 066 ms. Similarly, the results on other vowels are not much different. Namely on the vowel /_oo_/ the amount of difference in duration is 061 ms. The duration of the results of YK's speech on this vowel is 101 ms, while the native speaker is 162 ms. Then the difference in duration is 056 ms on the vowel /uu_/, with a duration of 149 ms each by the YK informant and 205 ms by the native speaker. The duration difference of 054 ms on the vowel /_uu/, with a duration of 155 ms by YK speakers and 209 ms by native speakers respectively.

And among all the vowels mentioned above, the vowel /_ee/ is the one with the smallest duration difference between the two speakers. That difference is 029 ms. The duration record of YK's speech as written in the table above is 143 ms, and 172 ms by the native speaker. In this vocal part, YK is the closest to the native speaker. However, if we look again, it can be seen that the difference in the amount of duration of the results of YK's speech tends to be stable. The duration produced is neither too long nor too short with a long distance from the native speaker. Thus the author says that YK is the closest to native speakers compared to other students.

Table 6 Average Duration of Long Vowels in the Speech of Indonesian Speakers and Native Speakers

	Penutur Indonesia	*Native Speaker*
/aa_/	183	181
/_aa/	114	195
/ii_/	122	209
/_ii/	161	157
/uu_/	111	205
/_uu/	143	209
/_ee/	251	172
/oo_	130	241
/_oo_/	098	162

/_oo/	139	202

The table above is a table that shows the average duration of vowels produced by Indonesian speakers with native speakers. Please note that the Indonesian speakers section column is the calculation of the average results of the long vowel duration produced by the four student speakers (AP, AK, JE, and YK) which are then calculated on average using Ms. Excel. The average result of the duration of the speech of the four students who later became Indonesian speakers.In the differences in the duration of long vowels as seen in the table, some vowels of Indonesian speakers are quite close, and some are already close to native speakers. What is quite close is the vowel /oo_/, where the total difference in duration is 111 ms, with the duration of the results of the Indonesian speakers' speech being 130 ms, and the native speakers' 241 ms. Not much different from the difference in duration on the vowel /uu_/ which is 094 ms, with a comparison of the duration of the results of the Indonesian speaker's speech of 111 ms, while the native speaker is 205 ms. Furthermore, in the vowel /ii_/ the difference is 087 ms. In this vowel, Indonesian speakers recorded a duration of 122 ms. While native speakers recorded a duration of 209 ms. Then on the vowel /_aa/, the difference is 081 ms. With the duration of the Indonesian speaker's speech 114 ms, and the duration of the native speaker's speech 195 ms. Indonesian speakers recorded a duration of 251 ms on the vowel /_ee/. This makes the total duration of the Indonesian speakers' long vowel fragments slightly longer than the native speaker whose duration record is 172 ms, so that the distance between the duration of the two vowels is 079 ms. In the vowel /_uu/, the duration of the results of the Indonesian speakers' speech is 143 ms, while the native speaker is 209 ms. So the difference in the duration of the two speakers is 066 ms. The vowels /_oo_/ and /_oo/ are not so different. That is the difference in the number of duration of speech results 064 ms on the vowel /_oo_/ with a duration record of 098 ms by Indonesian speakers and 162 ms by native speakers. And 063 ms on the vowel /_oo/ with a duration of 139 ms by Indonesian speakers and 202 ms by native speakers. The unique thing is that the remaining two vowels have a difference in the number of durations of speech results that are so narrow but the speech of Indonesian speakers is longer. The first is on the vowel /_ii/, where the duration of the Indonesian speaker's speech is 161 ms and the native speaker 157 ms, so the difference in duration is 004 ms. The second is the vowel /aa_/, the difference in duration is the smallest, namely 002 ms. The duration of the results of Indonesian speakers' speech is 183 ms, and 181 ms by native speakers. From these two vowels, we can see that the duration of Indonesian speakers' utterances is longer, but it is very close to native speakers.If we look at it, although some Indonesian vowels are quite close, they can be considered close to native speakers, especially in some vowels that are very close, such as the vowels /aa_/ and /_ii/.

Based on the research results, the following discussion is obtained:

1. Vowel /aa/

From the total duration of long vowels resulting from student speech, the average /aa/ vowel is 173 ms by AP, 132 ms by AK, 162 ms by JE, 127 ms by YK, and 188 ms by native speakers who in this study are as a reference or benchmark in the pronunciation of long vowel sounds. The results show that the pronunciation of the vowel /aa/ by students tends to be shorter than native speakers. However, there is no significant difference between students and native speakers.

Meanwhile, the average of the vowel /aa/ produced by the four students who later became Indonesian speakers was 149 ms. This shows that the pronunciation of the vowel /aa/ by Indonesian speakers is shorter than native speakers, but there is no significant difference between Indonesian speakers and native speakers in the pronunciation of the vowel /aa/.

2. Vowel /ii/

On average, the long vowels of the four students' speech on the vowel /ii/ are found to be quite different from the vowel /aa/. The total average of native speakers is 183 ms. While the total average of AP is 086 ms, and of YK is 099 ms. Both students have a total average that tends to be shorter than native speakers but there is also a significant difference because the difference with native speakers is quite far. Contrary to JE students whose total average is 239 ms. These results show that the duration of the speech results is longer than the native speakers, but there is no significant difference.

In contrast to AK students with a total average vocal duration of 142 ms. These results are shorter than native speakers but are close. If the average results of long vowel speech by these students are taken on average as Indonesian speakers, then on the vowel /ii/ Indonesian speakers are close to native speakers with an average of 142 ms. These results are shorter than native speakers but there is no significant difference. In the vowels of AP and YK students, the average difference in duration has a significant difference or far enough adrift. But the part that is in line is for AK, JE, and Indonesian speakers which is in line with the statement that there is no significant difference between the pronunciation of long sound vocabulary by students and native speakers. Although in JE students, the average amount of duration of their speech results is longer than native speakers, the difference is still not significant.

When viewed from the total average of all students and Indonesian speakers, only JE students have a longer average duration than native speakers. It can be concluded that the students' pronunciation of long vowels tends to be shorter.

3. Vowel /uu/

Data from the total duration of long vowels from student speech, the average vowel /uu/ is obtained, 083 ms by AP, 121 ms by AK, 152 ms by JE, 152 ms by YK, and 207 ms by native speakers. From these results, it is found that the average results of student speech tend to be shorter than native speakers. However, in AP students, there is a significant amount of difference in the average speech output.

Meanwhile, the average vocal /uu/ produced by the four students who served as Indonesian speakers was 127 ms. It shows that the duration of long vowels produced by Indonesian speakers tends to be shorter than native speakers, but the difference is not significant.

4. Vowel /ee/

From the total average duration of the results of the /ee/ vowel on the sources and native speakers, it is found that, 209 ms by AP, 518 ms by AK, 141 ms by JE, 143 ms by YK, and 172 ms by native speakers. When viewed in these results, the vowel /ee/ is a vowel where 2 people or half the number of student sources have an average longer than native speakers. In AP students, although the duration is longer than native speakers, there is no significant

difference. It is different with AK students where the average difference in duration is so significant. On the vowel /ee/, AK students are not yet close to native speakers.

But for students JE and YK, the total average duration is both lower than native speakers but there is no significant difference. But when the average results of the four students were taken and then used as Indonesian speakers, the result was 251 ms. The difference is quite significant.

5. Vowel /oo/

In the vowel /oo/, the average duration of long vowels obtained from the speakers' speech is : 100 ms by AP, 167 ms by AK, 109 ms by JE, 112 ms by YK, 122 ms by Indonesian speakers, and 202 ms by native speakers. From these results it can be seen that all the average duration of the results of the speech of student speakers and Indonesian speakers is lower than that of native speakers. However, in 3 sources (AP, JE, and YK) the difference is quite significant, as well as in Indonesians.

4. Conclusion

Based on the results and discussion of the research, it can be concluded that:

1) Students' ability to pronounce long vowel duration is 90% good. Based on the acquisition of the duration of pronunciation, it can be concluded that Japanese language teaching in the form of lessons on pronunciation of Japanese language education students at the Faculty of Language and Arts, Universitas Negeri Manado is good and successful. The pronunciation of long sound vocabulary produced by teachers and students tends to be shorter than native speakers, this can be seen from the duration of long vowels produced by students from the average obtained is as follows:

    a. Vowel /aa/: the pronunciation of the vowel /aa/ produced by students is 149 ms, these results show that the pronunciation of the vowel /aa/ by Indonesian speakers is shorter than native speakers, but there is no significant difference between Indonesian speakers and native speakers in the pronunciation of the vowel /aa/.

    b. Vowel /ii/: The pronunciation of the vowel /ii/ produced by students is 142 ms, these results show that the duration of the results of their speech is longer than native speakers, but there is no significant difference.

    c. Vowel /uu/: The pronunciation of the vowel /uu/ produced by students is 127 ms. From these results, it is found that the average student's speech results tend to be shorter than native speakers, but the difference is not significant.

    d. Vowel /ee/: The pronunciation of the vowel /ee/ produced by students is 251 ms. From these results, students' speech tends to be shorter than native speakers, but there is no significant difference.

    e. Vowel /oo/: The pronunciation of the vowel /oo/ produced by students is 100 ms. From these results it can be seen that all the average duration of the results of student sources is lower than native speakers. the pronunciation of long sound vocabulary produced by students tends to be shorter than native speakers.

2) The pronunciation of long sound vocabulary by students is shorter than that of teachers but the data on the pronunciation of long sound vocabulary by teachers is very high standard deviation than students and native speakers. This can be seen from the significant difference with native speakers in some vowel positions in words such as the sound /_aa/ by AK (093 ms), JE (084 ms) and native speakers (195 ms).

Suggestions

1) Teachers should be more aware of the importance of learning long and short sound vocabulary pronunciation in order to stimulate students to produce good Japanese pronunciation and teachers become role models for students.
2) To reduce long or short pronunciation errors of vocabulary, students can be trained by recording their own voice to be more aware and careful.
3) Native speakers are advised to be a *benchmark* for non-native teachers and students.

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