



Japanese Learner's Ability to Pronounce Nasal Consonant /N/ Located at The End of Words

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ABSTRACT

Japanese is a language that has a unique sound and distinctive articulation, but this uniqueness sometimes makes the pronunciation of people who are learning Japanese is still a lot less precise. Therefore, this study was conducted to find out the ability of Indonesian Japanese learners to pronounce the nasal consonant sounds located at the end of a word or called uvular nasal sounds, which is in Japanese 「口蓋垂鼻音」 *kougaisuibion* with phonetic letter symbol /N/. This study was conducted on 12 Japanese language learners at SMAN 2 Batu, using a descriptive qualitative method and then using Praat to analyse their voices while reading 3 Japanese sentences consisting of the words [*hitomisan*], [*sumimasan*], and [*imasen*]. This study also analysed the voice of Japanese *native speakers* when reading the same sentences as Japanese learners use as a reference. The results of this study are pronunciation by *native speakers* found nasal sounds that are pronounced in the form of nasal uvular sounds /N/, also found the existence of pronunciation that cannot be distinguished between vowels and nasal consonants from the results of Praat analysis. While for students, there are only a few that have been appropriate such as *native speakers'* pronunciation but most of them had different pronunciations.

KEYWORDS

Japanese learners; Nasal sound /N/; Praat; Pronunciation.

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INTRODUCTION

There are various difficulties when studying a foreign language, especially pronunciation. Differences in pronunciation in each foreign language cause those difficulties. In Japanese, one of the difficulties in pronunciation is *hatsuon*, the pronunciation of the nasal consonant /N/ which is followed by a consonant or vowel. Apart from that, there is also a nasal consonant /N/ which is

located at the end of the word. Morley (1991) stated that comprehensible pronunciation is an important component of communicative competence. The difference in articulation between Japanese and Indonesian makes the pronunciation of Indonesians who are learning Japanese still slightly inaccurate. Even though the pronunciation that is not appropriate does not affect the overall meaning, the pronunciation that

is not correct will determine the extent of one's ability and mastery of Japanese.

Labrune (2012) suggests that the consonant sound /N/ which is *hiragana* 「ん」 and in *katakana* 「ン」 or better known as *hatsuon* 「撥音」 has its uniqueness. The sound produced is influenced by the location of the placement of letters in a word and there is an important fact regarding the *nasal* /N/ which cannot be placed in its initial position before the vowel. Consonant /N/ as a consonant is only in the middle or at the end of a word because if it is located at the beginning of a word and is followed by a vowel, there are letters *na, ni, nu, ne, no* which are written 「な、に、ぬ、ね、の」 in *hiragana*. However, this uniqueness often results in pronunciation errors for Japanese language learners. Even though the sound /N/ in Japanese is like the word [maŋ.ga] (*manga*: “comic”), [sɛ̃.mpai] (*senpai*: “Senior”), [ɲi.hoN] (*nihon*: “Japan”), it can be seen that from writing IPA (*International Phonetic Alphabet*) The nasal sound /N/ will be pronounced differently if it is in the middle or at the end of a word and depends on the letter that follows it. The sound /N/ which is located at the end of a word or which is not followed by another letter after it is called the *uvular nasal sound*, for example, found in the words [~saN], [sumimaseN] and [ɲi.hoN].

Discussion about the pronunciation of nasal sounds has been widely researched before in Asnita and Febriyanti research (2021), entitled "Ability of Japanese Language Learners in Pronouncing Nasal Sounds /n/ Followed by Bilabial Consonants /p/". The research was conducted on level 1 students majoring in Japanese Language Education by analyzing the results of the recordings using the Praat software. The similarities with this research are that they both apply qualitative descriptive research methods and use software called Praat to analyze the results of the pronunciation recordings of the respondents. Then the difference is that the researchers only focused on the pronunciation of the nasal consonant /N/ which is located at the end of a word, while Asnita and Febriyanti focused on the nasal /n/ followed by the bilabial consonant /p/.

Based on observations when running the P4 Program (*Program Pengenalan dan Pengelolaan Pembelajaran: Introduction and Management of Learning Program*) on the pronunciation of beginner-level Japanese learners, namely what happened to class XII students majoring in Language at SMAN 2 Batu which was proven

during learning activities and student assignment results researchers heard and observed that they also pronounce the nasal /N/ sound by only producing /n/ and /ŋ/ which are read /ng/ wherever it is and is supported by previous research which needs to be further investigated regarding variations in the pronunciation of nasal /N/ in Japanese, so we are interested in researching the ability of beginner Japanese learners to pronounce the nasal /N/ sound at the end of vocabulary.

The data analyzed by Praat software using native speaker pronunciation as a source and reference. This research was conducted on class XII students majoring in Language at SMAN 2 Batu when the researchers conducted P4 (*Program Pengenalan dan Pengelolaan Pembelajaran: Introduction and Management of Learning Program*), most of them were students who had just learned Japanese for no more than 2 years or a basic level equivalent to level N5 JLPT (*Japanese Language Proficiency Test*). The purpose of this study was to determine the ability of Japanese language learners when pronouncing the nasal /N/ sound at the end of words. Because vocabulary that has nasal consonants /N/ has many ways of pronunciation, the researcher wants to know where the pronunciation errors are, then chooses high school students as research subjects because knowledge and skills regarding correct pronunciation according to the rules are best instilled early on so that they become a reference for students' mastery of Japanese in the future.

LITERATURE REVIEW

Consonant [n]

Nasal or nasal sounds that form syllables in or at the end of words in Japanese are called *hatsuon* which is denoted as the character ん(n) in *hiragana* and ン (n) in *katakana*. This letter can produce nasal sounds. According to Vance (2008) that the nasal in Japanese, often denoted by /N/ in the phonological literature, is a nasal segment with phonological status in Japanese. *Hatsuon* cannot be used at the beginning of a word but is used in the middle of a word or at the end of a word. The sound of *hatsuon* is strongly influenced by the location of the nasal consonants in a word.

In their book, Kanno and Tsujimura (1996) suggest that the pronunciation of the sound [n] or 「ん」 in Japanese has 6 ways, namely /m/, /n/, /ɲ/, /ŋ/, /N/, and /Ń/. Labrune (2012) stated that the

sound /N/ is one of the most difficult sounds in Japanese because this sound is not used much in other languages. A phial or uvular consonant is a consonant in which articulation occurs behind the tongue close to the uvula. So, the back of the tongue extends up to the uvula, while pronouncing /N/ the tongue will move a little further into the mouth, then let the air out through the nose or nasal. Tsujimura's theory (2013) suggests that when producing a nasal consonant, air flows through the nasal cavity. An example of vocabulary in Japanese is 日本 (*Nihon*) which in IPA is written [ɲi.hoN]. Maekawa (2021) states that uvular nasal sounds are sounds that are pronounced in the final position of an utterance.

Maekawa (2021) states that the pronunciation of the consonant sound [ɲ] is often pronounced as a nasal between /N/, /n/, and /ŋ/ has a difference in the location of articulation when pronouncing the nasal sound, as shown in figure 1.

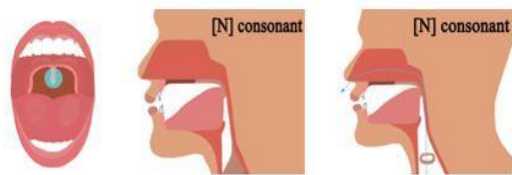


Figure 1: Process Pronunciation of Nasal Uvular Sounds /N/(Youtube-Campanas de Japanese, 2020).

Based on the illustration above, the pronunciation process of the uvular nasal sound /N/ is the articulation that occurs behind the tongue close to the uvula. So, the back of the tongue extends up to the uvula, while pronouncing /N/ the tongue will move a little farther into the mouth, then let the air out through the nose or nasal passages. As for the pronunciation of the nasal [n] sound, it can be articulated with the tip of the tongue touching the alveolus, then letting the air out through the nose or nasal passages (see figure 2 and figure 3).

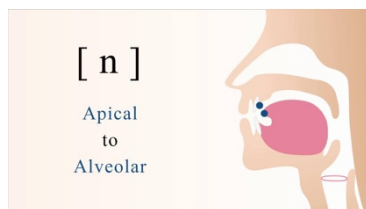


Figure 2: Process of Pronunciation of Nasal Sounds /n/(Youtube-Campanas de Japanese, 2020).

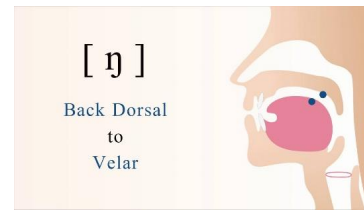


Figure 3: Pronunciation of Nasal Sounds /ŋ/ (Youtube-Campanas de Japanese, 2020).

Based on the illustration above, the process of pronouncing nasal /ŋ/ sounds is articulated with the back of the tongue touching the soft part of the roof of the mouth, then letting air escape through the nose or nose.

Based on the explanation of the theory that has been described, this study then uses the uvular nasal consonant /N/ to analyze the process when the nasal /N/ is located at the end of a word and how long it takes to pronounce this nasal /N/, because from what has been explained above that the nasal uvular consonant /N/ has a distinctive sound. This research focuses on the uvular nasal consonant sound /N/ which is located at the end of the vocabulary. So, the sound of pronunciation is produced by *native Japanese speakers* with Japanese language learners who come from Indonesia using the Praat software.

Praat Software

This research utilizes software called Praat to study the results of data recordings of the pronunciation of the nasal /N/ sound located at the end of a word. The reason for using software is that the Praat software is a software that can be used to analyze speech in phonetics. Designed by 2 people from the University of Amsterdam namely Paul Boersma and David Weenink and is still under development. As stated by Gorjian, Hayati, and Pourkhoni (2013) explained that this tool is useful for analyzing and visualizing the pronunciation of language sounds for students.

Research on pronunciation using Praat software has also been carried out, namely research by Mizoguchi, Tiede, and Whalen (2019) with the title Production of the Japanese Moraic Nasal /N/ by Speakers of English: An Ultrasound Study. The research was conducted on native English speakers who are learning Japanese regarding the pronunciation of the sound /N/, then the difference with this research is the Praat software used to analyze the recording, the research

analyzes the midpoint of each target segment of the recorded audio measured by visual detection from changes in formant values and periodic patterns in the form of waves, while researchers analyzed voice recording data from the spectrogram results by looking at the results of the resulting formants.

The analysis uses Praat to find out what sound is produced by paying attention to the spectrogram, namely the range of the vertical axis displayed in black, as shown in figure 4 below.

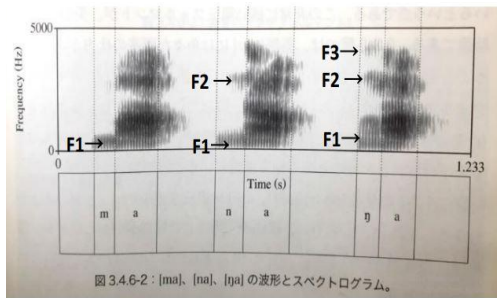


Figure 4: Praat nasal (Kawahara, 2018).

Based on Kawahara (2018), it can be seen that each nasal sound has a difference in the spectrogram in the Praat software. The nasal /n/ displays a Formant in the form of a dense black and white line at the bottom called Formant 1 (F1) and in the middle, it is called Formant 2 (F2) while the sound /ŋ/ which reads /ng/ clearly shows that Formants 1 (F1), Formants 2 (F2) and Formants 3 (F3) tend to increase.

Based on Downing and Hamann's (2021) figure in figure 5, it can be seen that the sound /N/ displayed is Formant 1 (F1) and Formant 2 (F2) which are visible. The theory that has been described has become a reference for this study to facilitate the process of identifying what nasal sounds are pronounced between nasal /N/, /n/, and /ŋ/ by native Japanese speakers and research respondents.

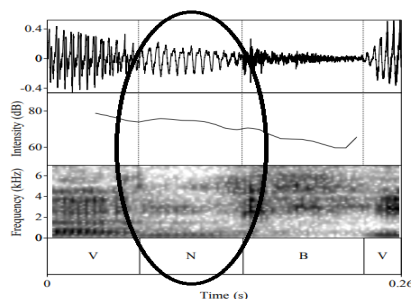


Figure 5: Praat nasal uvular (Downing & Hamann, 2021).

Under this study, further data were analyzed regarding how the pronunciation of the nasal consonant /N/ which is located at the end of the vocabulary by looking at the spectrogram results on Praat. In this study, we will use the recorded sound native speakers of Japanese native speakers will record voices while reading the same sentence as the sentence given to the respondent, then the audio recording results are entered into the Praat software for analysis by comparing the pronunciation and duration between the pronunciation of native Japanese speakers and Japanese language learners.

RESEARCH METHOD

The theory by Lambert and Lambert (2012) suggests that descriptive qualitative has a lighter load than other qualitative approaches. This study used a qualitative method with a descriptive approach from the recorded data of the respondents. The respondents of this study were 34 students of class XII majoring in Language at a high school in Batu, Malang. By giving assignments during learning activities, students are directed to make voice recordings independently and then collect them as assignments. Then, the selection is carried out by selecting records that meet predetermined criteria. The criteria in question are that the recording is sent in mp3 format, the sound is clear, and there is no noise in the audio recording. From the results of the selection, it turned out that 12 data met the above criteria, and will be used in this study.

Table 1: Lattice of pronunciation test instruments (MGMP, 2009).

Sentences	Vocabulary
ひとみさん、いっしょにばんご .はんを たべませんか? <i>Hitomi san, isshoni ban gohan wo tabemasenka?</i> (Hitomi-san, would you like dinner together?)	ひとみさん <i>Hitomi san</i>
すみません、ちょっと...。 .Sumimasen, chotto... (I'm sorry, but...)	すみません <i>Sumimasen</i>
そのはくぶつかんに にほんじん が ぜんぜん いません。 <i>Sono hakubutsukan ni nihonjin ga zenzen imasen.</i> (There are no Japanese in that building.)	いません <i>imasen</i>

In carrying out this research, respondents were directed to pronounce 3 sentences consisting of several vocabularies ending in *nasal /N/*. The 3 sentences used as research instruments were taken from the book 3 SAKURA JAPANESE LANGUAGE “さくら”, as seen in Table 1.

To test the results of the data, the researcher applied a data credibility test by testing the data that has accumulated. The data validity method used in this study has the aim of proving that the research has been tested for its validity according to Sugiyono (2018). The validator who validated the research data instrument questions was an expert in linguistics, especially phonology. Researchers re-verify the data so that researchers can increase credibility so that the data received can be said to be valid.

At this phase of the research, audio recordings were collected from the respondents when they recited 3 sentences consisting of vocabulary with a nasal /N/ sound at the end of the word. The results of the data obtained and analyzed are then stored and given a code/symbol to make it easier to classify the results of the data findings. Example: a code like H-NS means that the letter H denotes data from *Hitomi san*, and NS is a *native speaker*, and so on. Then the results of the pronunciation data will be analyzed using *Praat software*. The respondents' recordings in the form of audio in mp3 format were then converted to WAV format to be entered into the *Praat software*. Next, a spectrogram will appear in the form of the respondent's pronunciation as well as that of the *native speaker*. From the sound spectrogram displayed in *Praat*, researchers can identify in detail how the nasal /N/ sound is pronounced by respondents and also native speakers.

The next phase is to draw conclusions from the results of the analysis of the data findings. The analysis results from *Praat* are then described in language that is easy to understand so that the research results can be conveyed properly. From the conclusion of the data findings, it is expected to be able to solve the problem formulation that has been written in this study. The formulation of the problem is to find out how beginner-level Japanese learners are able to pronounce the nasal /N/ sound at the end of the vocabulary.

FINDINGS AND DISCUSSION

From the overall results of the analysis using the Praat software on the pronunciation of research respondents and native Japanese speakers on the vocabulary [hitomisaN], [sumimaseN], and [imaseN] the results obtained are in the form of findings, namely as follows.

Analysis of [HitomisaN] Pronunciation

Recording data sound in the pronunciation of nasal /N/ in the vocabulary [hitomisaN], [sumimaseN], and [imaseN] by native speakers and respondents, the results are as shown in Tables 2, 3, and 4.

Table 2: Results of analysis of pronunciation of native speakers and respondents in word [hitomisaN].

Data	Nasal Sound		
	/ŋ/	/n/	/N/
NS			✓
R1	✓		
R2		✓	
R3	✓		
R4			✓
R5		✓	
R6	✓		
R7	✓		
R8	✓		
R9	✓		
R10		✓	
R11		✓	
R12			✓

Table 3: Results of pronunciation analysis of native speakers and respondents on the word [sumimaseN].

Data	Nasal Sound		
	/ŋ/	/n/	/N/
NS			✓
R1	✓		
R2		✓	
R3			✓
R4			✓
R5		✓	
R6		✓	
R7		✓	
R8	✓		
R9		✓	
R10		✓	
R11	✓		
R12			✓

Table 4: Results of the native speaker and respondent pronunciation analysis on the word [imaseN].

Data	Nasal Sound		
	/ŋ/	/n/	/N/
NS			✓
R1	✓		
R2		✓	
R3		✓	
R4			✓
R5		✓	
R6		✓	
R7	✓		
R8		✓	
R9			✓
R10		✓	
R11	✓		
R12	✓		

Based on the table above pronunciation by native speakers for the pronunciation of the sound [n] in the word [hitomisaN] if written using IPA can be written as a nasal sound [N] which can look like figure 6 below.

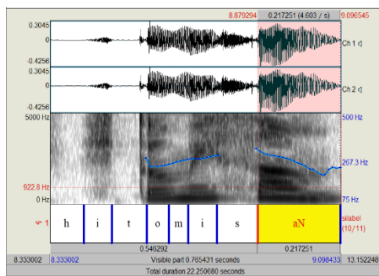


Figure 6: The word [hitomisaN] by NS.

Next, we will look at the results of the pronunciation of [n] by 12 respondents. Based on table 2, it can be seen that there were 2 respondents, namely R4 and R12, who pronounced the sound [n] in the word [hitomisaN] which is the same as the native speaker, namely /N/, as shown in Figure 7 as an example of the following R4 pronunciation.

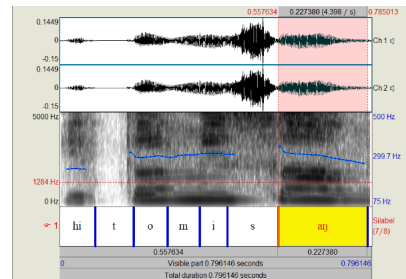


Figure 7: The word [hitomisan] by R4.

Next, there are 4 respondents whose pronunciation of the sound [n] in [hitomisan] is pronounced as the sound /n/. Then these 4 respondents were R2, R5, R10, and R11. Figure 8 below shows the result of the pronunciation of R10.

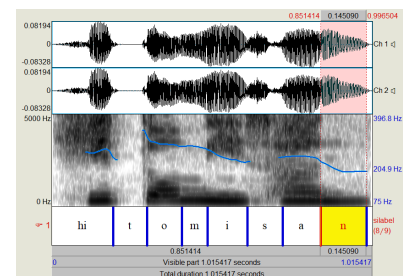


Figure 8: The word [hitomisan] by R10.

Then there were 6 respondents namely R1, R3, R6, R7, R9, and R9 whose pronunciation of the sound [n] in [hitomisan] is pronounced as the sound /ŋ/. The following figure 9 is the result of the pronunciation of R1.

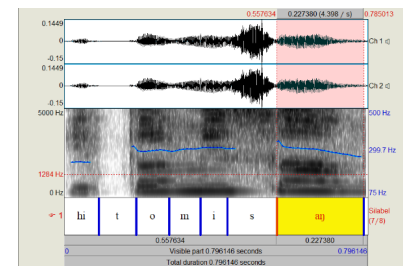


Figure 9: The word [hitomisan] by R1.

It can be concluded that for the pronunciation of the sound [n] in the word [hitomisan] which should be pronounced as the sound /N/ by the respondent, it is pronounced as various nasal sounds. There are only 2 respondents who pronounce it as the sound /N/ which is the same as the native speaker.

Analysis of [sumimaseN] Pronunciation

Pronunciation by native speakers for the pronunciation of the sound [n] in the word [sumimaseN] if written using IPA can be written as a nasal sound [N] which can look in figure 10 below.

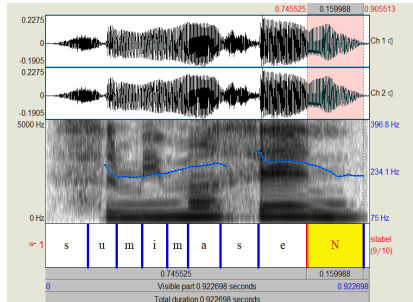


Figure 10: The word [sumimaseN] by NS.

Next, we will look at the results of the pronunciation of [n] by 12 respondents. Based on table 3, it can be seen that there were 3 respondents, namely R3, R4, and R12, who pronounced the sound [n] in the word [sumimaseN] which is the same as the native speaker, namely /N/, as shown in figure 11 as an example of the following R4 pronunciation.

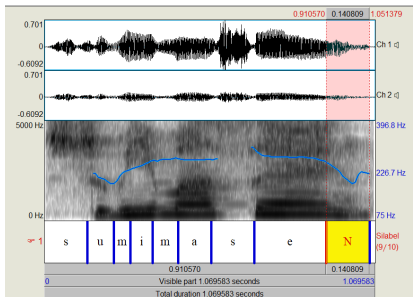


Figure 11: The word [sumimaseN] by R4.

There are 6 respondents whose pronunciation of the sound [n] in [sumimaseN] is pronounced as the sound /n/. These 6 respondents were R2, R5, R6, R7, R10 and R11. Figure 12 below is the result of the pronunciation of R2.

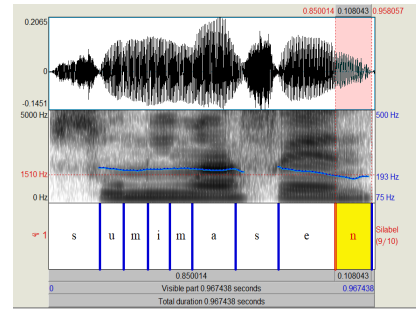


Figure 12: The word [sumimaseN] by R2.

There are 3 respondents, namely R1, R8, and R11 whose pronunciation of the sound [n] in [sumimaseN] is pronounced as the sound /ŋ/. Figure 13 below is the result of the pronunciation of R1.

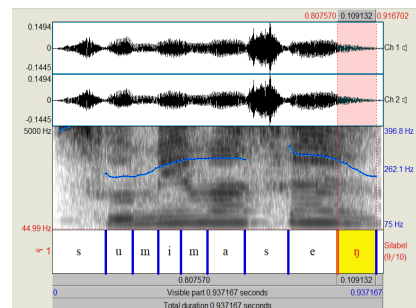


Figure 13: The word [sumimaseN] by R1.

It can be concluded that the pronunciation of the sound [n] in the word [hitomisan] which should be pronounced as a /N/ sound by respondents, is pronounced as various nasal sounds. There are only 3 respondents who pronounce it as the sound /N/ which is the same as the native speaker.

Analysis of [imaseN] Pronunciation

Pronunciation by native speakers for the pronunciation of the sound [n] in the word [imaseN] if written using IPA can be written as a nasal sound [N], as shown in figure 14 below.

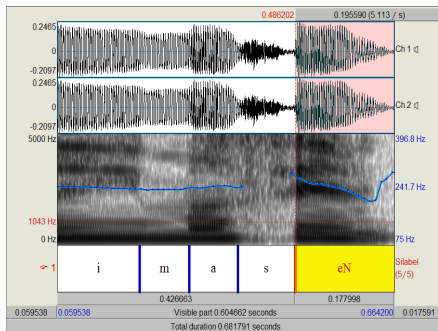


Figure 14: The word [imaseN] by NS.

Next, we will look at the results of the pronunciation of [n] by 12 respondents. Based on table 4, it can be seen that there were 2 respondents, namely R4 and R9, who pronounced the sound [n] in the word [iaseN] which is the same as the native speaker, namely /N/, as shown in figure 15 as an example of the following pronunciation of R4.

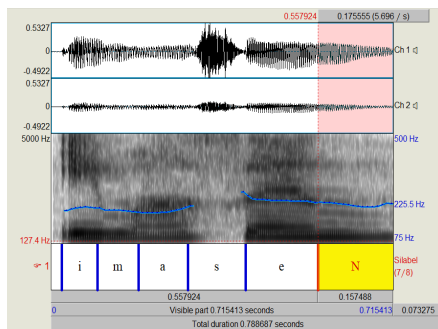


Figure 15: The word [imaseN] by R4.

There are 6 respondents whose pronunciation of the sound [n] in [imaseN] is pronounced as the sound /n/. 6 of these respondents are by R2, R3, R5, R6, R8, and R10. The result of the pronunciation of R2 is shown in figure 16.

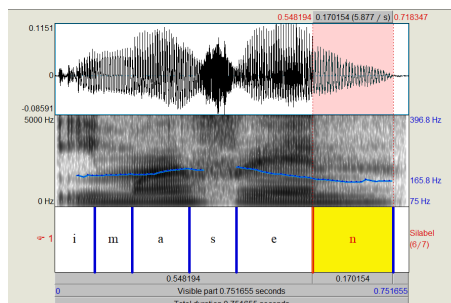


Figure 16: The word [imaseN] by R2.

Next, there are 3 respondents, namely R1, R7, R11, and R12 whose pronunciation of the sound [n] in [sumimaseN] is pronounced as the sound /ŋ/. the result of the pronunciation of R1 is shown in figure 17.

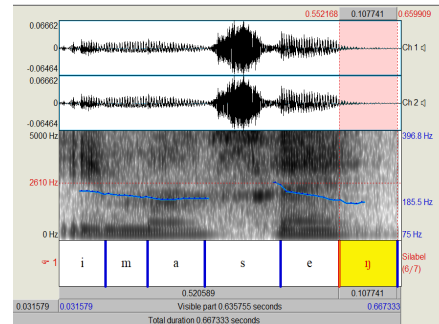


Figure 17: The word [sumimaseN] by R1.

It can be concluded that for the pronunciation of the sound [n] in the word [hitomisan] which should be pronounced as the sound /N/ by the respondent (Vance, 2008), it is pronounced as various nasal sounds. There are only 2 respondents who pronounce it as the sound /N/ which is the same as the native speaker.

From all the results of the Praat spectrogram analysis, it can be seen that the pronunciation of the respondents produced a variety of /n/ sound pronunciations from the Forman result evidence on the Praat software (Gorjian, Hayati, & Pourkhoni, 2013). So, it can be concluded that only a small proportion have sound pronunciation like that of a native speaker.

Based on the results of the analysis using Praat on the pronunciation of research respondents and native speakers as a reference, it can be concluded that the ability to pronounce nasal sounds by respondents in the word [hitomisan] which produces a nasal uvular /N/ sound is 2 respondents and the remaining 10 respondents have Pronunciation of nasal sounds that do not match the pronunciation of native speakers, including the sound /n/ by 4 respondents and the sound /ŋ/ by 6 respondents.

Then for the ability to pronounce nasal sounds by the respondents in the word [sumimaseN] which produces uvular nasal /N/, 3 respondents and the remaining 9 respondents have pronunciations of nasal sounds that do not match the pronunciation of native speakers which include /n/several 6 respondents and sound /ŋ/ a total of 3 respondents.

For the ability to pronounce nasal sounds by the respondents in the word [imaseN] which

produces uvular nasal /N/, 2 respondents and the remaining 10 respondents have a nasal pronunciation that does not match the pronunciation of a native speaker which includes several sounds /n/ 6 respondents and sound /ŋ/ a total of 4 respondents.

Most of the students produce /n/ and /ŋ/ sounds, but there are also some students who pronounce the nasal uvular /N/ sound just like native Japanese speakers. The uvular nasal /N/ is a sound that doesn't exist in Indonesian, so students might think that /N/ is similar to /n/ and /ŋ/. The difference between the sounds /n/, /ŋ/, and /N/ is in the placement of the articulations (Kawahara, 2018; Downing & Hamann, 2021). So, the change in the nasal /n/ sound when it is located at the end of a word does not become a /n/ or /ŋ/ sound but becomes a uvular nasal /N/, becoming [hitomisaN], [sumimaseN], and [imaseN].

CONCLUSION

Based on the analysis of the pronunciation aspects of words that contain nasal consonants located at the end of words, it can be concluded that only a small number of students produce the same pronunciation as native Japanese speakers, while most students produce different pronunciations.

Further, based on the results of this study, there are several suggestions for Japanese language teachers about teaching pronunciation of nasal sounds and position in words. So, a Japanese language teacher can point out that the consonant /N/ in Japanese has a different pronunciation depending on its location in a word, namely those that sound /N/, /n/, and /ŋ/. For Japanese language students, this research can provide new knowledge, inspiration, and motivation in studying the study of linguistic phonology more broadly, especially in nasal /N/ sounds.

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