A Need Analysis of Interactive Learning Media for Japanese Verb Vocabulary at N3 Level

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A B S T R A C T

Mastering Japanese verb vocabulary at the N3 level is essential, but many students struggle with meaning, conjugation, and contextual usage. Ineffective and less interactive teaching methods often lack interactivity, further hindering the process of learning. This study aims to analyze the need for interactive learning media to support Japanese verb vocabulary acquisition. This study used a quantitative descriptive method and a closed questionnaire distributed via Google Forms to 20 second-year students of the Japanese Literature study program at Universitas Komputer Indonesia in the 2024/2025 academic year. The results showed that most students believe that multimedia can improve their understanding and memory. These findings showed that interactive learning media have a big potential in improving the effectiveness of vocabulary acquisition. Therefore, the development of well-designed digital-based learning media is required. As an impact, this innovation in learning media can help the students to achieve better Japanese language competence and improve the overall efficiency of their vocabulary learning.

1. INTRODUCTION

Mastering Japanese verb vocabulary at the N3 level is a crucial aspect of learning the language, especially for those aiming to enter the workforce, where proficiency in technical Japanese is often required. A minimum N3-level Japanese Language Proficiency Test (JLPT) certification is commonly expected (Cahyono, 2017). However, many learners struggle with understanding meanings, conjugations, and usage in different contexts. These difficulties often stem from less interactive teaching methods that do not cater to individual learning needs, ultimately hindering the effectiveness of the learning process. This aligns, which found that the greatest challenge in learning Japanese lies in writing skills, followed by speaking, reading, and listening. One major challenge in writing is the vast number of vocabulary words and expressions that must be mastered (Setiana *et al.*, 2024).

Similarly, identified vocabulary limitations as a key factor behind difficulties in all JLPT N3 test sections, including reading, grammar, vocabulary, and listening (Wahidati & Rahmawati, 2019). In response to this issue, we developed an Android-based learning application for JLPT N3 verb vocabulary, which helped students improve their understanding. Observations and survey results indicate that many students fail the JLPT N3 due to weak vocabulary knowledge, particularly in verb usage (Lestari *et al.*, 2017).

With technological advancements, digital interactive learning media have emerged as a promising alternative in language education. Interactive media not only enhances learning motivation but also provides a deeper understanding of the material. Developed Japanese language learning media using Adobe Flash Professional CS6, which was designed to help high school students remember vocabulary more effectively according to the Japanese curriculum (Keniten *et al.*, 2017). Conducting a needs analysis is an essential first step in developing effective learning media. Understanding students' needs and preferences allows for a more targeted and relevant approach to learning material development. Emphasized the importance of needs analysis in designing appropriate learning materials, methods, and media for students (Setiana, 2023; Ningsih *et al.*, 2023; Dasopang, 2021). Similarly, highlighted that needs analysis serves as a foundation for developing teaching materials and instructional methods that align with the realities of Japanese language courses (Ardini *et al.*, 2018; Amin & Rahimi, 2022; Bahri *et al.*, 2023).

Based on this background, this study aims to analyze the need for interactive learning media for N3-level Japanese verb vocabulary. By identifying these needs, the development of learning media can be more effective, engaging, and aligned with students' learning preferences and styles, ultimately improving their understanding and mastery of Japanese verb vocabulary at the N3 level.

2. LITERATURE REVIEW

The use of interactive media in language learning has been proven to enhance students' comprehension and motivation. Several previous studies have developed various technology-based learning media for Japanese vocabulary. For instance, found that multimedia combining visual, audio, and interactive elements is more effective in improving memory retention and student engagement than conventional methods. Their study developed song-based video learning media to enhance Japanese vocabulary comprehension, leading to increased student motivation and better vocabulary acquisition (Dewi & Adnyani, 2022). Similarly, developed computer-based learning media using Adobe Flash CS3, which was highly effective in helping students understand vocabulary and improve their language skills (Nurrisma, 2018). Additionally, designed interactive e-learning for basic-level Japanese

learning and found that integrating technology into education significantly improves student learning outcomes (Astuti & Leksono, 2022).

Adobe Flash Professional CS6 is one of the software tools that can be utilized to develop interactive learning media. It enables the creation of animations, simulations, and interactive exercises that enhance students' comprehension of the material. The use of Adobe Flash in Japanese vocabulary learning has proven effective in helping students recall and understand new words more efficiently (Keniten *et al.,* 2017). Furthermore, demonstrated that Flash-based learning media have high validity and practicality, making it a suitable tool for education. It also supports essential features such as interactive animations that simplify abstract concepts, quizzes and simulations that allow learners to test their understanding, and audio pronunciation aids that improve speaking and listening skills (Putri & Zetriuslita, 2024).

Based on the reviewed literature, learning N3-level Japanese verb vocabulary still presents challenges, particularly in understanding meanings and usage in context. The implementation of interactive learning media using Adobe Flash Professional CS6 can serve as an effective solution, as it incorporates animations, interactive exercises, and audio features to help students better comprehend and retain vocabulary.

3. METHODS

This study employs a descriptive quantitative approach with questionnaire research techniques to analyze students' needs for interactive learning media for N3-level Japanese verb vocabulary. The descriptive quantitative method was chosen because it describes facts and information about the current situation or event in a systematic, factual, and accurate manner. Data was collected through a closed-ended questionnaire distributed via Google Forms on 21-25 February 2025 to 20 second-year students from the Japanese Literature study Program at Universitas Komputer Indonesia in the 2024/2025 academic year. The collected data is presented in tables and narrative descriptions, followed by conclusions based on the analysis. The findings serve as the foundation for developing learning media using Adobe Flash Professional CS6, aiming to enhance students' understanding and mastery of N3-level Japanese verb vocabulary more effectively and engagingly.

3. RESULTS AND DISCUSSION

Based on the results of the questionnaire distributed via Google Forms, most students believe multimedia helps learn the N3-level verb vocabulary presented in **Table 1**. Half of the respondents agreed (50%), and 35% strongly agreed, meaning that 85% of students had a positive outlook. Only 15% disagreed, and none strongly disagreed, meaning that not a lot of students found multimedia ineffective. This proves strong support for using multimedia as a learning tool. This aligns with where the effectiveness of online learning media can increase student engagement and understanding, especially in the context of learning Japanese language materials (Astuti & Leksono, 2022).

Based on **Table 2**, a significant majority of students (90%) agree or strongly agree that they find it easier to learn independently using digital or interactive media. This indicates a strong preference for digital learning tools among students, indicating that a significant majority of students prefer digital and interactive learning tools for independent study (Astuti & Leksono, 2022).

Table 1. The use of multimedia will enhance students' understanding and skills in mastering N3-level verb vocabulary.

Responses	Choices (%)
Strongly Disagree	0%
Disagree	15%
Agree	50%
Strongly Agree	35%

Table 2. Students learn more easily independently with digital or interactive media.

Responses	Choices (%)
Strongly Disagree	5%
Disagree	5%
Agree	40%
Strongly Agree	50%

From **Table 3**, the majority (95%) of students, specifically 60%, agree and 35% strongly agree that quizzes and simulations are effective tools for learning N3-level Japanese verb vocabulary. This aligns with investigating the effectiveness of interactive quizzes and simulations in language learning, specifically focusing on vocabulary acquisition. The research found that students who engaged with these interactive tools showed significant improvements in vocabulary retention and overall language proficiency.

Table 3. Quizzes and simulations are effective for learning N3-level Japanese verb vocabulary.

Responses	Choices (%)
Strongly disagree	0%
Disagree	5%
Agree	60%
Strongly agree	35%

From **Table 4**, the data indicates that a significant majority of students (80%) strongly agree and 20% of students agree that learning media should include example sentences, pronunciation audio, and practice exercises. While none of the respondents disagreed or strongly disagreed. This highlights the importance of practical and interactive elements in learning tools to increase understanding and retention of Japanese verb vocabulary, which says that learning with media is very beneficial, namely learning becomes more interesting because it uses a lot of animation, equipped with games to hone learning outcomes (Nurrisma, 2018).

Table 4. Students want learning media to include example sentences, pronunciation audio, and practice exercises.

Responses	Choices (%)
Strongly Disagree	0%
Disagree	0%
Agree	20%
Strongly Agree	80%

According to **Table 5**, the majority of students (50%) strongly agree that they prefer learning vocabulary through interactive methods such as games or exercises, while 30% agree with this statement. Only 20% of students expressed disagreement, with none strongly

disagreeing. This suggests a clear inclination towards engaging and interactive learning experiences over traditional methods. The findings emphasize the importance of incorporating gamified elements and interactive exercises into learning media to enhance motivation and effectiveness in mastering Japanese verb vocabulary stated that fun learning media is indispensable during the learning process to attract students' interest in participating in learning (Dewi & Adnyani, 2022).

Table 5. Students prefer learning vocabulary with methods such as games or interactive exercises compared to the conventional way.

Responses	Choices (%)
Strongly Disagree	0%
Disagree	20%
Agree	30%
Strongly Agree	50%

According to **Table 6**, 45% of students strongly agree that learning media should incorporate elements such as levels, missions, and rewards to enhance motivation. Additionally, 40% of students agree with this statement, while only 10% disagree and 5% strongly disagree. This is in line with previous studies (Alsawaier, 2018), which show a strong inclination toward gamified learning experiences, highlighting the potential of such features to increase engagement and motivation among learners.

Table 6. Students are more motivated to learn if the learning media have features such as gamification (levels, missions, rewards).

Responses	Choices (%)
Strongly Disagree	5%
Disagree	10%
Agree	40%
Strongly Agree	45%

According to **Table 7**, the 60% majority of students strongly agree that they are interested in utilizing interactive media for learning, while 40% agree with this statement. Notably, there are no respondents who disagreed or strongly disagreed. Several studies support the notion that interactive media significantly enhances student engagement and effectiveness in language learning. For instance, developed an interactive multimedia model for learning Japanese vocabulary, which was user-friendly and allowed students to learn independently using smartphones (Keniten *et al.*, 2017). This approach led to improved vocabulary retention and increased student motivation.

Table 7. Students interested in using interactive media for the N3 verb vocabulary.

Responses	Choices (%)
Strongly Disagree	0%
Disagree	0%
Agree	40%
Strongly Agree	60%

Below are the results that illustrate students' preferences for interactive learning features based on the questionnaire results. **Figure 1** shows that 100% of respondents strongly agree on the necessity of incorporating example sentences, pronunciation audio, and practice exercises into learning media, as well as their overall interest in using interactive media.
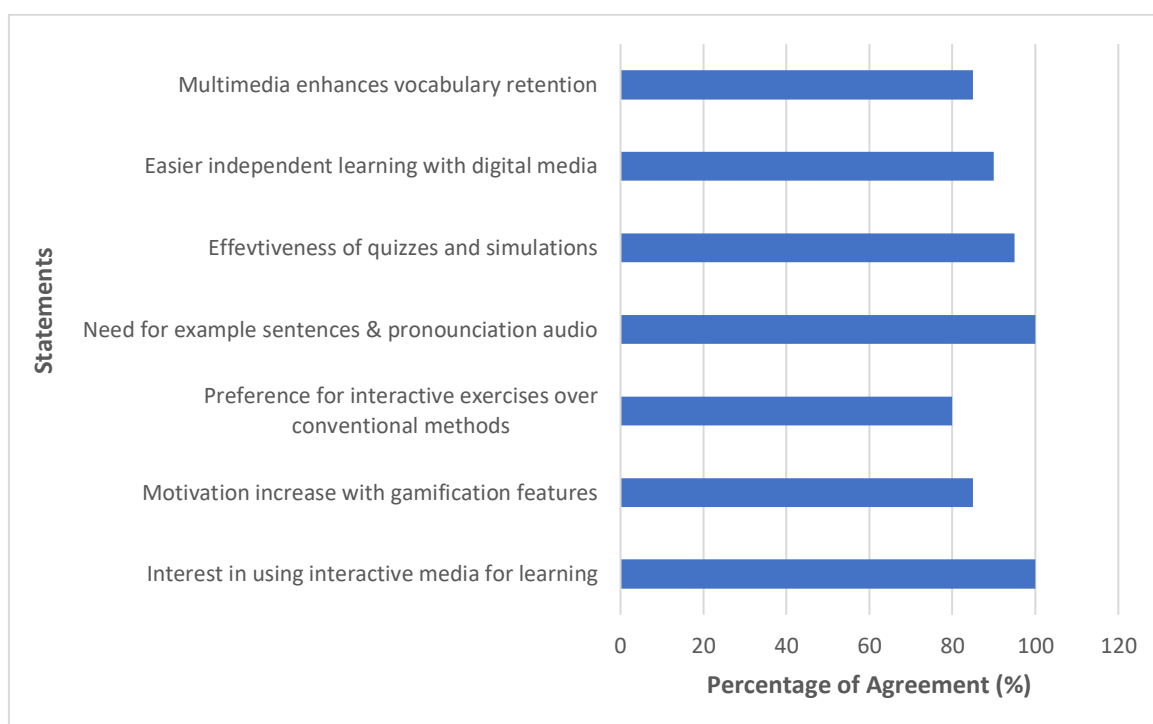
Figure 1. Survey Results on Interactive Learning Preferences

4. CONCLUSION

Based on the research data and discussion of this study, it can be concluded that difficulties in mastering N3-level Japanese verb vocabulary are due to the lack of suitable interactive learning media. Most students agree that multimedia-based learning can enhance their understanding and retention of vocabulary. The findings suggest that developing an interactive learning media using Adobe Flash Professional CS6 could provide a more engaging and effective learning experience. Features such as interactive exercises, contextual sentence examples, and audio pronunciation are considered essential. To improve the learning process, it is recommended to incorporate gamification elements like levels, missions, and rewards to boost student motivation. In the future, further research and testing are needed to assess the effectiveness of this media in real classroom settings.

5. ACKNOWLEDGMENTS

6. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. The authors confirmed that the paper was free of plagiarism.

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