The Effectiveness of the Minimal Pairs Technique in Learning Japanese Pronunciation

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Abstract

Distinguishing and pronouncing the sound of sha, sa, ja, za, tsu, *double sounds, long sounds, nasal sounds, and youon sounds are still considered difficult for Japanese learners; it is becoming a problem because when the learners cannot distinguish the correct sounds in Japanese, it will result in an inability to pronounce and write Japanese sounds correctly. This study has tested the effectiveness of the minimal pairs technique in learning Japanese pronunciation and the learners's response to the technique. The research employed a quasi-experimental quantitative method by applying the minimal pairs technique to learn Japanese pronunciation in one class, Japanese level N5 or beginner level. The comparative statistical calculation result showed that the Minimal Pairs model is effective in improving Japanese pronunciation in long vowels, double consonants, semi-vowel sounds,* tsu *sounds, nasal sounds, and also helped the learners' to understand differences in* sa *and* sha *line sounds and the difference between the sounds of the* za *and* ja *lines. The questionnaire result showed that the learners feel that the technique is quite tedious, but on the other hand, the technique is beneficial for them in learning and practicing Japanese pronunciation.*

Keywords: phonology; pronunciation; minimal pairs

INTRODUCTION

In communicating using a foreign language, understanding the intent of the interlocutor is essential. However, pronunciation of foreign languages is equally important to get a positive impression and increase the interlocutor's trust (Isomuro, 2009). In line with that, Lestari et al (2018) suggests that pronunciation is an essential part of mastering foreign languages, especially

Japanese, because pronouncing different sounds will give rise to different meanings. In addition, someone who has good sound pronunciation skills is the first mirror of language skills.

Many researchers have studied Japanese pronunciation in educational institutions in Indonesia, as in Pratiwi, et al (2016), Pariadi, et al (2019), and Hernawati (2018). These research highlights pronunciation errors made by Indonesians when speaking Japanese. Furthermore, Hernawati (2018) and Pariadi, et al (2019) reveals few points about these errors: 1) some pronunciation errors are found in fricative sounds are caused by the absence of fricative sounds in Indonesian sounds, 2) the main factor that causes misperceptions in the fricative sounds is the absence of these sounds in Javanese sounds it affects hearing. In addition, the awareness factor in learning pronunciation and shared knowledge of pronunciation are the causes of difficulty in pronouncing Japanese well.

The difference in the sound of Japanese and Indonesian can be an obstacle for students to master Japanese pronunciation well. Japanese sounds that are generally considered difficult by learners are long vowels, double consonants, semi-vowel sounds, *tsu* consonants, differentiating the pronunciation of the consonant lines *sa* and *sha*, *ja*, and *za* (Wahyuni, 2011).

As mentioned above, Japanese pronunciation have been examined by many researchers. But few studies focus on pronunciation learning techniques to improve students' ability to pronounce Japanese. For this reason, this article aims to fill in the gaps in research on learning Japanese pronunciation to overcome students' difficulties in pronouncing Japanese sounds. This article will focus on 1) the effectiveness of the Minimal Pairs technique in learning Japanese pronunciation and 2) the learner's response to applying the Minimal Pairs technique in learning Japanese pronunciation.

The Minimal Pairs technique is a technique for determining segmental and non-segmental language phonemes, which is done by presenting word pairs with different sound elements, both vocoid and contoid (Isnani and Arifin,

2016). Minimal Pairs are word pairs that have one different pronunciation sound. The two sounds of the Minimal pair have different phoneme units. Minimal pairs are among the favorite teaching topics for teachers in teaching pronunciation (Brown, 1995). In line with Brown's statement, in phonology, a pair of words is considered minimal if it has one phoneme difference, such as bet-bed. Minimal pairs have been used for more than half a century in teaching to raise awareness of phonemics (Tejedor-Garcia et al, 2017).

Many researchers have conducted studies on the application of the Minimal Pairs technique in learning foreign language pronunciation.

Sari (2011) has researched seventh-grade students of SMPN 66 Jakarta in improving English pronunciation skills using Minimal Pairs. This study indicates that the application of the Minimal Pairs learning technique can successfully improve English pronunciation skills. In addition, students seemed more active during the learning process.

Rahimah (2011) researched student's ability to listen to Minimal Pairs at the second-year students of Madrasah Aliyah Negeri 2 Marabahan Academic Year 2011/2012, with a research sample of 66 students.. The results show that the ability to listen/listens to pairs of second-year students of Madrasah Aliyah Negeri 2 Marabahan is still relatively weak.

Kawashima (2012) researched the effectiveness of the Minimal Pairs technique, which is performed repeatedly on the ability to distinguish between vowels and consonants in English. The study's results show no effectiveness or significant change in the ability to distinguish English vowels. However, there is a level of effectiveness that occurs from the ability to distinguish English consonants.

Prianti (2017) examined the use of the Minimal Pairs game to improve French-speaking skills. This study shows a significant difference between before and after the use of minimal pair games. Moreover, the pair minimal game technique effectively improves speaking skills in the scope of pronunciation.

Rahman (2018) researched the use of the Minimal Pairs technique in teaching pronunciation at the second-year students of SMAN 4 Bantumurung, conducted this research to know the effectiveness of using the Minimal Pairs technique in improving English pronunciation skills in grade 2 students SMAN 4 Bantumurung. The results of this study showed that the experimental class was far superior to the control class. In addition, there are significant differences before and after treatment with the Minimal Pairs technique in learning English pronunciation. The response given by the sample is very positive. The samples were very active and enthusiastic by being given pronunciation learning through the Minimal Pairs technique.

From the previous research mentioned above, the Minimal Pairs technique as one of the learning techniques can help in improving speaking and pronunciation skills, especially in foreign language learning. Although most of the foreign languages that use the Minimal Pairs technique are English, the Minimal Pairs technique may positively affect Japanese language learning.

METHOD

This research is quantitative research with a quasi-experimental research design. The quasi-experiment is one of the experimental methods in which the placement of samples into the experimental and control classes is not random (Hastjarjo, 2019). The selection of a quasi-experimental as a research method is based on considerations to determine the sample's ability before and after being given treatment. Like experimental designs, quasi-experiments are used to arrive at conclusions about causation that can be applied in general terms (Shadish et al., 2002).

The Minimal Pairs technique was tested by giving treatment to the students who were the research sample. The sampling technique used is a purposive technique, namely taking research samples based on the considerations of the researcher with the intent or purpose that can be justified scientifically (Sutedi, 2009). The sample in this study were students

of the Japanese Language Education Department at Universitas Muhammadiyah Yogyakarta who did not yet reach the N5 ability. The N5 ability in the JLPT (Japanese Language Proficiency Test) is the earliest or essential ability of all existing JLPT capabilities. The considerations for chooshing the sample are: 1) the sample with level N5 is an early level learner, were considered to have not been much influenced by various Japanese vocabulary, 2) the habit of pronouncing the pronunciation correctly and adequately at the initial level were considered potentially reduce the chance of pronunciation errors in students in the next level. The samples used in this study were 14 samples.

The number of treatments given was seven times. Table 1 shows a detailed description of the implementation of treatment and pre-test and post-test activities.

In this study, the instruments used were tests in the pre-test, post-test, and questionnaire. By the instruments in this study, the data processing techniques to be carried out are tests. Data processing techniques in this study use comparative statistical techniques. Data processing using comparative statistics aims to determine whether there is a difference between two or more variables and determine the significance of the differences in these variables (Sutedi, 2009). Pre-test and post-test were used to measure the effectiveness of the Minimal Pairs technique, while the questionnaire was used to measure the learner's response to the application of the Minimal Pairs technique.

The test used in this study is a listening test. the sample was asked to listen an audio which is specifically designed for this research purpose, and then asked to choose one of the two vocabulary words. The vocabulary contained in the test questions is the chosen vocabulary according to the scope of this study, namely, to determine the pronunciation ability of Indonesian learners in Japanese in terms of long vowels, double consonants, semi-vowel sounds, *tsu* sounds, nasal sounds, the difference between *sa* and *sa* line sounds, *sha* as well as the difference in the sound of the *za* and *ja* lines.

Table 1. Schedule of Research Implementation

Meeting	Day/ Date	Time	Activity
1	Thursday / 17 06 2021	13.00-14.00	Pre-test
2	Saturday / 19 06 2021	10.00-11.00	Treatment 1, with long vowel sounds using the Minimal Pairs Technique
3	Tuesday / 22 06 2021	13.00-14.00	Treatment 2, with double consonant sound material using the Minimal Pairs Technique
4	Thursday / 24 06 2021	13.00-13.45	Treatment 3, with semi-vocal sound material, using the Minimal Pairs Technique
5	Saturday / 26 06 2021	10.00-10.50	Treatment 4, with *tsu* and *chu* consonants, using the Minimal Pairs Technique
6	Tuesday / 29 06 2021	13.00-13.45	Treatment 5, with nasal consonant sounds, using the Minimal Pairs Technique
7	Thursday / 01 07 2021	13.00-13.40	Treatment 6, with the consonant sounds of the lines *sha, shu, sho, sa, su, so*, using the Minimal Pairs Technique
8	Saturday / 03 07 2021	10.00-11.15	Treatment 7, with consonant sounds in the lines Ja, Ju, Jo, Za, Zu, Zo, using the Vashmid and Posttest models

Learning activities (treatment), tests, and questionnaires were distributed online using MS Teams and Google Forms. The steps for forgiving, assessing, and analyzing test data in this study are (1) to record vocabulary from the handbook used by the sample, which is equivalent to Japanese N5 ability, (2) choose 35 vocabularies that fit the scope of this research, including five

vocabularies for long vowels, five vocabularies for double consonants, five vocabularies for semi-vowels, five vocabularies for *tsu* sounds, five vocabularies for nasal sounds, five vocabularies for differences in the sounds of the *sa* and *sha* lines, as well as five vocabularies for the differences in the sounds of the *za* and *ja* lines, (3) make test questions that will be used as data collection and data analysis, (4) asking for expert judgment to determine the feasibility of using the test, 5) give a test to samples, (6) collect data, (7) analyze data, (8) performing effectiveness test data processing with statistical formulas.

RESULTS AND DISCUSSIONS

This section will describe (1) the results of statistical data calculations to answer the effectiveness of the minimal pairs technique, and (2) learner's responses to the use of minimal pairs technique in learning Japanese pronunciation, and discussion regarding the result of the research

RESULTS

The Effectiveness of the Minimal Pairs Technique in Learning Japanese Pronunciation

The first step in processing effectiveness data is to obtain sample scores in answering the pre-test and post-test questions. To make it easier to process the data, the researcher made a table for obtaining pre-test and post-test scores containing the post-test scores named column X, the results of the pre-test scores named column Y, the total score X, the total score Y, the average score. X, the average score of Y, the difference between the average score of X and the X score of each sample is named column x, the difference between the average score of Y and the Y score of each sample is named column y, the squared score of x, and the squared score of y. All of these data acquisition is

the first step towards statistical data processing by using comparative statistical formulas to determine the standard deviation, X and Y, standard errors of X and Y, standard error of the difference in Mean X and Y, and finally, to find out t count.

From the results of data processing, it is known that the standard deviation of X is 0,59, while the Standard Deviation of Y is 1,14. After that, the standard error of X was 0,29, while the standard error of Y was 0,31. Then the standard error of the mean difference between X and Y was 0,43 and T count was 3,7. In order to test the significance level of this research, degrees of freedom are needed. The degree of freedom in this study was 18. therefore t_tab at the 1% significance level in the table is 2,88 and t_tab at the 5% significance level in the table is 2,10.

With the above value indicating that t_count was greater than t_table (at a significance level of 5% or 1%). This result means that there was a significant difference between variables X and Y. In other words, the use of the Minimal Pairs Technique was effective in learning Japanese pronunciation.

In other words, this is in line with the research results carried out by the researchers mentioned based on this research.

Learner Responses to the Application of Minimal Pairs Techniques in Learning Japanese Pronunciation

In addition to examining the effectiveness of the Minimal Pairs technique, this study also aims to examine learners' responses to the technique. The respondents of this study were all learners who participate in the treatment in this study. The following are the result of the questionnaires.
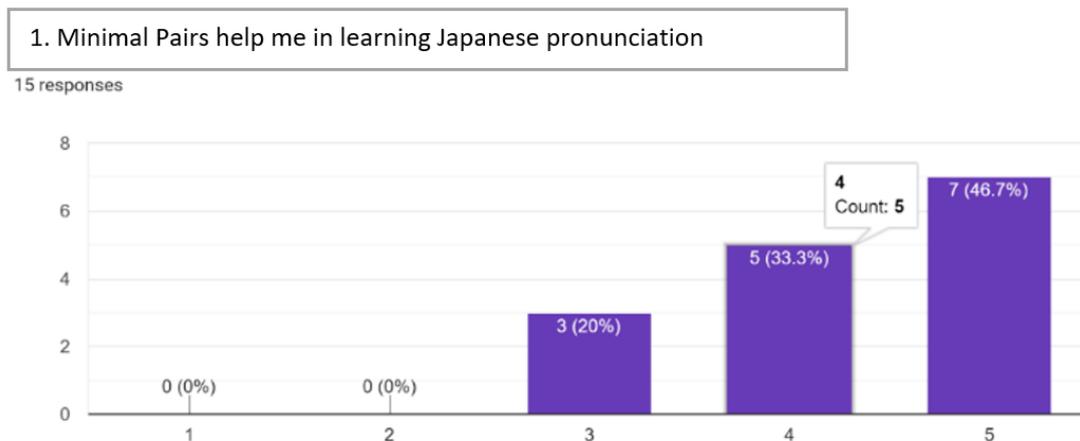
Figure 1. Level of Minimal Pairs Helpfulness

From the figure 1, it can be seen that almost all respondents feel helped in learning Japanese pronunciation with the application of the Minimal Pairs technique. Even so, there are 20% of respondents answered neutrally. However, none of the respondents believed that the Minimal Pairs technique did not help understand Japanese pronunciation.
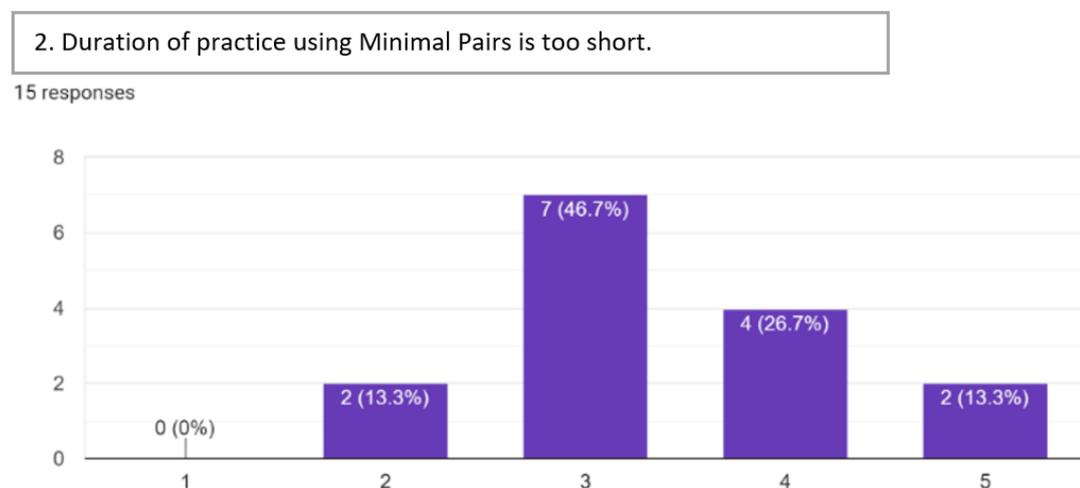

Figure 2. Duration of practice using Minimal Pairs

From the figure 2, it is clear that there are various opinions regarding the ideal duration of applying the Minimal Pairs technique. However, 46.7% are

Wahyuni, Y., & Indraswari, T. I. (2022). Minimal Pairs

neutral. These results could indicate that the respondent is unsure of the ideal time to use the Minimal Pairs technique in learning Japanese pronunciation.
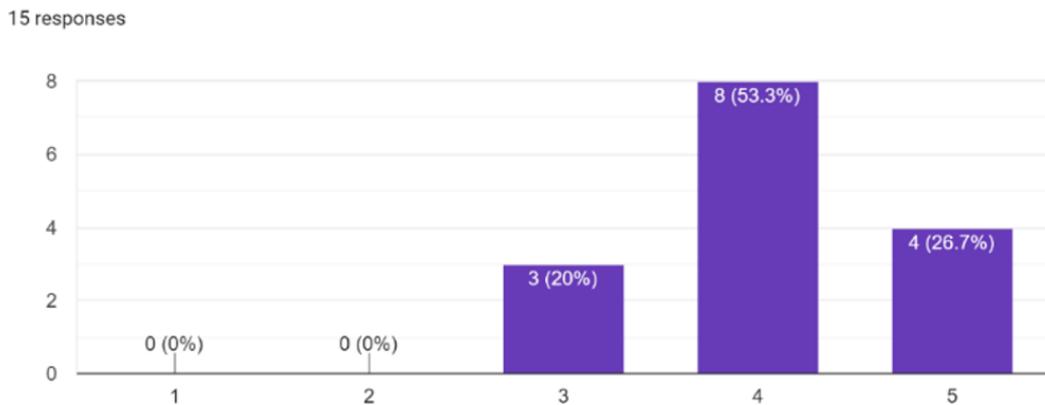

Figure 3. Satisfaction in practicing using Minimal Pairs

From the figure 3, it was evident that almost all respondents were satisfied with practicing using the Minimal Pairs technique. However, only 26.7% of the respondents were delighted. These results could be because the respondents feel less challenged using the Minimal Pairs technique to learn Japanese pronunciation.
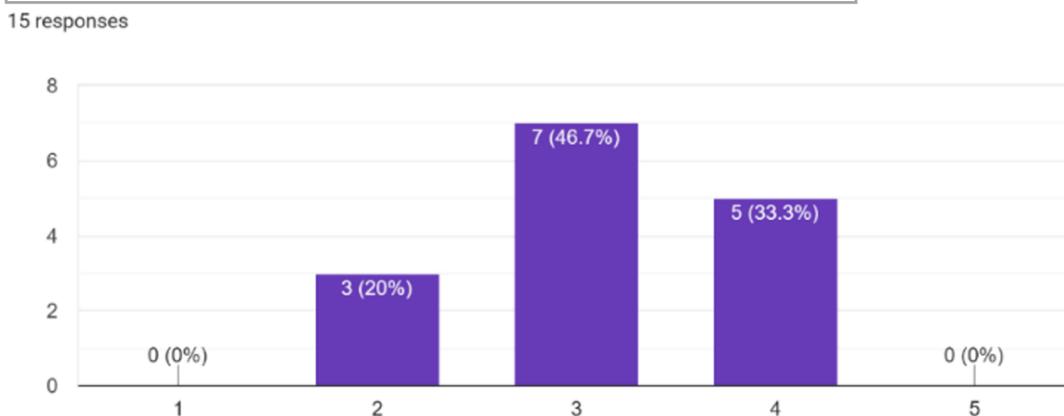

Figure 4. The amount of vocabulary given using the Minimal Pairs

The questionnaire results show that 46.7% of respondents were hesitant about the amount of material given using the Minimal Pairs technique. This result indicates that the respondents still do not know much about Japanese pronunciation.
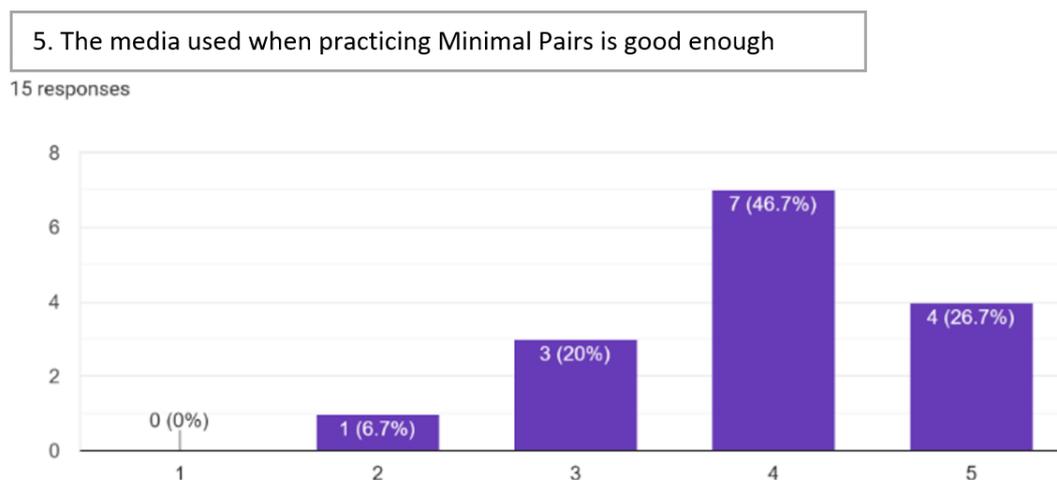

Figure 5. Use of media in practicing Minimal Pairs

From the figure 5, it was apparent that almost all respondents think that the media used when practicing using the Minimal Pairs technique is quite good. However, some respondents feel doubtful and disagree with the use of the media used.
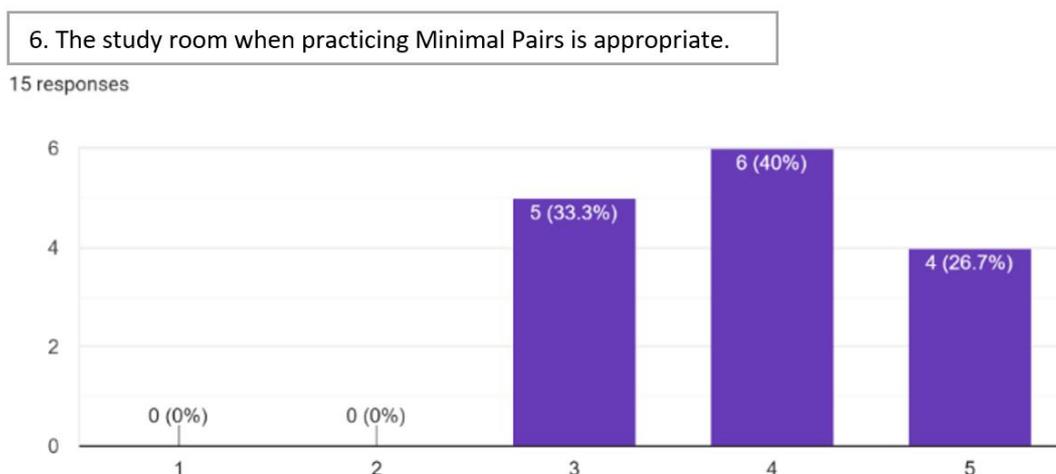

Figure 6. Use of the study room when practicing Minimal Pairs

From the figure 6, it was evident that almost all respondents feel that the learning space when practicing with the Minimal Pairs technique is appropriate. However, as many as 33.3% of respondents have a doubtful opinion. These results could be due to a lack of satisfaction with learning pronunciation which was held online.
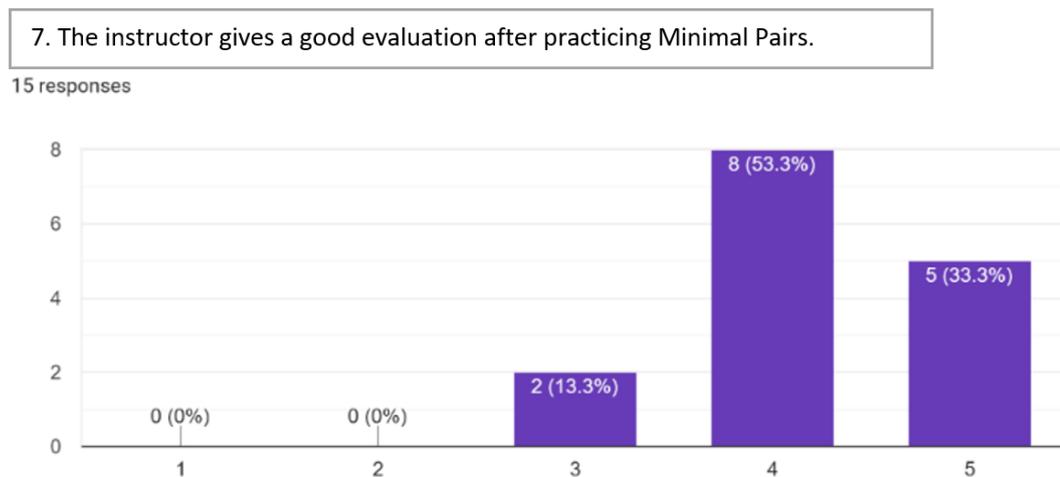

Figure 7. Application of learning evaluation after practicing Minimal Pairs

From the figure 7, it was evident that almost all respondents think that the instructor gives a good evaluation when practicing using the Minimal Pairs technique.
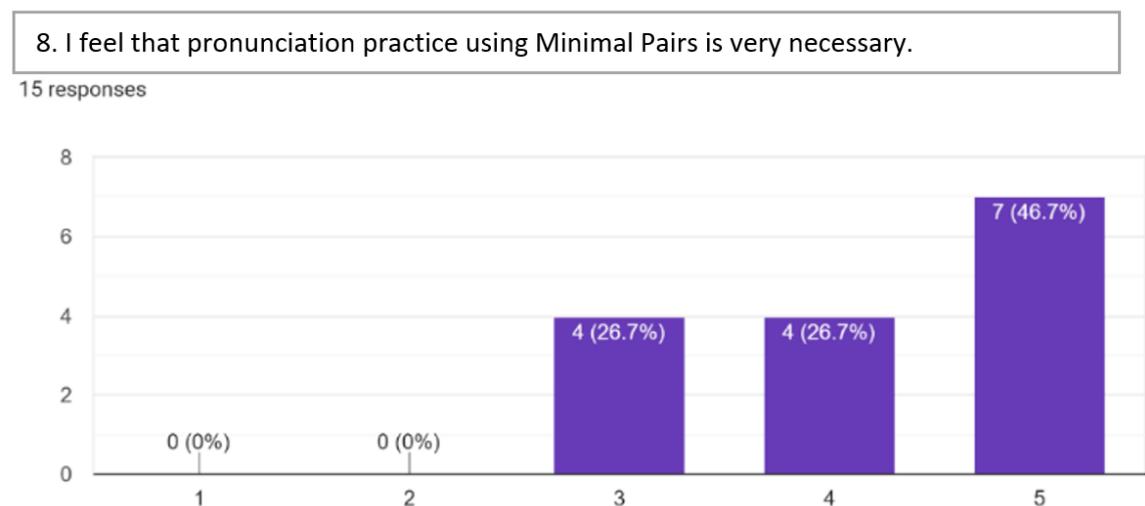

Figure 8. Use of Minimal Pairs in learning pronunciation

The questionnaire results show that almost all respondents think that almost all respondents think that the Minimal Pairs technique is essential for practicing Japanese pronunciation. However, there are 26.7% of respondents answered doubtfully.
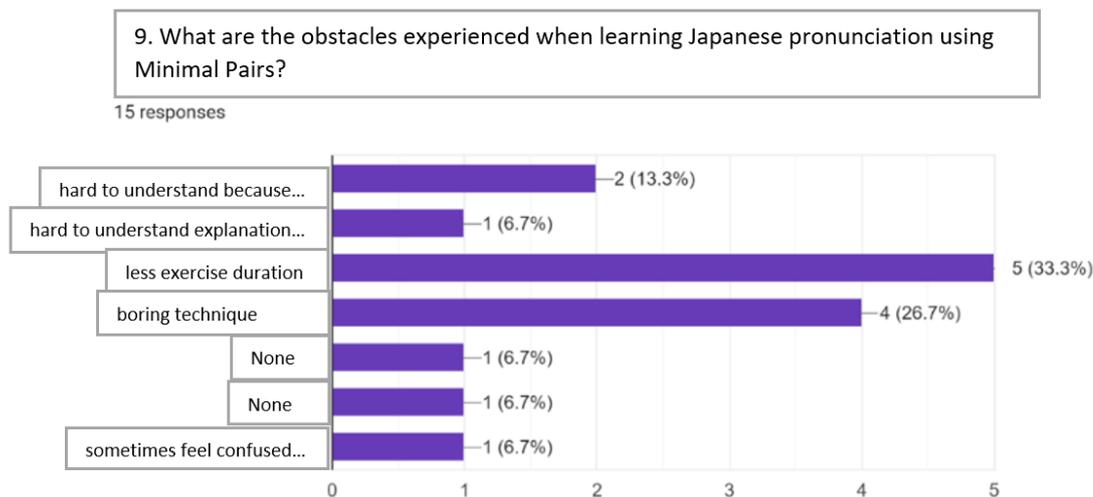

Figure 9. obstacles faced by respondents to applying Minimal Pairs

From the figure 9, 33.3% of respondents answered that the exercise duration was deemed insufficient. 26.7% of respondents answered that this technique was tedious, and other respondents found it difficult to understand when practicing using the Minimal Pairs technique.

DISCUSSION

Minimal Pairs are proven to improve the ability to distinguish Japanese sounds in the range of long vowels, double consonants, semi-vowel sounds, *tsu* sounds, nasal sounds, differences in the sounds of the *sa* and *sha* lines, and differences in sound. *za* and *ja* lines. This research also indicates that minimal pairs can be used to improve pronunciation skills when learning a foreign language. Students feel that a minimum of pairs is necessary when learning Japanese, although some respondents think this technique is tedious. It is

necessary to modify learning activities using minimal pairs, such as the use of learning media that is more dynamic and closer to the daily lives of learners so that they enjoy learning using this technique more.

Although this technique is effective, several things need to be considered together. Semi-vowel sounds, double consonant sounds, and sound differences in the *sha* and *sa* lines are categories that are easily captured and corrected by the sample. This research indicates that Minimal pairs can be an alternative problem solving that occurs that some students find it challenging to pronounce these sound categories, especially in fricative sounds. With the diversity of the learners' mother tongue or regional language background, which is one of the obstacles for learners in mastering Japanese sounds, the minimal pair technique is one of the steps that can be considered to improve Japanese pronunciation for learners in Indonesia. Another exciting thing is that even though the minimal pair technique is effective, some sounds are still complex for students to catch well, namely *tsu* consonant sound at the beginning of the word. This research indicates that even though the treatment has been given, *tsu* consonant sound at the beginning of the word is an unsolvable problem. Therefore, there is a need for other, more intense methods such as oral drills or increasing the duration of practice by using the minimal pair technique to improve pronunciation and distinguish the *tsu* sounds found at the beginning of words.

CONCLUSION

Based on statistical calculations, the Minimal Pairs technique is effective in improving Japanese pronunciation, which includes seven categories; including long vowels, double consonants, semi-vowel sounds, *tsu* sounds, nasal sounds, differences in *sa* and *sha* line sounds, and the difference between the sounds of the *za* and *ja* lines.

The Minimal Pair technique received a positive response, including providing material, duration, evaluation, media, and the instructor's

explanation. On the other hand, some respondents feel that this technique is tedious. However, almost all respondents feel that the Minimal Pairs technique is needed in learning and practicing Japanese pronunciation.

However, this research is still limited to receptive ability. Learners can distinguish Japanese pronunciation correctly just from listening to audio alone. This study has not examined the ability of learners to pronounce Japanese sounds correctly orally because the primary form of spoken language is an essential means of communication between individuals and society. Therefore, the researcher hopes there will be further research related to applying other learning models to improve the ability to pronounce Japanese sounds correctly orally for Japanese language learners in Indonesia.

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