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Educational Quiz Game Media *Nazo nazo* for Basic Level *Choukai* Learning

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Abstract

Nazo-nazo is a type of riddle game that is quite popular in Japan. This game is usually designed for children, where they guess an object through images or riddles narrated by others. However, in this study, nazo-nazo is used as an educational quiz game media for basic Japanese listening learning, as games specifically designed to improve Japanese listening skills are still relatively rare. This study aims to determine the listening skills of basic Japanese learners before and after the implementation of the nazo-nazo game media and to identify which listening skill instruction is more effective between the experimental and control classes through a comparative statistical test. Additionally, it evaluates students' responses to this game. The research method used is quantitative. The total sample consists of 42 participants, divided into two groups: 22 students in the experimental group and 20 students in the control group. The results show that the post-test scores were higher than the pre-test scores in the experimental class, with an average post-test score of 82.95, compared to an average pre-test score of 64.56. The t-test calculation resulted in a value of 4.945, which is greater than the t-table value of 2.02 (at a 5% significance level). This indicates that using the nazo-nazo quiz game as a media for teaching listening skills is more effective than teaching without it. Additionally, the questionnaire results show that respondents gave positive perceptions of the nazo-nazo quiz game media, as it creates a new learning atmosphere and increases learning motivation. Therefore, this game can be applied as an alternative method for teaching basic Japanese listening skills.

Keywords: nazo-nazo; quiz game; listening

INTRODUCTION

Learning media refers to anything that can be used to convey messages (learning materials) to stimulate students' attention, interest, thoughts, and emotions in the learning process to achieve educational goals (Kristanto,

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2016). Every learning media serves as a tool to achieve learning objectives. One type of media that has been developing in recent years is multimedia-based educational games (Vitianingsih, 2016). Educational games serve as a means to motivate students and prevent boredom in the classroom. According to Sururuddin and Prihatini (2018), one of the factors contributing to low student motivation is the lack of teacher creativity in delivering lessons. Many teachers still rely on one-way lectures and require students to read textbooks in class. However, reading interest among students in Indonesia remains relatively low (Anisa et al., 2021), making it difficult for them to stay engaged and focused during lessons. The educational game examined in this study can be categorized as multimedia learning media because, according to Kristanto (2016), multimedia learning includes various models, one of which is games. Educational games are particularly interesting to develop, especially in the field of listening (*choukai bun'ya*). According to Sari (2022), educational games have been proven effective in developing language skills through interactive and enjoyable methods. This type of media introduces the concept of winning and losing, fosters a competitive spirit among students, and creates an engaging learning experience that encourages students to participate actively in class.

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Educational game media that have been widely recognized for supporting Japanese language learning in Indonesia include Duolingo, Lingodeer, Human Japanese, and Anki, which assist in developing all four language skills. Meanwhile, in Japan, one of the popular educational games is "*nazo nazo*". The term *nazo nazo* can be translated into English as "*riddles*" and into Indonesian as "*tebak-tebakan*". Generally, according to Tanaka et al. (2023), *nazo nazo has* traditionally been used as a word-based game specifically for children in Japan. The gameplay is quite simple—players are given a few hints (*hinto*) in a short narrative, and after receiving these clues, they must guess the intended object to earn points. According to Tanaka et al. (2023), the functions of *nazo nazo* as an educational game media include: first,

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enhancing learning motivation; second, sharpening critical thinking skills; third, encouraging teamwork and communication; and finally, improving children's vocabulary skills in school.

Therefore, further research on *nazo nazo* is needed to develop it into a listening skill game presented with longer narratives to make it more challenging and aligned with Bloom's Taxonomy at levels equivalent to C4 to C6. This is crucial because one of the essential skills that learners of the Japanese language must master is listening, which helps improve communication abilities. Listening skills refer to the ability to understand, interpret, and analyze information received through the process of listening (Farchan, 2013). According to the Japan Foundation (2024), the purpose of training listening skills is to enable learners to comprehend various messages conveyed by speakers during communication. However, listening skill development is not solely about improving comprehension or understanding conveyed messages; rather, it serves as an essential input in the language education process, which ultimately leads to meaningful learning outcomes. In other words, listening skills play a crucial role in communication, as learners acquire Japanese through the process of listening (input), which in turn enables them to achieve remarkable outcomes, such as responding and speaking (output) fluently based on what they have listened to during conversations.

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The learning media used for teaching listening skills have so far appeared monotonous. According to Farchan (2013), there is a significant lack of specialized educational games for *choukai* (listening comprehension), and the available resources are not innovative. Teachers have mainly relied on videos, basic conversation listening exercises (which tend to be monotonous), shadowing techniques, or questions from the JLPT and J-Test as *choukai* learning media. With the advancement of technology, teachers should be able to create a more engaging learning environment, especially when teaching listening skills, to enhance students' motivation to learn *choukai*. This is crucial

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because motivation is one of the most influential factors affecting *chouka*i scores in the JLPT N5-N4 and J-Test F-G. According to Nugraha et al. (2017), motivation has a remarkably high impact of 98.76% on students' listening comprehension performance in these tests.

This study aims to determine the listening skills of basic Japanese learners before and after the implementation of the *nazo nazo* game media and to identify which listening skill instruction is more effective between the experimental and control classes through a comparative statistical test. Additionally, it evaluates students' responses to this game.

Previous research by Tanaka et al. (2023) on *nazo nazo* as a word puzzle or guessing game specifically designed for children aged 3 to 4 years demonstrated its effectiveness in developing children's communication skills. Furthermore, a study by Higo (2013) on the formation of information-delivery behavior in children's communication education through *nazo nazo* games found that *nazo nazo* can enhance children's social stimulus toward their surrounding environment. Another study by Hidayanti et al. (2023) explored the use of educational word-guessing games as a learning aid for elementary school students to improve their understanding of IPAS (Natural Science Education). The findings revealed that incorporating educational games like word guessing into learning significantly contributed to students' skill development and comprehension growth.

Then, Zwagery (2021) stated that the game "*Tebak Aku*," which involves recognizing emotions through pictures and stories, is effective in stimulating the emotional development of early childhood. Children engaged in this game showed significant improvement in their ability to understand and recognize the emotions of others, which is crucial for their social and emotional development. Lastly, a study by Fudiyanti (2014) on the Hangman word-guessing game in improving Japanese vocabulary mastery among high school students found that the Hangman word-guessing technique was proven effective.

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Thus, it can be concluded that the *nazo nazo* game has been proven effective as a teaching media for communication, both in assessing language development in children and in enhancing social stimuli and communication skills among adult learners. The urgency of this research lies in the pressing need to address the low learning motivation of students due to the lack of instructional media specifically designed for listening skills, as well as the lack of teacher creativity in delivering lessons in class. This is supported by the research findings of Farchan (2013), Sururuddin and Prihatini (2018), and Nugraha (2017). This study is highly significant in exploring and developing more interactive and engaging learning media, such as the multimedia-based educational game *nazo nazo*, which has been proven effective in improving communication and listening skills among learners. This effort aims to enhance students' motivation in learning listening skills, as motivation is a nearly 100% determining factor in listening comprehension (Nugraha et al., 2017). This media can be used by educators as a supplementary and alternative tool to support language skills and social interaction among students. However, to date, the *nazo nazo* game has never been used as a learning media to improve listening skills (*choukai*) at the N5 level among basic Japanese language learners (*shokyuu*). Listening comprehension is crucial in communication, learning, and social interaction, especially for students who aspire to pursue a career in Japan. Furthermore, riddles or *nazo nazo* in the context of learning are not limited merely to the activity of guessing objects. According to a study conducted by Absattarovna (2021), riddles are a form of logical task that can train students' critical, analytical, and creative thinking skills. Fundamentally, riddles present hidden problems in the form of metaphors, comparisons, or descriptive features that must be analyzed to uncover the correct answer.

Although various studies have been conducted to examine *nazo nazo* as a learning media, there are still limitations in research specifically investigating its use in improving Japanese listening skills at the N5 (basic)

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level. Moreover, previous studies have not incorporated listening skills in the *nazo nazo* game at all, and most of these studies have only focused on *Lower Order Thinking Skills* (LOTS) based on Bloom's Taxonomy. Therefore, this study aims to fill this gap by integrating N5-level Japanese listening skills into the *nazo nazo* game while also targeting *Higher Order Thinking Skills* (HOTS) in cognitive development. This research is expected to provide new insights into the use of educational games in Japanese language learning.

METHOD

The method used in this research is a true experimental method with a descriptive quantitative approach. A true experiment is an experiment that strictly follows procedures and meets the requirements of experimental research, especially in terms of variable control, control groups, treatment application, or activity manipulation, as well as result testing (Nurhadini, 2023). This study involves two classes: a control/comparison class and an experimental class.

This study employs a pretest and posttest control-group design since it includes an experimental class (*jikkengun*) with a sample size of 22 participants and a control or comparison class (*seigyogun*) with a sample size of 20 participants. These samples are selected from a population within a vocational training institution. The pretest is conducted before the treatment (intervention) is given, while the posttest is administered after the treatment. This design allows for a more accurate assessment of the treatment's effects, as it enables comparisons with the conditions before the intervention. The reason the researcher uses this research design is to determine whether there is a change in students' abilities before and after the treatment is implemented.

In this design, before the treatment begins, both groups are given an initial test or pretest in the form of a JLPT N5 test to measure the students' initial *choukai* (listening comprehension) ability. The learning process in both classes initially follows a conventional approach. The conventional approach

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refers to the teaching methods commonly used by teachers in the classroom, which involve using the Irodori A1 *Shokyuu* textbook as a learning media. Next, the experimental group receives the treatment, while the control group does not receive any treatment and continues with conventional teaching. After the treatment is completed, both groups take another test as a posttest.

This research was conducted at LPK Tomoni with students from the basic level classes (N5/N4). The research period starts from February 12 to February 19, 2025. The study involved two research groups: the experimental group and the control group. The students in the experimental group used the *nazo nazo* game as a learning media with an audiovisual method and the learning model is game-based learning, while the control group used the Irodori A1 *Shokyuu* textbook with the direct method and the learning model is the audio-lingual, similar to how teachers typically teach in class. LPK Tomoni is a higher-level vocational training institution located in Bekasi, West Java. The institution offers basic Japanese language learning as part of its foreign language courses for trainee students. As a private institution, it has its own syllabus and is not bound by the government curriculum.

The total student population at LPK Tomoni is 60 students. The researcher will use purposive sampling as the sampling technique. Therefore, the experimental class in this study consists of 22 students, while the control class consists of 20 students. The students in both the experimental and control classes have been studying basic Japanese for four months, using *Minna no Nihongo 1*, *Minna no Nihongo 2*, and Irodori A1 *Shokyuu* as their learning materials.

The instruments used in this research include JLPT N5 *choukai* questions (published by Aruku), a lesson plan (RPP), and an educational game based on the *nazo nazo* game media (120 quiz questions). All of these instruments have been tested for difficulty, discrimination power test, validity, reliability, and have been reviewed by subject matter experts and media experts.

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The data collection process begins with a pretest using JLPT N5 *choukai* questions (published by Aruku), administered to students to assess their listening comprehension skills in understanding basic Japanese language material taught through conventional methods. The pretest consists of 28 multiple-choice *choukai* questions and will be conducted for 30 minutes to evaluate students' listening abilities before implementing the treatment in the experimental class. The pretest results will be processed using Microsoft Excel 2021 and SPSS Statistics 23.

Following the pretest, the treatment phase will begin in the experimental group, while the control group will continue learning using the conventional teaching methods commonly used by teachers. The treatment will take place over four sessions, with the teacher using the *Nazo nazo: Tebak Saya* game as a learning media in the experimental class. The treatment will consist of four sessions, each lasting 120 minutes, focusing on *choukai* lessons. The *nazo nazo* educational game used in this study will be developed using Canva and Wordwall, complemented by NaturalReader for voice input. The total number of quiz questions is 120. The *Nazo nazo: Tebak Saya* game will be an audiovisual learning tool featuring *nazo nazo* quiz games with integrated audio, images, scripts (narratives), vocabulary, and grammar. To gain a deeper understanding of the learning materials, participants can access several links provided according to their respective treatments. The material for Treatment 1 can be accessed via the link https://shorturl.asia/szkZt. Next, the material for Treatment 2 is available at https://shorturl.asia/Kz3Bm. For Treatment 3, participants can study two parts of the material through the links https://shorturl.asia/65AMq and https://shorturl.asia/0IJVr. Finally, the material for Treatment 4 also consists of two parts, accessible via https://shorturl.asia/KJoWm and https://shorturl.asia/wHSxF.

Here is an example of the quiz game media display for *nazo nazo* using Canva & Wordwall:

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Figure 1. Opening display of the *nazo nazo* quiz game media in Canva

The first page is displayed by introducing the game flow. Before the game begins, students are required to do a warm-up session, where they identify images (LOTS) and understand vocabulary based on different themes in each session. For example, on the first day, students encounter nouns (such as vehicle names, professions, and animal names). In the second session, they guess adjectives (feelings and impressions). In the third session, they guess verbs (daily activities) and *aisatsu hyougen* (greetings and expressions). Finally, in the last session, students guess a location. All these game themes are designed as quiz games to enhance listening skills. In this explanation, the researcher presents only the Canva & Wordwall quiz game for noun-related *nazo nazo* as an example. Although the discussion themes vary in each session, the template remains the same throughout.

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Next, the researcher explains the characteristics (*tokuchou*) of each vocabulary item in detail, aiming to help students guess the words correctly when the game begins. This is accompanied by background music (suggestopedia) to create a more relaxed and enjoyable atmosphere for students as they listen to the researcher's explanations. Examples of this can be seen in figures 2, 3, and 4.

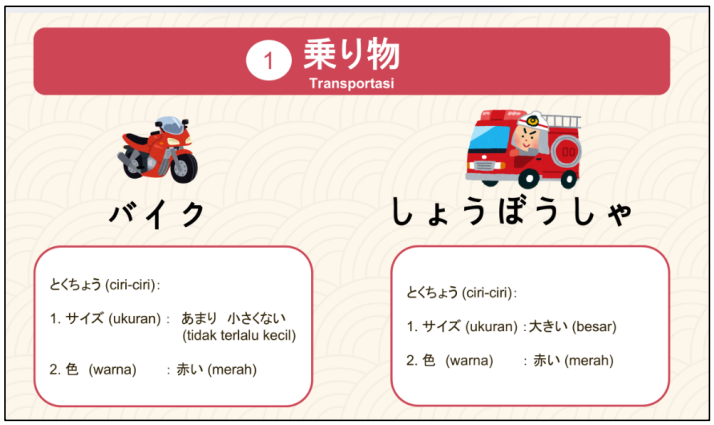

Figure 2. Vehicle Names

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Figure 3. Job & Occupations

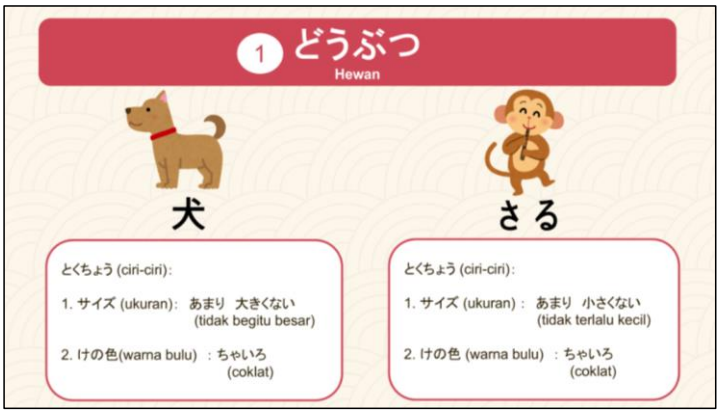

Figure 4. Animal Names

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If the students feel ready, the next step is an explanation of the game rules, as shown in figure 5, and 6.

Figure 5. Explanation of Game Rules.

Figure 6. Explanation of Game Rules.

In this game, students go through two sessions with different sets of questions. In the first session, students are expected to conclude (C6) a narrative or discourse played by the researcher and answer multiple-choice questions provided on the slide. The first session consists of 10 questions. Meanwhile, in the second session, students are expected to conclude the content of the narrative or discourse played by the researcher and answer

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multiple-choice questions that are not displayed on the slide. The second session also consists of 10 questions. Thus, the total number of questions in meetings 1 and 2 is 20 for each meeting. In meetings 3 and 4, the number of questions increases to 40 per meeting, ranging from the easiest to the most difficult.

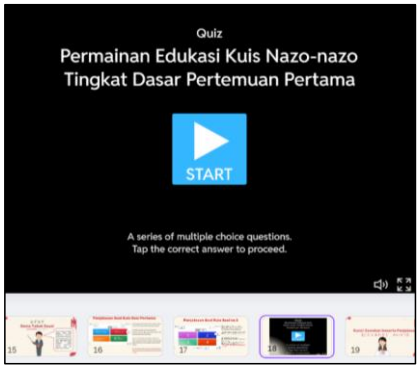

Figure 7. Wordwall Display for Starting the Game

If the students are ready, the researcher will click on the next slide, which directs to the Wordwall page. Then, they will click on the "Start" button to begin the game, as shown in figure 7. Once clicked, a new display will appear, as shown in figure 8.

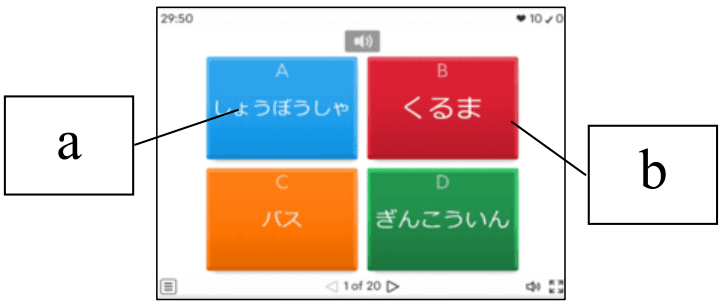

Figure 8. Quiz Question Display for Nazo nazo Game

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In figure 8, there are several sequences of letters displayed on the slide. In section (a), there is an audio icon representing the *nazo nazo* audio, which contains a narrative (script) written by the researcher. The audio is actually a recorded output generated by AI from the Natural Reader application, then downloaded and inserted into the slide to produce a voice resembling a native Japanese speaker. Next, in section (b), there are colorful multiple-choice options displayed by the researcher. The goal is for students to answer the quiz by carefully listening to and summarizing the script's content, then guessing the object being described based on the audio they have heard. Each time a question is answered, the correct answer will automatically be displayed.

After both sessions are completed (1–20), the system will automatically display the total points obtained. This allows students to immediately see their results as a form of self-evaluation. The next and final stage is *kotaeawase* (answer confirmation) and an explanation of the entire script that was played during the game. This includes a detailed explanation of its grammatical structures.

Figure 9. Answer Key

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In figure 9, there is an illustration along with the answer key for question number 1 from the first session.

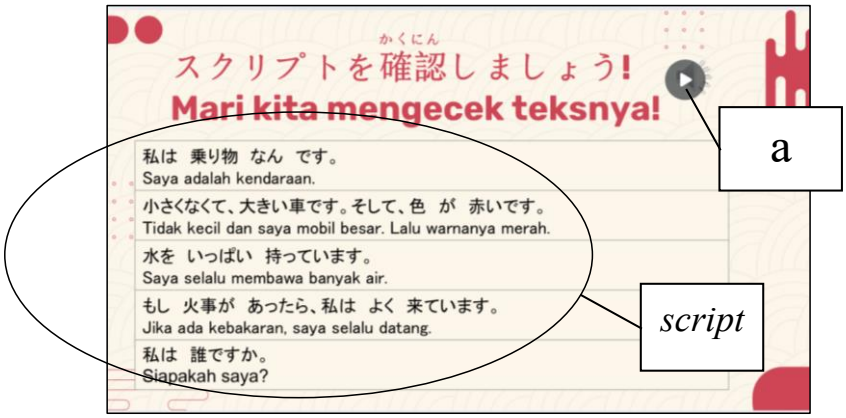

Figure 10. Script

In figure 10, part (a), there is an audio icon that is displayed again from quiz question number 1 to be replayed and discussed together after the quiz game has ended. This aims to help students listen to Japanese sounds properly (C1), distinguish between long and short sounds (C2), and differentiate between single and double sounds in Japanese (C2) while referring to the script or transcript of the quiz audio.

Kanji	Kana	Indonesia
乗り物	のりもの	Kendaraan
車	くるま	Mobil
大きい	おおきい	Besar
色	いろ	Warna
赤い	あかい	Merah
	いっぱい	Banyak
持っています	もっています	Selalu membawa
火事	かじ	Kebakaran
来ています	きています	Selalu datang

Figure 11. A list of vocabulary related to scripts

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In figure 11, there is part (a), which is an audio icon containing the pronunciation of a list of vocabulary related to the script in figure 11. The purpose remains the same: to enable students to hear the sounds of Japanese words individually (C1) and to understand the meaning of each vocabulary item at a level equivalent to *Minna no Nihongo* 1 and 2 (N5).

Figure 12. Grammar explanation

The final part is a discussion of the grammar that appears in the quiz question script that has been listened to. This slide is a bonus and aims to help students understand N5-level grammar in preparation for the listening proficiency exam. According to Wilson (2008), one of the causes of students' difficulties in listening comprehension is complex vocabulary and grammar. This aligns with the research findings of Yastanti (2015), which state that grammar significantly influences students' listening skills. Therefore, it is necessary to include additional discussions on the grammar that appears in the *nazo nazo* audio during the answer confirmation process.

Finally, a posttest will be administered to both the experimental and control groups. The results of the posttest will determine whether the educational game-based *nazo nazo* quiz media has an impact on students' listening comprehension skills. The JLPT N5 *choukai* test questions used for the posttest will be the same as those in the pretest, consisting of 28 multiple-

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choice questions. The test will last for 30 minutes, and the average scores will be calculated after completion.

For data processing techniques, the researcher will determine the overall student scores using a formula based on the scores obtained in the pretest and posttest.

$$Final\ Score = \frac{Score\ Obtained}{Maximum\ Score} \text{ X } 100$$

Source: Sudjana, 1999.

Then, the average score is calculated using MS Excel (AVERAGE). After that, normality and homogeneity tests are conducted as prerequisites for the comparative statistical test (t-test). However, according to Sugiyono (2023), if the data is not normally distributed, researchers are allowed to use the non-parametric Mann-Whitney test as a solution. Once the prerequisites are met, the researcher uses comparative (descriptive) statistics based on Sutedi's (2018) theory to test the hypothesis, which examines whether there is a difference between two variables: the control class that does not use the *nazo nazo* media and the experimental class that uses the *nazo nazo* media.

To understand students' impressions of the implementation of the *nazo nazo* media in improving basic Japanese listening skills, a questionnaire is distributed after the posttest. Before the questionnaire was distributed, each item in the questionnaire was tested for validity using Sugiyono's theory (2017). The questionnaire was tested on 30 students from Os Selanjaya and LPK Bahana Inspirasi Muda (Japanese language school) for validity. The results showed that the calculated r-value (rHitung) was greater than the table r-value (Rtabel) of 0.355, indicating that each item in the questionnaire was valid. Additionally, based on the reliability test results, the questionnaire was deemed reliable, as the obtained Cronbach's alpha value of 0.866 was higher than the reference value of 0.70.

The questionnaire processing technique in this study uses a 4-point Likert scale to assess the effectiveness of the *nazo nazo* quiz media based on students' evaluations. The Likert scale is used to measure a person's attitude

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toward an object, opinion, or perception, either individually or in groups (Sugiyono, 2017).

The questionnaire data processing technique follows Arikunto (2021) calculation method by determining the percentage of each response per question and then interpreting the results. The questionnaire is distributed to students in the experimental class. To interpret the questionnaire data in percentage form, the classification follows Sugihartono et al (2007).

RESULTS AND DISCUSSIONS

Results of Pretest and Posttest

In this subsection, the research results and discussions obtained from each stage of the study are described. The aim of this research is to determine the *choukai* (listening) ability of beginner-level Japanese language learners before and after the implementation of the *nazo nazo* quiz game media, and to identify the differences between the experimental class using the *nazo nazo* quiz game media and the control class that does not use the *nazo nazo* quiz game media to find out which class performs better. Additionally, the study aims to understand the responses of the experimental class participants regarding the media.

Based on these results, the average score (mean) showed a significant increase in the experimental class based on the posttest results and treatment, reaching 82.92 from the previous score. In other words, it can be said that the use of the *nazo nazo* quiz game media can improve students' listening skills in basic Japanese lessons. Meanwhile, the average score of the control class did not show a significant increase. Initially, the pretest results of both classes showed no difference at all based on the non-parametric Mann-Whitney test calculation (SPSS 23). Since the Asymp value was 0.201, which is greater than 0.05, H_1 was rejected. This means it can be proven that the pretest scores of the experimental and control classes showed no difference before the

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treatment was applied, indicating that both classes had the same ability level based on the decision-making criteria of Sudjana (1989) and Nugroho (2008). Furthermore, when examining the mean or average scores of the pretest in both the experimental and control classes, the results were not significantly different. However, after the posttest and the Mann-Whitney test were conducted, the results of both classes showed a significant difference. The Asymp value of 0.00 was lower than 0.05, leading to the acceptance of H_1.

Table 1. Results of pretest and posttest calculations

N	Experiment Class		Control Class	
	Pretest	Posttest	Pretest	Posttest
1	85	89	67	89
2	82	92	82	75
3	82	85	75	85
4	78	71	75	75
5	75	92	75	75
6	75	78	71	85
7	71	85	64	53
8	71	82	64	78
9	67	85	60	53
10	64	89	60	53
11	64	82	57	53
12	64	89	57	46
13	60	82	60	57
14	60	85	53	78
15	60	85	53	57
16	57	75	50	50
17	57	71	46	57
18	57	89	42	78
19	53	85	25	42
20	46	67	25	67
21	53	85		
22	39	82		
Mean	64.54545	82.95455	58.05	65.3

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In other words, the posttest score data from the experimental and control classes is suitable for further comparative statistical testing, as there is a significant difference between the experimental and control classes based on the final results. Based on the Mann-Whitney test results between the pretest and posttest, it can be concluded that the pretest results showed no significant difference between the experimental and control classes. However, the posttest results indicated a significant difference between the two classes. This is further supported by the fact that the mean or average score of the posttest in the experimental class was higher than that of the control class. Additionally, another supporting factor is that the homogeneity test results for the posttest demonstrated that the sample variances were homogeneous, making them suitable for further testing.

Comparative Statistical Test

Then, the process continues with a comparative (descriptive) statistical analysis based on Sutedi's (2018) theory to test the hypothesis regarding whether there is a difference between the two variables (the control class that does not use the *nazo nazo* quiz game media and the experimental class that uses the *nazo nazo* quiz game media) that have been studied. In this calculation, the posttest scores of the experimental and control classes are used as data for the t-test statistical calculation, as these data have been determined to be homogeneous and valid based on the Mann-Whitney test. The purpose of this comparative statistical test is to determine which is more effective between the experimental class and the control class. The posttest results of the experimental class are assigned to variable X, while the control class results are assigned to variable Y. The results of the comparative statistical calculation are described in table 2.

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Table 2. Preparation for calculating the t-test value

No	X	Y	x	y	X^2	Y^2
1	92	89	9.04545	23.7	81.8202	561.69
2	92	85	9.04545	19.7	81.8202	388.09
3	89	85	6.04545	19.7	36.5475	388.09
4	89	78	6.04545	12.7	36.5475	161.29
5	89	78	6.04545	12.7	36.5475	161.29
6	89	78	6.04545	12.7	36.5475	161.29
7	85	75	2.04545	9.7	4.18388	94.09
8	85	75	2.04545	9.7	4.18388	94.09
9	85	75	2.04545	9.7	4.18388	94.09
10	85	67	2.04545	1.7	4.18388	2.89
11	85	57	2.04545	-8.3	4.18388	68.89
12	85	57	2.04545	-8.3	4.18388	68.89
13	85	57	2.04545	-8.3	4.18388	68.89
14	82	53	-0.9545	-12.3	0.91116	151.29
15	82	53	-0.9545	-12.3	0.91116	151.29
16	82	53	-0.9545	-12.3	0.91116	151.29
17	82	53	-0.9545	-12.3	0.91116	151.29
18	78	50	-4.9545	-15.3	24.5475	234.09
19	75	46	-7.9545	-19.3	63.2748	372.49
20	71	42	-11.955	-23.3	142.911	542.89
21	71		-11.955		142.911	
22	67		-15.955		254.548	
Σ	1825	1306	0	0	970.955	4068.2
Mean	82.9545	65.3				

a) Finding the mean of both variables using the following formula:

$$MX = \frac{\Sigma x}{Nx} = \frac{1825}{22} = 82.9545$$

$$MX = \frac{\Sigma y}{Ny} = \frac{1306}{20} = 65.3$$

b) Finding the standard deviation of variable X and variable Y using the following formula:

$$Sd_x = \sqrt{\frac{\Sigma x^2}{N_1}}$$

$$Sd_y = \sqrt{\frac{\Sigma y^2}{N_2}}$$

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$$= \sqrt{\frac{970.955}{22}}$$
$$= \sqrt{44.13}$$
$$= 6.64$$

$$= \sqrt{\frac{4068.2}{20}}$$
$$= \sqrt{203.41}$$
$$= 14.26$$

c) Finding the standard error of the mean for both variables using the following formula:

$$SEM_X = \frac{sd_x}{\sqrt{N_1 - 1}}$$
$$= \frac{6.64}{\sqrt{22 - 1}}$$
$$= \frac{6.64}{4.58}$$
$$= 1.45$$

$$SEM_y = \frac{sd_y}{\sqrt{N_2 - 1}}$$
$$= \frac{14.26}{\sqrt{20 - 1}}$$
$$= \frac{14.26}{4.36}$$
$$= 3.27$$

d) Finding the standard error of the difference between the two variables using the following formula:

$$SEM_{Xy} = \sqrt{SEM_X^2 + SEM_Y^2}$$
$$= \sqrt{1.45^2 + 3.27^2}$$
$$= \sqrt{2.1025 + 10.69}$$
$$= \sqrt{12.79}$$
$$= 3.57$$

e) Calculating the t-test value using the following formula:

$$t_0 = \frac{M_x - M_y}{SEM_{xy}}$$
$$= \frac{82.9545 - 65.3}{3.57}$$
$$= \frac{17.6545}{3.57}$$

= 4.945 (t-test value)

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f) Testing the validity by comparing the t-table value:

db = (22+20)-1 = 41

The t-table value for db 41 is 2.02 (5%) and 2.71 (1%). Since the calculated t-value is greater than the t-table value (at a 5% significance level), Hk is accepted. This means that there is a significant difference between variable X and variable Y. In other words, teaching basic Japanese listening skills using the *nazo nazo* game as a learning media is more effective than conventional learning methods.

Analysis and Interpretation of Questionnaire Data Results

The questionnaire data processing technique involves calculating the percentage of each response for each question number and then interpreting the results. The questionnaire was distributed to 22 students in the experimental class. Here is the formula for analyzing and interpreting the questionnaire results:

$$P = \frac{f}{n} \times 100\ \%$$

P : Percentage
f : Number of responses (frequency)
n : Total number of respondents

(Arikunto, 2021)

According to Sugihartono et al (2007), the interpretation of questionnaire data in percentage form is classified in table 3.

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Table 3. Interpretation of Questionnaire Data

Percentage Interval	Description
0.00%	No one
01.00% - 05.00%	Almost none
06.00% - 25.00%	A small portion
26.00% - 49.00%	Almost half
50.00%	Half
51.00% - 75.00%	More than half
76.00% - 95.00%	Most
96.00% - 99.00%	Almost all
100%	All

The processed and interpreted questionnaire data results can be seen in the table 4.

Question no. 1

Question: The *nazo nazo* quiz media increases learning motivation, especially for listening skills lessons.

Table 4. Interpretation of Question No. 1

No	Response Option	F (Frequency)	% (Percentage)
4	Strongly Agree	13	59.09%
3	Agree	9	40.91%
2	Disagree	0	0%
1	Strongly Disagree	0	0%
Total		22	100%

The results indicate that 100% of respondents agreed that the *nazo nazo* quiz media increases their learning motivation, with 59.09% strongly agreeing and 40.91% agreeing. No respondents disagreed or strongly disagreed with the statement. This suggests that the use of *nazo nazo* as a learning media is highly effective in motivating students, particularly in developing their listening skills. The high level of agreement demonstrates that interactive and

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engaging educational games can enhance student enthusiasm and participation in learning activities.

Question no. 2

Question: The *nazo nazo* quiz media provides a new learning atmosphere for listening practice.

Table 5. Interpretation of Question No. 2

No	Response Option	F (Frequency)	% (Percentage)
4	Strongly Agree	15	68.18%
3	Agree	7	31.82%
2	Disagree	0	0%
1	Strongly Disagree	0	0%
Total		22	100%

The results indicate that 100% of respondents agreed that the *nazo nazo* quiz media provides a new learning atmosphere for listening practice, with 68.18% strongly agreeing and 31.82% agreeing. No respondents disagreed or strongly disagreed. This suggests that *nazo nazo* is effective in creating a fresh and engaging learning environment for listening practice. The high level of agreement indicates that interactive and game-based learning methods can make lessons more enjoyable, reducing monotony and increasing student enthusiasm in the learning process.

Question no. 3

Question: The *nazo nazo* quiz media is suitable for JLPT N5 material.

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Table 6. Interpretation of Question No. 3

No	Response Option	F (Frequency)	% (Percentage)
4	Strongly Agree	10	45.45%
3	Agree	10	45.45%
2	Disagree	2	9%
1	Strongly Disagree	0	0%
Total		22	100%

The results indicate that 90.9% of respondents agreed that the *nazo nazo* quiz media is suitable for JLPT N5 material, with 45.45% strongly agreeing and 45.45% agreeing. Meanwhile, 9.1% of respondents disagreed, and no respondents strongly disagreed. This suggests that *nazo nazo* is generally considered appropriate for JLPT N5 material by most students. The high percentage of agreement implies that the content of the quiz aligns well with the vocabulary, grammar, and listening comprehension required for JLPT N5, making it a relevant and effective learning tool. However, the 9.1% disagreement suggests that some adjustments or improvements may be needed to fully meet the expectations of all learners.

Question no. 4

Question: The *nazo nazo* quiz media is interesting.

Table 7. Interpretation of Question No. 4

No	Response Option	F (Frequency)	% (Percentage)
4	Strongly Agree	14	63.64%
3	Agree	8	36.36%
2	Disagree	0	0%
1	Strongly Disagree	0	0%
Total		22	100%

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The results indicate that 100% of respondents agreed that the *nazo nazo* quiz media is interesting, with 63.64% strongly agreeing and 36.36% agreeing. No respondents disagreed or strongly disagreed. This suggests that *nazo nazo* is considered an engaging and appealing learning tool by all students. The high level of agreement indicates that the interactive nature of the quiz makes the learning process more enjoyable and effective, encouraging students to participate actively in listening exercises.

CONCLUSION

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This study concludes that the use of the nazo nazo quiz game is effective in improving basic Japanese listening skills. The game-based approach not only enhances students' comprehension but also promotes motivation, engagement, and active participation in the learning process. Based on statistical analysis and student feedback, the implementation of this interactive media offers a promising alternative to conventional teaching methods, especially for learners at the JLPT N5 level.

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