

NEEDS ANALYSIS OF JAPANESE E-MODULE TEACHING MATERIALS FOR AUTONOMOUS LEARNING AT THE HIGH SCHOOL LEVEL

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ABSTRACT

The use of information and communication technology (ICT) in learning is one of the characteristics of autonomous learners. The purpose of this study is to analyze the need for Japanese language e-modules to support autonomous learning at the high school level. This study used a descriptive method with the survey conducted on 35 students and ten teachers at the high school level. The results of the analysis show that most students have an interest in electronic learning materials in Japanese language learning to foster learning autonomy. On the other hand, teachers also need electronic teaching materials to support Japanese language learning. The results of the analysis of student and teacher needs for digital teaching materials will be used as a basis for developing e-modules based on online graphic design websites to support autonomous learning of Japanese at the high school level and can be a reference that can be widely used as research on the development of other electronic teaching materials.

Keywords: needs analysis, high school Japanese, e-modules. Autonomous learnin

INTRODUCTION

The use of information and communication technology in learning is one of the characteristics of 21st-century education. In addition to students being required to have the ability to master media, information, and technology (Yuliati, 2017), current 21st-century education also requires students to be independent because learning is more student-centered (Jia et al., 2016). In the *Curriculum Merdeka*, the current development of digital technology can provide opportunities for students to master Japanese as a foreign language which will facilitate interaction and absorb various technological developments and cross-cultural understanding. Then, teachers who teach are directed to create modules that are equipped with various learning materials, student activity sheets, and assessments that are in accordance with the objectives of learning Japanese. One of the objectives of learning Japanese in the current *Curriculum Merdeka* is to develop 21st-century skills.

Autonomous learning is learning that involves learners taking greater responsibility for what they learn, how they learn, and when they learn (Yan, 2012). Fujita (2014), in Japanese language research, explained that autonomous learning is learning that students do with their own autonomy. However, Zhang (2017), who conducted research on students from various majors in universities, stated autonomous learning ability does not appear immediately, but it appears because of doing autonomous learning activities for a long period of time. Therefore, to support these autonomous learning activities, teaching materials are needed for students. This is in accordance with Yan's (2012) research on English lessons which explains that the teacher is only a facilitator to guide students and provide learning resources that can increase student interest and motivation. In line with Setiawan's research (2022) in the field

of science, for independent learning purposes, students need interesting learning material (interactive) so that the process and results can be achieved in accordance with predetermined learning objectives. From the results of these studies, it can be understood that for autonomous learning, students need teaching materials that are interesting and can support autonomous learning activities for a long time. Therefore, teachers' ability to create interesting and interactive teaching materials is needed.

According to Cahyadi (2019), in the field of educational technology explains that teaching materials are all things used by teachers and students for the needs of the learning process, both of which come from printed, audio-visual, computer-based, and integrated technology products. Learning that uses technology-based teaching materials will make students able to adapt to the current development of information technology (Tarawi et al., 2020). The use of teaching materials integrated with technology is one of the important learning resources to support the 21st-century learning process (Lufthansa et al., 2022). Then, rapid technology encourages the emergence of various innovations in teaching materials, such as modules that are packaged in electronic form (e-modules). Some research results regarding the use of e-modules show that e-modules can facilitate students to learn independently (Linda et al., 2021; Setiawan, 2022;) and improve learning outcomes (Mahara: 2017; Laili: 2019; Parmiti: 2020). The use of teaching materials in the form of e-modules shows good results when applied in the learning process. Currently, the use of e-modules for Japanese language learning at the high school level has not been widely used, but most teachers use teaching materials for Nihongo Kira Kira books which are equipped with power points for learning.

The researcher conducted interviews via WhatsApp chat with 8 Japanese high school teachers who teach grade XI in Bekasi city on September 5, 2022. The interviews were conducted to find out whether Japanese language learning at the high school level is currently in accordance with 21st-century education or not. Based on the results of the interview, it is known that the teacher uses the *Nihongo kirakira* book as the main teaching material source. The supporting teaching materials used are Nihongo *kirakira*'s ppt, picture cards, and YouTube videos. The teacher stated that students have not been able to autonomous learning. In addition, the way students learn is not maximized, so the results of test scores are still below KKM (material completeness provisions). From the results of the interview, it can also be seen that the teacher is still not maximally utilizing information and communication technology.

The researcher aims to develop e-modules with various audio-visual media technologies because, based on Japanese language research, audio-visual media can improve learning outcomes in vocabulary acquisition (Misbah & Surya, 2017), improve hiragana and katakana writing skills (Made & Mardani, 2012), and increase student motivation (Puteri et al., 2020). Research on the development of electronic teaching materials (e-modules) in Japanese language learning has not been widely conducted so far. Puspita (2021) examined the development of e-modules for basic chemistry practicum using the Canva design application. Octavia (2021) examines the development of web-based Indonesian language e-Modules. The development of e-modules in English lessons has also been carried out by Mahara (2017) and Widiastutik (2021). Furthermore, the development of e-modules in Japanese lessons has been carried out by Dewanto and Sutiarti (2022). The results of Dewandono and Sutiarti's research (2022) show that overall the digital flipbook teaching materials are declared to be of good quality and feasible as supporting media in learning activities. But unfortunately, the flipbook digital teaching materials have not been tested for effectiveness because they have not been distributed to students.

The research equation that researchers will do with previous research is the display of e-modules in the form of flip books with a variety of audio visuals. The difference is that the e-module that researchers will develop is characterized by autonomous learning. Before stepping towards the development of e-modules, researchers first analyzed the need for e-module teaching materials for teachers and students for autonomous learning of Japanese at the high school level in Bekasi.

THEORETICAL FRAMEWORK

Part of the purpose of learning Japanese in the current Curriculum *Merdeka* is to develop 21st-century skills. 21st-century education has four components of skills. One of them is skills used in technology, such as IT and media literacy. The current 21st-century education also requires students to be independent in learning. Such independent behavior is included in the characteristics of autonomous learning.

There are five characteristics of autonomous learning (Zhang et al., 2017), namely: Self-guidance, planning, learning strategies, self-monitoring, and self-regulation. For autonomous learning, students first understand that autonomous learning ability will be competitive in the future. The ability to do autonomous learning comes when they have the habit of doing autonomous learning activities for a long time. The steps of autonomous learning activities described by Zhang (2017) will be the basis for the development of e-modules, namely: 1) Students know what they are interested in while learning, 2) Students can think critically, 3) Students actively explore learning methods. 3) Students can conduct self-evaluation and reflection, 4) Students can make a learning plan or schedule, and 5) Students can organize and monitor themselves according to the learning plan and tasks to be completed. The activities provided by Fujita (2014) to increase learner independence in research on Japanese language classes are as follows. 1) Worksheets consisting of learning objectives, tasks (activities carried out to achieve learning objectives), and methods (how learners do the tasks). 2) Self-assessment sheet (learners choose evaluation questions that have been prepared). 3) portfolios (students collect all teaching materials related to the themes discussed in class), 4) learning strategies (there are instructions on how to study the material provided by the teacher), 5) quizzes (giving quizzes that contain the content of the material that has been discussed to increase learning independence), 6) Learning notes (learners make notes with information on learning materials obtained), 7) Response paper (contains learners' opinions regarding what was learned today and what has been achieved today along with the reasons), 8) conference (discussion place), 9) Individual session (discussion activities with the teacher regarding learning plan sheets, self-evaluation sheets, portfolios, learning outcomes compared to student learning objectives. 10) Presentation (presenting the results of self-study with a theme and presentation method that is freed up). According to Xie (2020), in Chinese language and math research, guided learning will have effective self-learning materials. Therefore, the characteristics and steps of autonomous learning from previous research will be used as a guide in developing high school Japanese e-modules.

E-modules as self-learning materials that are systematically arranged into certain learning units, which are presented in electronic format, where each learning activity in it is connected with links as navigation that make students more interactive with the program, equipped with the presentation of video tutorials, animation, and audio to enrich the learning experience (Kemdikbud: 2017). According to the Ministry of Education and Culture (2017) e-

modules have the following characteristics. 1) As self instructional (learners are able to teach themselves, not depending on other parties), 2) As self-contained (all learning materials from one unit of competency studied are contained in one whole module), 3) Stand alone (modules developed do not depend on other media or are not required to be used together with other media), 4) Adaptive (modules should have great adaptive capabilities to the development of science and technology). 5) User-friendly (the module should fulfill the rules of familiarity with the user), and 6) Consistent in the use of fonts, spaces, and layout. 7) Delivered using computer-based electronic media. 8) Utilize various functions of electronic media that is referred to as multimedia. 9) Utilize various features in software applications. 10) Need to be designed carefully (pay attention to learning principles). Based on the characteristics of e-modules, researchers will develop e-modules with a variety of audio-visual integrated with links as navigation for various applications and learning websites as learning media.

Learning media is a tool that can help the teaching and learning process so that the meaning of the messages conveyed becomes clearer and educational, or learning objectives can be achieved effectively and efficiently (Nurrita, 2018). Of course, the media used must be varied. According to Rusydiyah (2020), based on sensory perception, the media can be classified into three types, namely: 1) Audio media (media that can present sound only), 2) Visual media (media that can present visual displays and can be sensed by vision), 3) Audio visual media (media with the ability to present sound and image elements at once). Based on some research results, audio-visual media can improve learning outcomes in vocabulary acquisition (Misbah & Surya, 2017), improve the ability to write hiragana and katakana (Made & Mardani, 2012), and increase student learning motivation (Puteri et al., 2020).

As a source of material for the development of e-modules, researchers use one of the teaching materials used by most teachers in Japanese language learning, namely Nihongo Kira Kira. The Japan Foundation, as a special legal entity and independent institution under the auspices of the Japanese Ministry of Foreign Affairs in charge of introducing Japanese culture, developing Japanese language education and intellectual exchange, and developing Japanese studies, compiled a Japanese language textbook for SMA / MA based on Curriculum 2013 revised 2016 entitled "Nihongo Kirakira." The Nihongo Kirakira textbook compiled by The Japan Foundation is designed in such a way as to fit the lives of high school students in Indonesia. The learning in the book hones life skills in the 21st century, namely collaboration, communication, creativity, critical thinking, and literacy skills (Fanani et al., 2019). Nihongo *kira-kira* book learning is presented using an audio-lingual approach and has sections such as *mite kangemashou*, *kite imashou*, *nihongo de iimashou*, *yomimashou*, *kakimashou*, *kikimashou*, *hanashimashou*, roleplay, projects, reflection on learning materials, assessment, and *renshuu mondai*.

METHODS

This research is descriptive research using the survey method. Descriptive research is research conducted to describe, describe a phenomenon that occurs today with scientific procedures to answer actual problems (Sutedi, 2011). This research instrument is a questionnaire distributed via google form to 10 teachers and 35 students. Then the incoming data is analyzed and described through a qualitative approach.

RESULTS AND DISCUSSION

Analysis of student needs for teaching materials (e-module)

To find out the needs of students for teaching materials (e-modules), an analysis of student characteristics and resource analysis is carried out. Based on the question instrument modified from Afifulloh and Cahyanto's research (2021), the results of the questionnaire given to 35 students were obtained, as shown in table 1 below.

Table 1. Analysis of Student Characteristics

No	Analysis Variable	Question indicators	Percentage
1	Knowledge of the content	1.1 Have knowledge of the use of electronic teaching materials (e-modules) in Japanese language learning.	62,9%
2	Autonomous learning ability	2.1 Memiliki kebiasaan menggunakan sumber daya digital dalam kehidupan sehari-hari	85,7%
		2.2 Memanfaatkan internet dan sumber daya yang lain saat menemukan kesulitan Ketika belajar	100%
		2.3 Memiliki kemampuan memantau diri sendiri untuk mengerjakan tugas sampai selesai	89,7%
3	Motivation	3.1 Have an interest in the use of electronic teaching materials (e-modules) in Japanese language learning.	91,4%
		3.2 Have an interest in e-modules to foster learning independence in Japanese language learning.	94,3%

Then based on the questionnaire given to students, the following results of the analysis of resources owned by students are presented in the following table.

Table 2. Resource Analysis

No	Analysis Variable	Question indicators	Percentage
1	Content Source	1.1 Pengetahuan aplikasi dan website pembelajaran bahasa Jepang	42,9%
		1.2 Pengetahuan materi pelajaran dari sumber bahan ajar yang lain	45,7%
2	Availability of learning media	2.1 Having a smartphone / personal computer that can support the utilization of electronic teaching materials in Japanese language learning	94,3%
3	Understanding of technology	3.1 Have an understanding of the use of smartphonespersonal computer with digital technology in Japanese language learning using Quiz, canva, google form, etc.	91,4%

Based on the data above, it can be seen that the percentage of students in terms of smartphone/personal computer availability and understanding of technology is very high. However, this contradicts the students' knowledge of learning content sources. Students' knowledge of applications, websites, and teaching resources in Japanese language learning is still low. After being given another question about what activities are most often done using a cellphone/laptop with a choice of answers, the results can be seen in the following diagram 1.

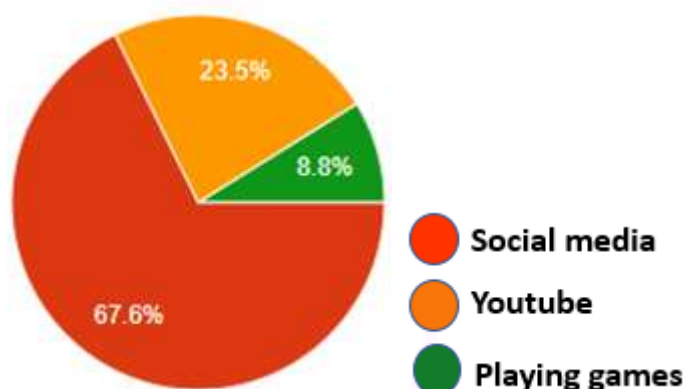


Diagram 1. Percentage of answers regarding what activities are most often carried out using smartphones/personal computers.

From the percentage results, it turns out that students have not maximally used cell phones/laptops for learning. The use of a smartphone/personal computer is more often done for social media such as FB, Twitter, IG, and others, watching YouTube, and playing games. Generations that grow up with computer games and other technologies can influence learning styles, patterns of social interaction, and their preferred use of technology (Bekebrede et al., 2011). This is also in accordance with livari's (2020) statement that digital technology has been embedded in the way of life and learning of today's younger generation. Looking at the character of students today, the teaching materials needed are teaching materials that can be integrated with technology, and there are interesting things such as their games.

The teacher needs analysis of teaching materials (e-modules)

Before distributing questionnaires to teachers, the researcher first conducted interviews via WhatsApp call with five teachers who teach Japanese in grade XI to find the problems that teachers are currently facing. Then after conducting interviews, the researchers offered solutions to the problems that arose. Questionnaires were distributed to 10 teachers to see whether teachers needed teaching materials (e-modules) to overcome these problems or not. Based on the questionnaire instrument modified from Sari and Atmojo's (2021) research, the questionnaire results are shown in Table 3 below.

Table 3. Analysis of teacher needs for teaching materials (e-modules)

No	Analysis Variable	Question indicators	Percentage
1	Perception of Teaching Materials (e-module)	1.1 Have a positive view of the use of electronic teaching materials, such as e-modules that are integrated in a variety of media	90%
		1.2 Need teaching materials (e-modules) to support Japanese language learning	100%

			1.3 Need electronic teaching materials such as e-modules to support autonomous learning	100%
2	Ability to use technology		2.1 Use of an app or platform for Japanese language learning	100%
			2.2 Use of technology-based teaching materials for Japanese language learning	100%
			2.3 Use of Canva-based teaching materials	90%
			2.4 Use of e-modules to support Japanese language learning	75%

Looking at the results of the analysis of teachers' needs for e-modules shows that teachers mostly have a positive view of the use of electronic teaching materials such as e-modules that are integrated with various media. E-modules with audio-visual media technology can improve learning outcomes in vocabulary acquisition (Misbah & Surya, 2017), improve hiragana and katakana writing skills (Made & Mardani, 2012), and increase student learning motivation (Puteri et al., 2020). Having a variety of audio-visual media technology is a characteristic of e-modules, namely adaptive and utilization of various functions of electronic media (multimedia).

Teachers overall stated that they need e-modules teaching materials to support Japanese language learning and independence. E-modules can support Japanese language learning because learning materials are arranged systematically into specific learning units, presented in electronic format, learning activities are connected by links as navigation that makes students more interactive with the program, and equipped with the presentation of video tutorials, animation, and audio to enrich the learning experience (Kemdikbud: 2017). In accordance with the characteristics of e-modules, namely as self-instructional, self-contained, and stand-alone.

Furthermore, teachers overall stated that they use applications or platforms for Japanese language learning. It can be seen that teachers have technological skills. Teachers also use technology-based teaching materials for Japanese language learning. Unfortunately, the use of technology-based teaching materials by teachers has not been maximized because it has not been able to help students independently in learning. this can be seen in table 1 analysis of student characteristics. Students who have knowledge of the use of electronic teaching materials (e-modules) in Japanese language learning are still not many. As the results of interviews before distributing questionnaires were conducted, the teacher stated that he used PPT Nihongo Kirakira and YouTube as teaching materials. Because the use of technology-based teaching materials by teachers has not been maximized, it can be stated that it cannot help students independently in learning.

Most of the teachers stated that they also use Canva-based teaching materials for Japanese language learning. Canva is a website and application as an online design and publication tool with a mission to empower everyone around the world to create any design and publish it anywhere. Canva can be accessed through websites, PC applications, and mobile phones. This canva site supports education during the Covid-19 pandemic by making it easy for teachers and students to access more tools and templates. According to google trends Indonesia, the use of canva for education has increased since the pandemic until now. The following graph image is obtained through a google trends Indonesia search.

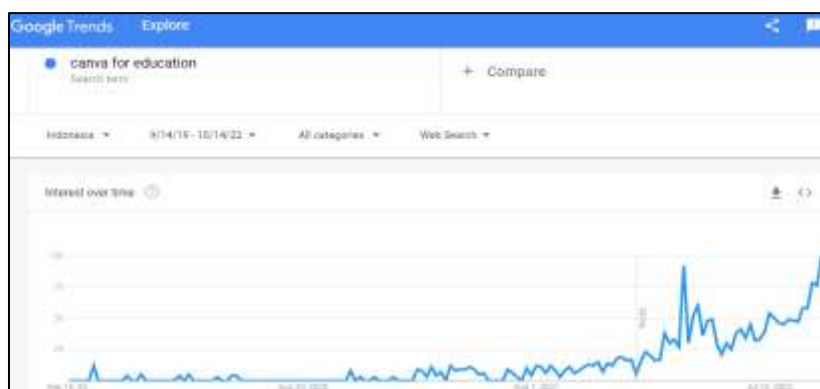
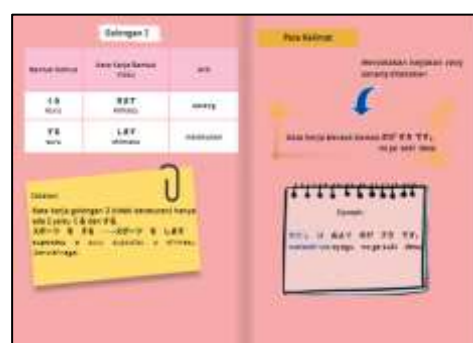


Figure 1. Graph of canva for education usage from 2019-2022

Based on the data previously presented, seeing the needs of students and teachers for e-modules, researchers will develop e-modules by incorporating autonomous learning characteristics based on an online graphic design website, namely canva.com. The e-module design that researchers make is as follows:



1



2



3



4

Description of images 1 and 2, the material, images 3, Exercise questions that are integrated with live worksheets, quizzes, and google forms, image 4. Answer key.

CONCLUSION

The results of the analysis show that most students have an interest in electronic learning materials (e-modules) in Japanese language learning to foster learning autonomy. On the other hand, teachers also need e-modules to support Japanese language learning. Students' technological resources and abilities already exist so that they can help them to do autonomous learning. The results of the analysis of student and teacher needs for digital teaching materials will be used as a basis for developing e-modules based on online graphic design websites to support autonomous learning of Japanese at the high school level and can

be a reference that can be widely used as research on the development of other electronic teaching materials.

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