Empowering Japanese Beginner Learners' Writing Proficiency by Enhancing Complex Sentences with E-Modules

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Info Artikel	Abstract
	The Indonesian Ministry of Education and Culture has implemented an independent learning curriculum in all education-level units since January 2020. Many changes occurred with the implementation of the new curriculum. In independent learning curricula, fostering higher-order thinking skills (HOTS) is crucial, especially when developing complex sentence writing proficiency for beginners. This study aimed to improve beginner Japanese learners' ability to construct complex sentences in written activity by utilizing FlipPdf-Pro-based e-modules. These modules incorporated audio, video, and digital applications, making the learning process engaging and self-paced. The study involved 60 students in their third year who had been studying Japanese for one year in a high school in Malang. This study is classroom research using qualitative descriptive methods. Research data was collected through observation, tests, and questionnaires. Observations indicated enthusiastic participation, and questionnaires revealed that participants comprehended how to construct simple, complex sentences and could apply them effectively in written contexts. Over 80% of participants expressed a positive attitude towards learning through FlipPdf-Pro-based e-modules and recognized the importance of digital media in Japanese language learning. Furthermore, the test results demonstrated the participants' satisfactory ability to write complex sentences, meeting criteria in three key aspects: sentence structure in subordinate clauses, cohesion between main and subordinate clauses using the conjunctive phrase -no toki 'when', and coherence in the meaning of complex sentences. Based on test results, response questionnaires, and observations, these findings confirmed that using FlipPdf-Pro-based e-modules effectively enhances learners' proficiency in writing complex sentences.

INTRODUCTION

Learning is an interaction of various components: teachers, students, and learning resources. These components become a unity that interacts intensely with each other in an environment that is oriented towards creating a learning atmosphere. The interaction in learning is also complemented by components that support learning. The other main components include teaching materials, learning media, learning methods, learning models, and evaluation. The harmonious integration of the learning composition between these components supports creating learning that meets the demands of the independent learning curriculum. In addition, today's learners are a generation that is very close to various digital devices, so digitizing teaching materials in a structured and attractive manner can be one of the relevant alternatives to be developed to support the learning process in the classroom (Chen & Su, 2019), (Laksana et al., 2019). The harmony of all these compositions should encourage the achievement of competence and the best performance of the learners.

Recently, the achievement of these competencies and performances is contained in the concept of learning based on an independent learning curriculum. This learning concept contains several characteristics characterized by mastery of 21st-century skills and revolution 4.0, for example, the ability to integrate TPACK (Technological et al. Knowledge), PPK (Strengthening Character Education), mastery of HOTS (High et al. Skill) based material, achievement of 4C-based learning objectives (communication, collaboration, critical thinking and problem-solving, creativity, innovation), differentiated learning, and others. This is emphasized by Van Laar et al. (2017, 2020), who state that implementing 21st-century skills requires paying attention to aspects of digitalization in the learning development process.

The 21st-century skills are realized in student-centred learning models (SCL), such as PjBL (Project-Based Learning) and PBL (Problem-Based Learning). This PjBL and PBL-based learning model supports learning objectives based on the characteristics of student-oriented learning. As stated by Junaidi (2019), the intended learning objectives are learning outcomes achieved through a learning process that prioritizes the development of creativity, capacity, personality, and student needs and develops independence in seeking and finding knowledge.

SCL itself is based on the constructivist learning theory. This theory emphasizes the importance of learners' ability to construct knowledge through a structured and systematic process so that learners can construct knowledge well in their cognitive system. Student-centred learning can be implemented in a problem-based learning (PBL) model. PBL is closely related to higher-order thinking skills (HOTS). Learners are guided to solve problems from various perspectives. PBL enhances learners' ability to discover, apply, and experience directly in classroom learning ways to master problem-solving thinking skills (Putra, 2013), (Smith, 2014).

This ability is believed to make learners learn more effectively. Likewise, learning a language (Japanese) needs to be done gradually, from easy to complicated things, from simple to more complex stages. Then, it will continue to be refined to the next level, namely, mastery of more complex sentence structures. Through this constructed and systematic learning, more critical, analytical, and creative thinking abilities are expected to be born in every language learner. This follows the demands of learning achievement as expected in the independent learning curriculum.

Several previous studies have examined the tendency of novice learners to learn complex sentences, e.g. Ordem (2017) and Zhang (2016) conclude that the tendency of novice learners when learning complex sentences in a foreign language is to use basic and simple forms. Mintarsih (2023), in her research, found that early learners of Japanese tend to use transitive verbs in the predicate position in core sentences and subordinate sentences. These studies reinforce the relationship between the level of thinking ability and language mastery, especially the mastery of complex sentences. The findings of this study reinforce the importance of this research to improve students' ability to write complex sentences.

To find out how high school students can write complex sentences in Japanese, we conducted research at a high school in Malang, East Java. This study focused on students who are beginning learners of Japanese at the high school level and

how to construct their thinking through complex sentences.

We conducted a preliminary study of this situation to obtain information about the background and real problems in that school. For this purpose, an interview was conducted with the teacher in charge of the subject and an analysis of Japanese teaching materials used in that school. Based on the analysis of Japanese teaching materials for first and second grades used at high school, namely 'Kira-Kira Nihongo', the material on complex sentences has been studied starting from volume I in the last chapter, complex sentences with temporal conjunction *toki* 'when' in the pattern noun + *no toki*. In 'Kira-kira Nihongo volume II', the appeared material on complex sentences such as complex sentences with causal connectors *desukara* 'because', and coordinative complex sentences with juxtaposition/serial connectors to 'and', *ya* 'and', *mo* 'also', the material on temporal conjugated complex sentences noun+*no toki*, reappears. In volume III, such as koto noun modifiers as complementary expressions, adjectives/verbs+*toki*, inter-sentence conjunction *kore kara* 'from now on', *soshite* 'and', -the 'the so-called', and finally, in the last chapter, students learn to read and understand Japanese folk tales.

Based on the analysis of teaching materials, current Japanese language learning in that school has taught material on how to compose sentences in simple, complex sentence structures. On the other hand, based on the results of the interview with the teacher in charge of that school, constructing complex sentences in Japanese in a grammatically correct manner is a relatively difficult skill for students at the senior high school level. Although students have learned various conjunctions in complex sentences, they still need to be corrected when using them in writing or speaking. Another problem that appears from the results of interviews with teachers at the school is the teacher's concern to be able to develop more interactive learning media further. Based on the teacher's experience, learning by using game media, which is interactive, wherever possible, using digital media causes learning to be more interesting and enjoyable for both students and teachers. Therefore, to improve and develop productive speech skills (speaking and writing), it is necessary to develop learning tools that support achieving these goals.

Referring to the preliminary study, mastering complex sentences is one of the important abilities mastered by Japanese language learners at the high school level. This is closely related to one of the elements expected in the independent learning curriculum, namely higher-order thinking skills (HOTS). This thinking ability closely relates to learners' language skills using more complex sentences. Second, to better express ideas and thoughts in Japanese productively (speaking and writing), learning simple, complex sentences (according to the ability domain of high school students) needs to be improved. Third, there is a need for more interactive learning media to improve students' Japanese language skills.

Based on the preliminary study, it also can be found that there is a gap between the material that has been learned (students' competence) and students' ability to write complex sentences (performance).

To solve the problems in that school, learning to write complex sentences for the third year using e-modules based on flip pdf-pro interactive digital media was conducted. This learning seeks to improve the Japanese language competence of learners, especially in improving the ability to write complex sentences for students in that school. This learning emphasizes the aspects of attractiveness, motivation, enthusiasm, and fun when learning. In addition, the application of e-modules in the form of flip pdf-pro interactive digital media in Japanese language learning aims to develop students' competence and performance, guiding students to learn independently and enjoyably in understanding and using complex sentences in Japanese. Learning media aims to clarify the presentation of material, facilitate presentation due to limited time, senses, and space, and increase learner involvement and flexibility in producing common perceptions, stimulation, and learning experiences.

Suyatna (2020) added that computers as learning media can be used to improve the quality of learning, for example, used in drills and practice, preparation of tutorials (e-modules), demonstration of visualization of abstract concepts, simulations, and games, etc. Optimizing the use of computers as learning media is important. In addition, it is necessary to optimize the use of ICT in the teaching and learning process. Contrary to what is expected, using ICT makes learning teacher-centred and the

learners' position as passive recipients. Therefore, it is necessary to master the skills in planning ICT-based learning. Chee. et al. (2018) explain that mobile devices, unpaid websites, and other social media can improve interaction in the teaching and learning process.

The use of e-modules can meet the demands of 21st-century learning. This electronic-based digital media is organized systematically so learners can use it independently. The components included in e-modules, such as audio, images, videos, and so on, are arranged as easily as possible to understand concepts and improve learning ability (Suyatna et al., 2018). Sari et al. (2019) in research concluded that e-modules could develop learners' insights into certain materials in a comfortable learning situation (fun).

The benefits of e-modules as an ICT-based information source can be used to make learning more interactive and attract students' attention. Video, audio, and practice questions included in the e-module allow learners to learn independently. In addition, e-modules that can be accessed through smartphones also prepare learners to be able to face work and life in the 21st century, which is increasingly digitized (Robler, 2013), (Lee, 2008). The utilization of e-modules in this learning also aims to meet the differences of each learner. As Dalila et al. (2022) stated, differentiated learning addresses differences in student learning styles.

Based on this background, this study aims to improve the ability to write complex sentences in Japanese third-grade high school students using e-modules based on the flip pdf-pro application, with the following research problems:

1. How is the ability to write complex sentences in Japanese students of SMAN 8 (public senior high school number 8) in Malang city after learning flip pdf-pro-based e-modules?
2. How do the students respond to the learning?

METHOD

Research methods are described in research design, participants, data collection techniques and data analysis.

Research Design

This study is a classroom research study using qualitative descriptive methods. Data collection techniques were done through observation, tests, and student response questionnaires. The research implementation procedure is carried out in three stages, i.e. planning, learning implementation, and data analysis.

Stages of Learning Planning

The research planning and strategy followed the following steps based on the situation analysis.

1. Analyze Japanese teaching materials used by third-grade students in the school.
2. Interviewing Japanese language teachers to determine the implementation of learning and subject matter that has been, is, or will be studied at school.
3. Preparation of learning tools: Learning Implementation Plan (RPP) based on problem-based learning (PBL), student worksheet, and evaluation of student abilities.
4. Prepare instruments in the form of observation, assessment rubrics for writing complex sentences, and student response questionnaires.
5. Designing an e-module in interactive digital media, such as flip pdf-pro, as an alternative solution in teaching and learning complex sentences. This media is designed according to the level of language skills of high school students, both at the level of difficulty of the material, attractiveness, and effectiveness of its use.

The following are the stages of preparation of e-modules in the form of interactive digital media based on FlipPdf-Pro to be used in learning Japanese complex sentences for third-grade high school students in that school. The analysis of teaching materials and teacher interviews determined that the material to be given in the learning was complex sentences with time conjunctions. This material is studied in volume 1, chapter 12 of the Kira-kira Nihongo book, namely -no toki "when". The preparation of flip PDF pro media is important to be arranged as well as possible because digital media is the main instrument of learning used to improve students' ability to understand complex sentences and use them both in writing and speaking.

The stages of preparing this FlipPdf-Pro learning media are installing the FlipPdf-- pro application and then compiling learning materials about complex sentences with conjunctions pointing to activity time -no toki. The PPT used is

taken from the PPT Frezzi application to make it more interesting. Then, draft the flow of learning activities so that the flow of material displayed in the PPT is in accordance with the flow of learning conducted. To complement the material, we provided images, audio, video, and exercises arranged using digital learning media, namely Wordwall. Use the Google Forms application to evaluate materials and create a WAG for participants. The next stage is compiling illustrative images into PPT according to the learning stages. Then, videos will be included as a development of the provision of learning materials.

Next, exercises will be developed to measure students' ability to understand complex sentences. These exercises are also digital-based using the wordwall application. It is hoped that students can learn with a sense of fun so that it is easy to understand and apply the material being studied. After completing all the basic preparations, start integrating all learning materials into the FlipPdf-Pro application. Integrating PPT files into the FlipPdf-Pro application requires diligence and thoroughness. This process is done repeatedly to get the best results. In addition, video and audio are also inserted in the form of musical sounds to attract students' attention and audio to complement illustrative images and Japanese pronunciation. The following is an example of the appearance of the flip pdf-pro-based e-module prepared for this learning. The e-module can be accessed at the following link https://online.flipbuilder.com/glniz/bouz/
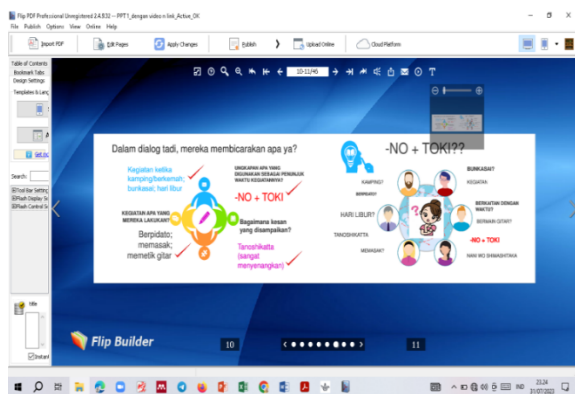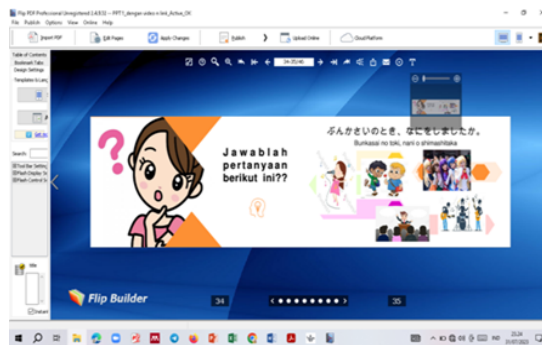
Picture 1

Picture 2

Picture 1 & 2 examples of page views in the flip pdf-pro-based e-module

Stages of Learning Implementation

The procedure for implementing this learning activity is as follows.

1. Presentation
   Presentations are made at the beginning of the learning to determine students' interest in learning. Introducing a variety of complex sentences in Japanese briefly and practically, introducing flip pdf-pro learning media and how to use it in learning to write complex sentences.

2. Division of learning groups
   Students are divided into groups under the supervision of one lecturer to guide them in writing complex sentences using flip pdf-pro learning media.

3. Writing activities
   After the students are ready in their respective groups, the students, together, under the supervision and guidance of the lecturer, begin to study the materials in flip pdf-pro. This activity is carried out until students understand the material and can apply the material that has been learned in the ability to write complex sentences independently.

4. Administering questionnaires as a response to the learning
   At the end of the learning activity, students completed a questionnaire relating to their perceptions of the learning activity.

Participants

This study's participants are 60 third-grade students in SMAN 8 (public senior high school number 8) in Malang City, East Java. They have studied basic Japanese for one year in second grade. The participants were divided into three classes. This class division aims to make learning effective with 20 students in every class.

Stage of Data Collection and Analysis

Data collection is done by providing objective tests at the end of learning. Participants were asked to create complex sentences using the timepiece conjunct -*toki* 'when'. Then, participants were also asked to fill out a questionnaire regarding their opinions on learning to write complex sentences using the flip pdf-pro-based e-module. Analysis of writing test data was carried out using instruments in the form of assessment rubrics, as follows.

Table 1 Assessment Rubric for Writing Complex Sentences

No	Assessed aspects	Assessment criteria		
		Good	**Sufficient**	**Poor**
1	Sentence structure in subordinate clauses	1) Subordinate clauses demonstrate clear and varied structures. 2) They enhance sentence complexity without sacrificing clarity. 3) Use of subordinate conjunctions effectively connects main and subordinate clauses.	1) Subordinate clauses generally adhere to standard grammatical structures. 2) They provide adequate support to main clauses, though with occasional lapses in clarity or variety. 3) Conjunctions are generally used appropriately to connect main and subordinate ideas.	1) Subordinate clauses lack clarity or coherence, making it difficult to discern their relationship to main clauses. 2) Incorrect or inconsistent use of subordinate conjunctions disrupts sentence flow.
2	Cohesion between core clauses and subordinate clauses, using conjunctors – *no toki* 'when'	1) The conjunctions effectively establish clear relationships between core and subordinate clauses. 2) Subordinate clauses enhance the meaning and coherence of the core clauses.	1) The use of conjunctions generally connects core and subordinate clauses adequately. 2) Subordinate clauses provide some support or additional information to the core clauses.	1) The relationship between core and subordinate clauses is unclear or inconsistent. 2) Inappropriate or ambiguous use of conjunctions disrupts the flow of ideas and weakens the coherence of the text.
3	Coherence of meaning in complex sentences	1) The complex sentences exhibit clear logical connections between clauses, enhancing overall coherence. 2) Subordinate clauses are seamlessly integrated into the main clause, reinforcing the central idea.	1) Complex sentences generally maintain coherence, although there may be occasional lapses in clarity or logical progression. 2) The relationship between clauses is discernible, but transitions may be somewhat abrupt or lacking in variety.	1) Coherence is lacking in complex sentences, making it difficult for the reader to follow the intended meaning. 2) Clauses may be disjointed or unrelated, resulting in confusion or ambiguity.

Source: personal documentation

Triangulation is used to satisfy the validity and reliability of data. Triangulation is carried out in the following way.
1. Data triangulation
   Data triangulation is carried out by carefully examining the pattern of appearance in observation data, response data to questionnaire questions, and test result data.
2. Triangulation of findings
   The findings are triangulated by comparing findings from the three research data sets. Identify similarities and differences in each finding data. In addition, a comparison of

findings is also carried out to determine whether the findings support each other (convergence) or whether there are significant differences (divergence) from the findings of observational data, tests, and response questionnaires. Explain the differences or similarities in the findings of each data set through detailed descriptions equipped with tables and graphs.

3. Analysis enhancements
Refinement of the analysis is carried out by strengthening conclusions if the findings of the three data types support each other. Further investigation is carried out if there are discrepancies in the findings.

RESULTS AND DISCUSSION

The activity results are reported in three forms: observation results during the activity, student writing results in simple, complex sentences using the conjunction - no Toki 'when' and questionnaire results in the form of student reflections on the learning materials activities provided.

Activity Observation

Observation is carried out one time in each class during learning. Three lecturers observe the learning process in each class together. The same lecturers in each class make observations. Observations of learning activities can be referred to in Table 3. The evaluated aspects include two main components: attendance, which consists of 2 indicators, and the results of the learning in writing complex sentences, which consists of 4 indicators. The evaluation of activities was based on the results of observations during the learning (observations were also made through repeated observations on video recordings of learning activities). The following are the results of activity observations. Remarks: Attendance score range 1-10 (poor), 11-20

(sufficient), (21-30 (good); listening score range 1-3 (poor), 4-7 (sufficient), 8-10 (good); score range of second aspect observed i.e. complex sentence construction learning results 1-5 (poor), 6-10 (sufficient), 11-15 (good).

Based on the observation results, it was stated that 59 participants attended this learning, and only one student was absent. Participants also listened/participated well in all stages of the t learning provided. Although there were 2 or 3 less enthusiastic participants initially, in the end, participants were interested in the learning provided. The second aspect observed was the complex sentence writing activity. This activity is a stage of practice to improve the ability to write complex sentences.

Based on the observation during the learning, it can be stated that the ability of participants to recite vocabulary and complex sentences got a score of 8 (the assessment criteria is sufficient), participants can have a (guided) dialogue using complex sentences got a scored 12 (the assessment criteria is good), participants can answer the exercise questions correctly got a scored 12 (the assessment criteria is good), participants can write using complex sentence patterns got scored of 10 (the assessment criteria is good). However, after being given guidance, the participants were able to recite vocabulary when asked to say it, could have guided dialogues using complex sentences, answered the exercise questions correctly after going through the learning and guidance process, and could compose complex sentences. Referring to the observation results on point 2d, i.e. students can write using complex sentence patterns, which has shown the maximum score (scored 15 with good assessment criteria.

Table 3 Recapitulation of Activity Observation

No.	Aspects evaluated	Indicator	Max score	Final score
1	Attendance	a. Students attend full time	30	30
		b. Students listen well	10	9
2	Complex sentence construction learning results	a. Students can recite vocabulary and complex sentences well	10	8
		b. Students can have a (guided) dialog using complex sentences	15	12
		c. Students can answer the exercise questions correctly	15	12
		d. Students can write using complex sentence patterns	15	15

Source: personal documentation

Student Writing Results in the Form of Complex Sentences with Conjunctions −*No Toki*

The analysis of participants' writing was conducted to determine the outcome of the learning that had been implemented. The analysis focused on three aspects of measurement, namely: (1) sentence structure in subordinate clauses; (2) cohesion between core clauses and subordinate clauses, namely on the participants' ability to

Table 3 is an example of the data obtained after analyzing the complex sentences the participants' training students wrote.

Referring to Table 3, we can see that the structure of subordinate clauses prepared by participants is divided into three forms with pattern 1, namely: N + no toki; pattern 2, namely: V + no toki; and pattern 3, namely: Adj-i + no toki. Pattern 1 is used with a relatively high frequency in complex

Table 3 Data of Participants' Writing in The Form of Complex Sentences	
Subordinate clause structure	**Example data of complex sentences**
N+*no toki*	Hima no toki yoku anime o mimasu
	Hima no toki, ryouri o shimasu
	Hima no toki ongaku wo kikimasu
	Hima no toki wa taitei manga o yomimasu
	Hima no toki, yoku yuuchuubu wo mimasu
	Hima no toki, yoku geemu o shimasu
	Hima no toki, eiga o mimasu
	Kodomo no toki, Surabaya he itta koto ga arimasu
	Kodomo no toki, Arabia ni itta koto ga arimasu
	Kodomo no toki, Mareesia he itta koto ga arimasu
	Kodomo no toki Surabaya ni ittekimashita
	Kodomo no toki wa ningyo de asobu no ga suki desu
	Yasumi no toki, Bali ni ikimashita
	Yasumi no toki Surabaya he itta koto ga arimasu
	Yasumi no toki, Jogujakaruta ni ikimashita
	Yasumi no toki, yoku ryouri o shimasu
	Yasumi no toki, ryokou o shimasu
	Shougakkou no toki, Surabaya ni hikkoshimashita
	Nichiyoubi no toki, yoku hon-ya ni ikimasu
	Koukosei no toki mainichi benkyou o shimashita
	Bukatsu no toki uta o utaimashita
	Netsu no toki watashi wa boushi o kabutteimasu
	etc
V+*toki*	Gakkou ni iku toki, watashi wa baiku de ikimasu
	Kimi o mita toki, suki ni natta
	Bangohan o tabeta toki, imouto wa nemashita
	Kuruma ni oriru toki, ki o tsukete ne
	Neru toki, pijama o kite nemasu
	Wakai toki, haha ha moderu o shimashita
	etc
Adj-i+*no toki*	Nemui toki, itsumo kohii o nomimasu
Error	Kanakashi i toki, kono uta o yoku utaimasu
	Taberu no toki supun no kawari ni te o tsukau koto ga oi desu
	Chuugakkou no toki amari benkyou wo shimasen

arrange core clauses and subordinate clauses using conjunctions −no toki 'when'; and (3) coherence of meaning in complex sentences. The analysis was not conducted on morphological aspects, such as word or letter writing errors, as long as they did not change the meaning or structure of the sentence.

sentences written by participants. In addition, writing complex sentences using pattern one is relatively error-free. Meanwhile, pattern two only appears in certain participants.

Pattern 2 was not given as material in this learning. Participants who can write complex sentences using pattern two are assumed to have a

Japanese language ability relatively beyond the given measurement standards. If we refer to assessment aspect one regarding the sentence structure of subordinate clauses, it was found that the occurrence of adverbial clauses, namely: *hima no toki* 'in leisure time', *kodomo no toki* 'as a child', *yasumi no toki* 'while on vacation' dominated the position of subordinate clauses composed by participants.

There are also other adverbial clauses used with relatively few occurrences, for example, *shougakkou no Toki* 'when I was in elementary school', *nichiyoubi no toki* 'on Sundays', *bukatsu no toki* 'during extracurricular activities', etc. In terms of vocabulary mastery, tense usage, and sentence patterns, for example, the sentence pattern *-ta koto ga arimasu* to express the form of having experienced, *-no ga suki desu* to express preference, *-te kimasu* to express aspect, although the frequency of occurrence is relatively infrequent in the complex sentences written by participants, and is also not part of the learning material, it can be assumed that these participants have relatively good Japanese language skills, exceeding the three aspects of the measurement given. Meanwhile, sentence pattern 3, namely: Adj-i + *no toki*, is relatively rare in complex sentences written by participants.

But even so, there are still errors with a relatively small frequency of occurrence in both forms of writing patterns, as follows: (1) sentence structure errors in subordinate clauses, e.g: the addition of the auxiliary no in front of the verb, as in the following sentence *taberu no toki supun no kawari ni te o tsukau koto ga ooi desu* 'when eating, many people use their hands instead of spoons', should be *taberu toki*, ... without attaching the auxiliary no after the verb *taberu* 'to eat'; (2) cohesion errors between the main clause and the subordinate clause, e.g: the use of tense (time) as a pointer to coherence of meaning, such as in the sentences *chuugakkou no toki amari benkyou wo shimasen* 'when I was in junior high school, I rarely study'; and *shougakusei no toki mainichi geemu o shimasu* 'when I was in elementary school, I play games every day',

should be written in the past tense with the assumption that the writer is currently a high school student, so that the junior high and elementary school periods are past. Therefore, the sentence should be as follows: *chuugakkou no toki amari benkyou wo shimasen deshita*, and *shougakusei no toki mainichi geemu o shimashita*. (3) Coherence errors in the meaning of complex sentences, for example, errors in the writing of adjective-i that result in the meaning of the sentence being incomprehensible, namely: *kanashii toki, kono uta o yoku utaimasu*, in the subordinate clause it is written *kanashii toki, ... kanashii* is not a word because it does not mean anything.

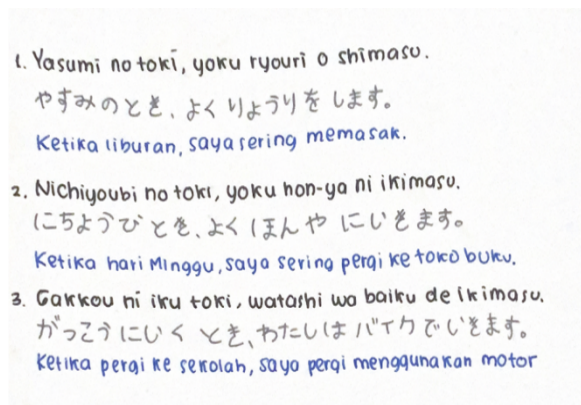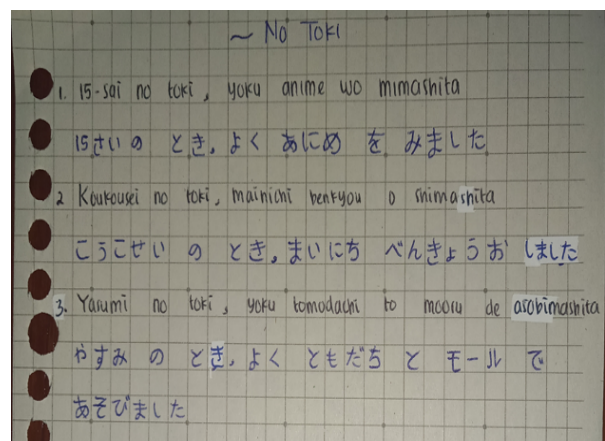The following is an example of the participants' writing, as shown in Figure 3-4.

Figure 3

Figure 4

2. no, 3. enough/ usual/do not know. Of the 59 participants who participated in the learning, only 39 completed the questionnaire. However, because the 39 participants came from the three classes that participated in the learning, the questionnaire results can be considered representative of all participants. The following are the results of the

Student Reflection Questionnaire

The questionnaires distributed to the participants were in the form of student reflections on the learning provided. The questionnaire consisted of 6 questions with three options: 1. yes,

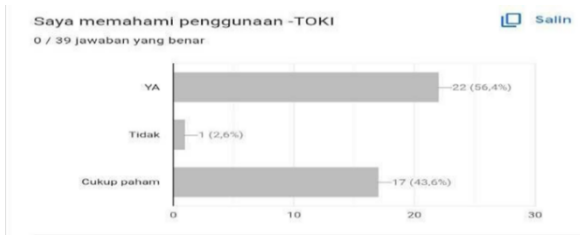student response questionnaire to the learning materials provided.

Chart 1 Participants' Responses to Questionnaire no 1

Chart 1 shows participants' responses to question 1: do I understand the use of *-toki*? 22 participants (56.4%) stated that they understood the use of *-toki*; 1 participant (2.6%) stated that they did not understand; and 17 participants (43.6%) stated that they understood quite well.
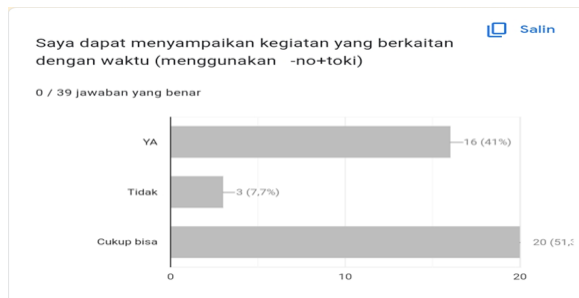

Chart 2 Participants' Responses to questionnaire no. 2

Chart 2 shows participants' responses to question 2: I can make sentences using *-toki*. A total of 21 participants (53.8%) said they could; 16 participants (41%) said they could make sentences using *-toki*; while only 2 participants (5.1%) said they could not.
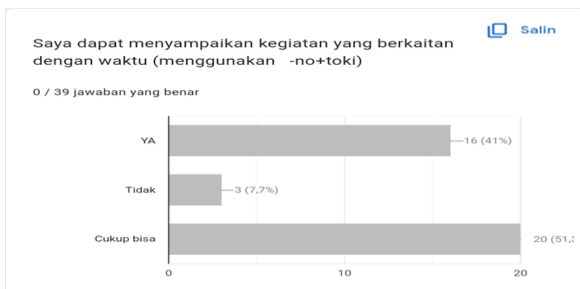

Chart 3 Participants' Responses to Questionnaire no 3

Chart 3 shows participants' responses to question 2: I can express time-related activities (using *-toki*). A total of 20 participants (51.8%) stated that they could; 16 participants (41%) stated that they could make sentences using - toki; while 3 participants stated that they could not. (7,7%).
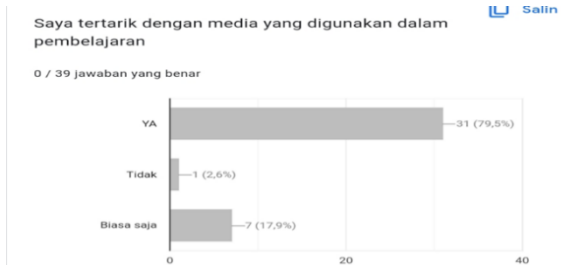

Chart 4 Participants' Responses to Questionnaire no 4

Chart 4 shows participants' responses to question 4: I am interested in the media used in learning. A total of 31 participants (79.5%) stated that they were interested; 1 student (2.6%) stated that they were not; and 7 participants (17.9%) stated that they were normal.
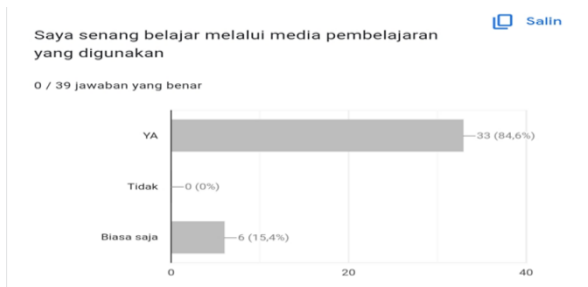

Chart 5 Participants' Responses to Questionnaire no 5

Chart 5 shows participants' responses to question 5, namely: I enjoy learning through the learning media used. A total of 33 participants (84.6%) stated that they were interested; no participants (0%) stated that they were not interested; and 6 participants (15.4%) stated that they were normal.
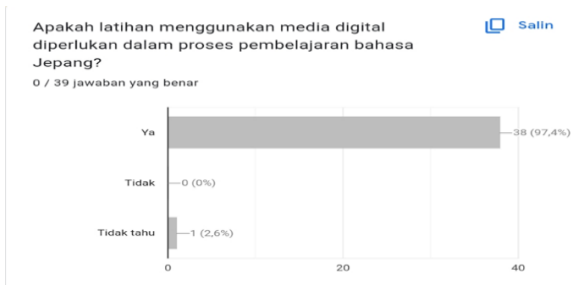
Chart 6 Participants' Responses to Questionnaire no 6

Finally, Chart 6 shows the participants' responses to question 6, namely, whether practising digital media is necessary for Japanese language learning. Thirty-eight participants (97.4%) stated it was necessary; none responded negatively to this question, and one student (2.6%) said they did not know.

The questionnaire results were then analyzed to see the relationship of all student responses to questions and statements in the questionnaire. The recapitulation of participants' answers is then rewritten as a table, as follows.

Table 4 Recapitulation of Student Answers in Questionnaires

No.	Questionnaire question	Yes (%)	Fair/usual/don't know (%)	No (%)
1	I understand the use of -*toki*	56,4	43,6	2,6
2	I can make sentence with using -*toki*	41	53,8	5,1
3	I can express activities related to time (using - *no+toki*)	41	51,3	7,7
4	I am interested in the media used in learning	79,5	17,9	2,6
5	I am happy learning through media learning used	84,6	15,4	0
6	Is practice using digital media necessary in the language learning process of Japanese?	97,4	2,6	0

Source: personal documentation

Referring to the questionnaire results, the students participating in this activity can understand the construction of complex sentences (56% of participants). And fairly enough to use them in both speaking and writing activities And, fairly enough to use them in both speaking and writing activities (51%-54%). However, the participants (79%-97%) stated that they felt interested and happy learning using the media and thought digital media was necessary to learn Japanese.

The research results can be stated as follows based on the analysis of observation data, questionnaires, and the participants' writings. This learning activity received a good response from the participants. Based on the questionnaire results, the participants stated that they understood how to construct simple, complex Japanese sentences and felt they could use them in speaking and writing activities. More than 80% stated that they were interested and happy to learn by utilizing digital media based on flip pdf-pro used in the learning; this

was also evident from the participants' enthusiasm when attending the learning. They also stated that the use of digital media is necessary in the process of learning Japanese. Based on the results of the writing analysis, it can be stated that the participants' ability to write complex sentences with the time conjunction -no toki 'when' can be stated to fulfil the three aspects of measurement with suitable criteria.

This aligns with what Hileman (2009) said: e-modules can offer different difficulty levels or provide additional support materials for students who need extra assistance. It can also include interactive activities, simulations, and real-world scenarios that require students to apply their knowledge and think critically. Adaptive learning technologies within e-modules could personalize the learning experience, providing targeted feedback and guidance to help students develop their higher-order thinking skills. Also, the same Sari et al. (2019) research result showed that learners could learn in a comfortable situation (fun)

while using e-modules as a particular material. As Robert (2013) and Lee (2008) said, the benefits of e-modules as an ICT-based information source could be used to make learning more interactive, attract students' attention, and allow them to learn independently.

CONCLUSION

Based on the observation, test results, and questionnaire, it can be stated that the utilization of e-modules based on flip pdf-pro interactive digital media used in this learning can effectively contribute to improving the ability to write complex sentences in Japanese (fukubun, 複文). The materials in the e-module are organized interactively, allowing students to learn according to their learning progress, thus fulfilling the aspect of higher-order thinking skills. In addition, practice questions in the e-module can also fulfil aspects of creativity and analytical thinking in a fun and independent learning atmosphere.

Overall, the implementation of learning activities has gone very well; the results of learning activities can be followed up in the subsequent learning activities in different materials, with the subject of learning participants being students with different levels of Japanese language proficiency.

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