

# Development of a Japanese Kanji Learning Digital Module Based on the Kanji-GO Application

Ayu Putri Seruni  
University of Muhammadiyah Prof. DR. Hamka  
seruni@uhamka.ac.id

Nia Septiany  
University of Muhammadiyah Prof. DR. Hamka  
nia.septiany@uhamka.ac.id

## Abstract

This research aims to develop a digital module of Japanese kanji learning based on *the Kanji-GO* application aimed at elementary and middle level students. This application is designed to support the independent learning process and improve the understanding and mastery of kanji according to the needs of learners at both levels. The development method used is the ADDIE (Analysis, Design, Development, Implementation, and Evaluation) model, which allows for systematic and structured product development. The population in this study was 32 students, which were divided into two classes: elementary and intermediate levels. The instruments used in the study include validation of linguists, materials, and media, as well as feasibility assessments through product trials. The feasibility results show that *the Kanji-GO* application is considered "good" by experts in terms of appearance, function, and suitability of the material with the curriculum. Meanwhile, the learning outcomes of both classes showed significant improvement, indicating that the app is effective in helping with kanji mastery and is worth developing.

**Keywords:** *Learning Apps, Japanese, Kanji, Digital Learning Media, ADDIE Model.*

## 1. Introduction

Learning Japanese has its own uniqueness in mastering kanji, there are about 2000 kanji that must be mastered. At the basic learner level, it is expected to master 300-400 kanji and the intermediate level 650-800 kanji. According to Mogi, foreign students have difficulty applying kanji to the use of Japanese (Mogi, 2020). The development of learning technology encourages kanji learning, adapting to the concept of computer assisted language learning that CALL as a percentage tool that includes interactive design and has feedback for independent and collaborative learning (Beatty, 2013). Japanese language learning media is diverse in its types, there are print, audiovisual, digital and interactive media following technological developments.

Some common uses of multimedia in e-learning include animations, videos or static

graphics with accompanying narratives; animations, videos or static graphics with text on the screen; or computer-based interactive games, simulations or activities that include spoken or printed text (Mayer, 2017). As social technology develops, social learning begins to emerge. Social learning offers a powerful and continuous learning experience through the use of social networks, such as online communities, where learners engage to discuss, formulate, and share knowledge/information (Lau et al., 2014). The use of visual-based learning apps can increase Kanji memory is up to 35% compared to conventional media (Sato et al., 2017). Learning media is a tool that can help in the teaching and learning process to clarify the content of the message or information conveyed, so that the material conveyed can be understood clearly (Alifiarti et al., 2023). In line with that, the function of learning media is to increase understanding and attractiveness for students so that they can easily understand the material (Alobaid, 2020).

Japanese language learning media, especially for kanji learning, is a necessity for students because many people experience difficulties because of the large number of kanji criteria, having kun yomi, on yomi, hisujun (Seruni, 2018). Technology-based Japanese language learning media allows students to communicate in a social technology way from the results of evaluations or discussions online. Supported by previous research by Setiyani R, it was revealed that students use the internet to support lectures because students have the belief that the more information they get, the more achievements will be obtained (Asrini & Setiawati, 2022). The learning approach uses smartphone media to help learn foreign languages in the form of applications or software on smartphones, because smartphones are more practical and easy to carry anywhere (Al Ghiffari & Sukmara, 2024).

The lack of learners in using kanji in daily activities is also an obstacle, so it requires learning media that can be used anytime and anywhere to help the independent learning process. Research previously focused on the effectiveness of learning media without developing a pedagogical framework in achieving learning sustainability (Seruni & Karnawati, 2019).

Based on that, this research aims to develop a kanji learning digital module based on the Kanji Go application that is tailored to the needs of students of the Japanese Language Education Study Program. The researcher made a learning media in the form of a digital module for kanji courses in level Basic and Intermediate by integrating digital technology that supports independent, structured and continuous learning. The implementation of kanji digital modules goes through several stages from needs analysis, curriculum design planning, module application in the classroom and evaluation implementation. Implementation of our first Japanese online course at Stony Brook University (SBU) by delineating the setting, ACTFL curriculum design, implemented digital tools, performance tasks, and formative/summative assessments (Sato et al., 2017). This module not only compiles materials according to the curriculum, but is also integrated into the kanji Go application to be more interactive and there is an assessment as a self-evaluation. In general, there are two questions that must be answered in the development of a Japanese kanji learning digital module based on the Kanji-Go Application, namely (1) what is the procedure for developing a Japanese kanji learning digital module based on the Kanji-Go Application?, and (2) what is the feasibility of a Japanese kanji learning digital module based on the Kanji-Go Application?. The purpose of this research and development is to develop a digital module of Japanese kanji learning based on the Kanji-Go Application that is well qualified and suitable for use in the learning process in the classroom or outside the classroom by paying attention to aspects of validity and feasibility.

## 2. Methodology

This type of research is a research and development (R&D). Borg & Gall states that Research and Development (R&D) can be used to develop and validate educational products (Assyauqi, 2020). The sample in this study is students of the Japanese Language Education Study Program FKIP UHAMKA, with a population of 32 students. The sample collection technique in this study uses purposive sampling where the researcher determines the sample selected in this study himself. Purposive sampling is a sample determination technique carried out by people who have a good assessment, so that they can take samples as representative as possible (Lenaini, 2021). The purpose of using the purposive sampling technique is to determine the level of significance that occurs in a sample of 32 people in the Course *Shokyu Kanji* and *Chukyu Kanji* in the Japanese Language Education Study Program for the 2024/2025 school year in the Odd semester. The data analysis technique in this study uses qualitative and quantitative data analysis techniques based on the research instruments that have been stated above. The data analysis in this study is divided into 4 parts, namely (1) data analysis of needs analysis instruments, (2) analysis of teaching material design, (3) data analysis of expert validation instruments, and (4) data analysis of product trial instruments.

The development of a digital module of Japanese kanji learning based on the Kanji-Go Application uses the ADDIE development model. ADDIE development model (*Analyze, Design, Development, Implementation, Evaluation*) is a model specially developed by Dick and Carey that can be used for various forms of product development such as models, learning strategies, learning methods, media and teaching materials (Dick et al., 2009). In testing the feasibility of the teaching materials developed, the researcher applies five stages according to the requirements in the ADDIE development model, namely analysis, design, development, implementation, and evaluation.

### a. Stages of Analysis

At this stage, the things that are done are: (1) conducting a literature review related to the development of digital modules and application-based digital learning media, (2) analyzing the needs of students by distributing questionnaires to find out the needs and problems in the learning process, especially those related to the use of Japanese kanji learning digital modules.

### b. Design Stage

At this stage, the things that are done are: (1) designing the design of the Japanese kanji learning digital module based on the Kanji-Go Application, which consists of teaching materials, examples of Japanese sentences, individual assignments, and group assignments, (2) designing a validation test instrument sheet for the Japanese kanji learning digital module based on the Kanji-Go Application which will be shared with experts, (3) designing a product test instrument sheet for the Japanese kanji learning digital module based on the Kanji-Go Application which will be distributed to lecturers and students.

### c. Development Stage

At this stage, what is done is to start developing a digital module of Japanese kanji learning based on the Kanji-Go Application according to the results of the design stage. Development is carried out by integrating from the digital module format to the Kanji-Go Application format. After the digital module of Japanese kanji learning based on the Kanji-Go Application was completed, it was then validated by two validators,

namely material experts and media experts. The validation of the Japanese kanji learning digital module based on the Kanji-Go Application is the first step to assess the feasibility of the digital module developed before it is tested for lecturers and students. At this stage, revisions will also be carried out after the validator provides assessments and suggestions through expert validation test instruments. The Japanese kanji learning digital module based on the Kanji-Go Application can be declared feasible if the validator assessment results have reached the feasible category in accordance with the established eligibility criteria. If the results of the validator's assessment have not been declared feasible, then revisions will be made in accordance with the suggestions and inputs from the validator. The purpose of the revision is to improve the weaknesses or shortcomings that exist in the digital module based on the Kanji-Go Application.

**d. Implementation Stage**

At this stage, product trials are carried out to lecturers and students. After the teaching materials were tested, lecturers and students were given a questionnaire in the form of a product trial questionnaire. The purpose of testing the product to lecturers and students is to determine the feasibility level of the digital module based on the Kanji-Go Typing Application to be used by lecturers and students.

**e. Evaluation Stage**

In this final stage, an evaluation of the Japanese kanji learning digital module based on the Kanji-Go Application was carried out based on the assessment of experts at the time of the product validation test and based on the assessment of lecturers and students at the time of the product trial. After an in-depth evaluation, it will be concluded that the quality of the digital module based on the Kanji-Go Application will be concluded. If revisions are indeed needed based on the input of experts, lecturers, and students, revisions will be made so that digital module materials based on the Kanji-Go Application can be suitable for use in learning kanji.

### **3. Result**

The results of the development of a Japanese kanji learning digital module based on the Kanji-GO application for Japanese language students were carried out using Research and Development (R&D) using the ADDIE model, with 5 stages (Analysis, Design, Development, Implementation and Evaluation).

**a. Stages of Analysis**

The development of a Japanese kanji learning digital module is based on two levels of kanji learning, namely basic kanji or N5-N4 equivalent and intermediate kanji or N3 equivalent. At this initial stage, a needs analysis was carried out for elementary and middle level students with the aim of finding out the needs of students for the teaching materials used in learning Kanji. The analysis of kanji needs for Japanese language education students is carried out based on the established curriculum and interviews with elementary and middle level students, as well as adjusting the kanji needs in the Graduate Profile. The results of the analysis of secondary level Japanese education students show that students still have many difficulties learning kanji in the context of work themes and daily activities, even though they need these kanji at work. In addition, the curriculum is also a reference in determining the amount and scope of material that will later be used in the developed Japanese kanji learning digital module. Meanwhile, the analysis of the needs of students of basic Japanese language education obtained

results that students need kanji that are often used in Japanese texts related to daily life, and kanji that will later appear in the JLPT level N5 exam. In addition, based on the results of the interview, it was concluded that the characteristics of Japanese language students, both elementary and middle levels, more often use mobile devices in learning kanji, but in learning kanji mobile media is not in accordance with the lecture material. Therefore, students need a digital module for learning Japanese kanji that can be accessed anytime and anywhere so that they can do independent learning, so that the development of the Japanese kanji learning digital module is one of the solutions and the latest in presenting teaching materials in learning kanji. The development of the Japanese kanji learning digital module integrates the Kanji-GO Application to make it easier for students to access the material because this application provides practicality for independent learning anytime and anywhere. Furthermore, after knowing the results of the analysis of student needs for the development of Japanese kanji learning digital modules, the next stage is carried out, namely designing a Japanese kanji learning digital module based on the Kanji-GO Application.

**b. Design Stage**

The design of the Japanese kanji learning digital module is based on needs analysis and continues to make a concept map, an outline of the content of the media and a description of the material for making digital kanji modules. The researcher made two basic level kanji modules named N5 kanji module and intermediate level with the name N3 drill kanji module. The number of kanji in the module is adjusted to the needs of students who have graduate profiles and Shokyu Kanji and Chukyu Kanji courses. The concept map of the kanji module is as follows.

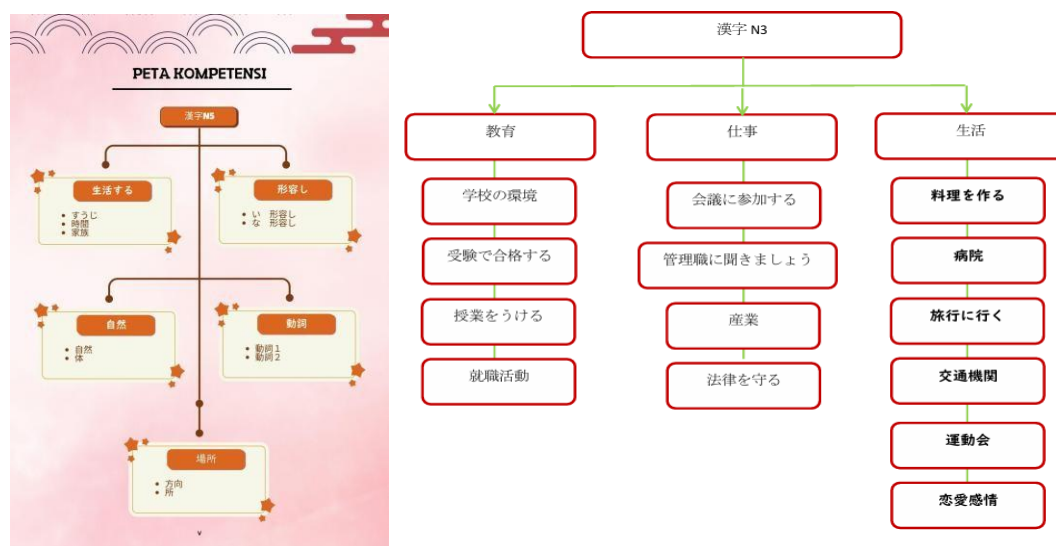


Figure 1. Digital Module Concept Map 'N5 Kanji Module' and 'N3 Drill Kanji Module'

The outline of the content of the digital module media is arranged according to the categories of elementary and intermediate level students with the following subject matter:

Table 1. Media Content Outline

Component	Module Kanji N5	Kanji N3 Drill Module
Basic Competencies	N5-N4	N3
Subject Matter	Kanji-kanji dasar seputar seikatsu suru, keiyoushi, shizen, doushi, dan bashou	Education, Work and Daily Activities 14 chapters with 270 kanji Quiz
Types of exercises	Practice translating and using kanji in the context of sentences	Practice translating and using kanji in the context of sentences
Evaluation	Chapter tests, reading evaluations and kanji comprehension	Chapter tests, reading evaluations and kanji comprehension
Kanji-Go App Integration	Kanji learning games	Kanji learning games

The design of the digital module of the basic level of Japanese Kanji learning is divided into several parts, the first is the beginning page of the chapter which contains visuals that describe the outline of the kanji material to be studied, and there are learning outcomes that will be achieved by students after learning the kanji in the chapter.

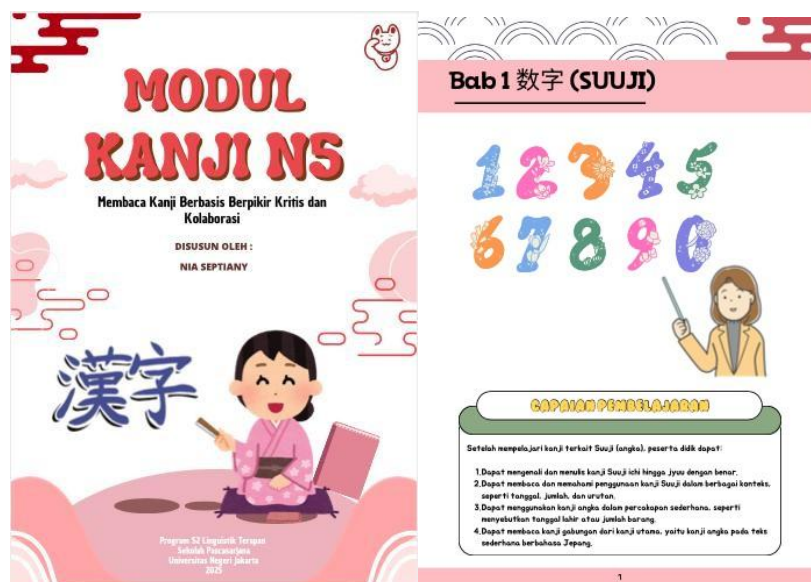


Figure 2. 'N5 Kanji Module' homepage design

Then go to the next page, which is to start entering the kanji material to be studied. On this page of material there are approximately 10 kanji that will be studied, along with how to write kanji, how to read kunyomi and onyomi, kanji combined from the main kanji, and examples of sentences that contain the kanji. Next, after learning the kanji material, it is followed by the practice page. On this exercise page, there are various tasks, both individual and group, to train students in translating and using kanji in the

context of sentences.

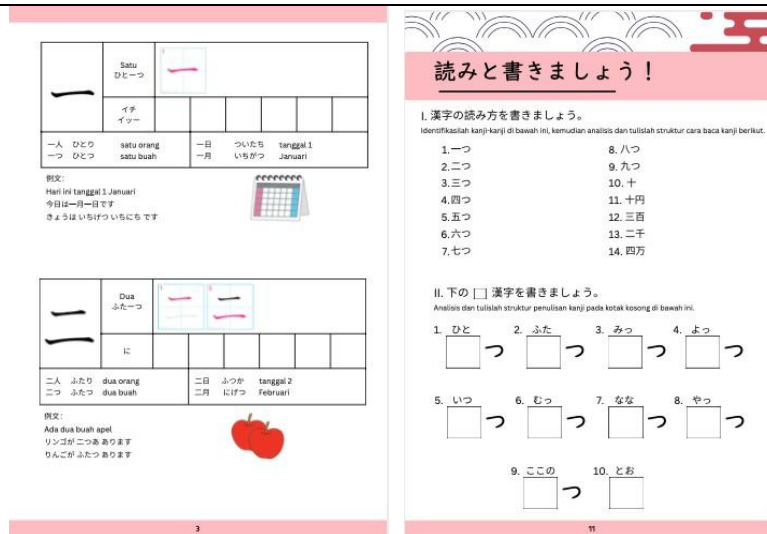


Figure 3. Page Design Kanji Material and Exercise 'N5 Kanji Module'

Design the Kanji N3 Drill module by dividing kanji material, kanji writing, kanji vocabulary, exercises, summaries and formative tests.



Figure 4. 'N3 Drill Kanji Module' homepage design

1 章

**Modul 1. 学校の環境**

Metode Pembelajaran	Estimasi Waktu	Capaian Pembelajaran
Metode Contextual Instruction (CI)	150 menit	Mengkombinasikan kanji-kanji yang sudah dipelajari sesuai tema "学校の環境"

**Materi 1. 第一章**  
質問：“学校の環境”のテーマについて、どの漢字が知っていますか？  
下記“学校の環境”に関する漢字です。

幼	児	童	徒	担
おきな-い ヨウ "Masa Kecil"	ジ、ニ "Anak Kecil"	わらべ ドウ "Anak-anak"	ト	かつ-ぐ、にな-う タン "memikul"
まか-せる、まか-す ニン "menyerahkan"	シ "guru"	く-む、くみ ソ "Kelompok"	つくえ キ "meja"	いた ハン、パン "papan"
すわる ザ " Duduk"	みで ヒツ "kuas"	か-す タイ "meminjani"	か-りる シツク "meminjankan"	か-か-る、か-か-す ヘン "mengembalikan"
書 サク "buku (dalam hubungan)"	具 グ "Alat"	箱 ハコ "Kotak"	棒 ボウ "Tongkat"	伸 の-びる の-ばす の-べる シン "Memanjangkan"

**Latihan 1. 練習 1**  
下記の文章を正しい読み方で読んでください

- 幼稚園は毎日音楽を一緒に歌います。
- 先生は生徒に授業を教えてください。
- 担任の先生は毎日仕事がたくさんあります。
- 教師に1年生B組のみんなは花をあげます。
- 森本先生は机の上に鉛筆を置いておきました。
- クラスで前列に座ったら、黒板の文字がよく見えます。
- 図書館で本を3冊借りたら、1週間に返さなければなりません。
- 貸し置き部屋を見つかりました。
- ソノダの如き種は空まで飛ばせる。
- 調理道具を使い終わったら、きれいに箱の中に入れてください。

各漢字で語義と意味を書いてください。

問:	1.	2.	3.	4.	5.
1. 幼稚園 Taman kanak-kanak					
6.	7.	8.	9.	10.	

**Rangkuman 1. 要約**  
学校の環境の漢字は幼、児、童、徒、担、任、師、組、机、板、筆、貸、借、返、冊、具、箱、棒、伸を勉強しました。勉強した漢字は他の参考資料に探すことができる。

**Yes Formatif 1. 形成的評価**

- 1年生B組ではトノ先生は担任を務める。  
①たにん ②たんにん ③たんにょう ④たんさん
- 幼稚園では子供たちが遊びながら勉強します。  
①まらん ②ようちん ③ようちが ④ようちえん
- 買ったばかりタミヤを返さなくてはならない。  
①くみだてる ②すみだてる ③くみだてる ④つみだてる

Figure 5. Page Design Kanji Material and Exercise 'N3 Drill Kanji Module'

**c. Development Stage**

After designing, the digital module began to be developed by integrating it in the Kanji-Go application. The development stage produces 2 digital modules in digital format and are integrated into the Go kanji application. The development of the content and structure of the basic digital kanji module 'Kanji N5 Module' and the intermediate digital kanji module 'Kanji N3 Drill' was published online by the publisher Media Sains Indonesia. The use of kanji-go applications as a support for strengthening starch materials in digital modules. The design of the Go kanji application is designed to adapt to the digital module but more feedback is done. The following is an overview of the stages of developing the Japanese kanji learning digital module with the Kanji-Go application.

# KANJI-GO

**KANJI MENENGAH**

教育

- 学校の環境
- 受験で合格する
- 授業をうける

仕事

- 就職活動
- 会議に参加する
- 管理職に働きましょう
- 産業
- 法律を守る

生活

- 料理を作る
- 病院
- 旅行に行く
- 交通機関
- 運動会
- 恋愛感情

学校の環境

幼	おきな-い "Masa Kecil"	ヨウ
児	"Anak Kecil"	ジ、ニ
	わらべ "Anak-anak"	ドウ
童		ト
担	かつ-ぐ、にな-う "memikul"	タン
	まか-せる、まか-す "menyerahkan"	ニン
任	"guru"	シ
	く-む、くみ "Kelompok"	ソ
組	つくえ "meja"	キ
	いた "papan"	ハン、パン

Figure 6. Design of Japanese Kanji Learning Digital Module Based on Kanji-Go Application

At this stage of development, after the digital module of Japanese kanji learning based on the Kanji-GO Application is completed, an assessment is carried out by experts, namely material experts and media experts. The purpose of the validation of the Japanese kanji learning digital module based on the Kanji-GO Application is by material experts, namely, kanji teachers, to ensure the correctness of the material, and by media experts, namely, IT experts, to assess the feasibility of the display, navigation and interactivity of the module as educational technology development. The following are the results of the validation assessment of material experts and media experts.



Figure 7. Results of Validation Assessment of Material Experts and Media Experts

Based on the assessment of material experts and media experts, an average score of 88.87 was obtained for the two digital modules of Kanji learning based on the Kanji-GO Application which stated that the development in the category was very good, and the digital module of Kanji learning based on the Kanji-GO Application was feasible to use. From the results of the two experts, namely material experts and media experts, no input was obtained to make improvements, so the researcher did not make further revisions.

**d. Implementation Stage**

The implementation stage was a trial of the Japanese kanji learning digital module product based on the Kanji-GO Application for elementary and middle level Japanese lecturers and students in the Shokyu Kanji and Chukyu Kanji courses. The goal is to see the feasibility of the digital modules developed as well as their use in learning kanji. The results of the trial of the Japanese kanji learning digital module product based on the Kanji-GO Application are as follows.



Figure 8. Product Trial Assessment Results

The results of the expert validation test and the results of the product trial assessment are as follows.

Hipotesis  $H_0: m \leq 70$  ( module Not eligible to use )  
 $H_1: \mu > 70$  (modules are eligible to use)

With  $\alpha = 0.005$  and average Score user ( $\mu$ ) = 85.8% so :M Sample 85.8, m hipotesis 70, SD  $\approx 2,5$  dan  $n = 7$ .

$$T = (85.8 - 70) / (2.5/\sqrt{7}) \approx 25.97$$

$$Df = 6, t\text{-table} (0,05; 6) \approx 1,943$$

Since  $t \text{ counts} > t \text{ table}$ , then:

$H_0$  rejected  $\rightarrow$  Product by significant proper to use kanji learning.

#### e. Evaluation Stage

Based on the results of expert validation assessments and product trials of the Kanji-Go Application-based Kanji learning digital module, it was obtained that the assessment of material experts and media experts obtained an average score of 88.87 for the two Kanji learning digital modules based on the Kanji-Go Application which stated that the development was in the category of very good, and the Kanji learning digital module based on the Kanji-Go Application was feasible to use. and there is no input to make improvements so that the researcher does not make improvements to the Kanji-Go application-based Kanji learning digital module that was developed. In addition, the results of the product trial obtained an average of 87.2 that the use of two Japanese kanji learning digital modules based on the Kanji-Go Application is very good in material, information, pedagogy, design, durability and affectiveness, so it can be said to be feasible to use. In addition, observations were made during the use of the Japanese kanji learning digital module based on the Kanji-Go Application for students very well in accordance with the character of students who prefer digital learning.

The advantage of digital kanji modules is that they are practically used anytime and anywhere, the module materials also adjust to the kanji they need in learning Japanese.

A long-term refinement to insert kanji-appropriate images is studied, and this is inserted in the digital kanji application. The kanji Go application is evaluated by adding quizzes as feedback according to the needs of students of the Japanese Language Education Study Program.

## 4. Discussion

Based on the results of the research that has been described earlier, in general, there are two questions that must be answered in the development of a Japanese kanji learning digital module based on the Kanji-Go Application, namely (1) what is the procedure for developing a Japanese kanji learning digital module based on the Kanji-Go Application? and (2) what is the feasibility of the Japanese kanji learning digital module based on the Kanji-Go Application? The following is a discussion based on these two questions.

### a. Discussion of the Procedure for the Development of a Japanese Kanji Learning Digital Module based on the Kanji-Go Application

The development of digital modules is carried out by following the ADDIE development model, namely Analysis, Design, Development, Implementation and Evaluation. Further elaboration of the results of the research using the stages of the ADDIE development model is as follows.

- 1) **In the analysis stage**, the researcher conducted an analysis of kanji learning needs in elementary and middle level students, obtained results that students need digital modules and kanji applications as kanji learning media because it makes it easier for them to carry the media anywhere and anytime they will learn kanji. The researcher also adjusts to the curriculum of the Japanese language education study program that the kanji material needed is in accordance with the profile of graduates as educators, translators and edupreneurship and adjusts the amount of kanji in the material to be designed.
- 2) **In the Design Stage**, based on needs analysis, two digital modules are designed first by making a concept map, an outline of the content of the media and a description of the material. After creating the concept of the learning media, the researcher made the N5 kanji digital module and the N3 drill kanji digital module. The scope of material adjusts to the needs of shokyu kanji and chukyu kanji courses. The N5 kanji module material includes 11 chapters consisting of N5-N4 level kanji and the N3 drill kanji module includes 14 chapters consisting of N3 level kanji. The module material includes vocabulary, exercises and formative tests so that students can provide feedback.
- 3) **Development Stage**, Both digital modules are developed into one in the kanji go application to make it easier for students to get direct feedback. Then, both digital modules and the kanji go application were assessed by material experts and media experts. Because the results of the assessment from experts show that the Japanese kanji learning digital module based on the Kanji-Go Application is feasible, the next stage is to conduct product trials to lecturers and students.
- 4) **In the implementation stage**, a trial was carried out on users, namely 32 students of the Japanese language education study program and lecturers.
- 5) **The evaluation stage**, based on the results of experts and use tests, obtained a very good assessment. The researcher evaluated the kanji go application that needed to

be revised and multiplied the quizzes as feedback for students.

**b. Discussion of the feasibility of the Japanese kanji learning digital module based on the Kanji-Go Application**

The assessment of a product is suitable for use in this study based on the results of expert validation and product trial results. Expert validation is carried out by two people who are experts in their fields, namely material experts and media experts. The assessment from material experts obtained material assessment of 89%, information 88.5%, design 88%, pedagogy 88.5%, robustness 86% with an average of 88% which categorizes that the material from these three products is considered very good and is categorized as suitable for development and use. Then the assessment from media experts with the material category 91%, information 91%, pedagogy 88% and learnability 89% with an average assessment of 89.7% which categorizes that media from this category is also considered very good and is categorized as suitable for development and use.

Furthermore, product trials were carried out on 32 students at the elementary and secondary levels and two lecturers in the Shokyu Kanji and Chukyu Kanji courses. Students assessed the Japanese kanji learning digital module based on the Kanji-Go Application with a material category of 85.5%, information 84.9%, pedagogy 86.1%, learnability 86.3%, design 86.3%, robustness 86.3% and affective 85.5% with an average of 85.8% with an excellent category. Meanwhile, lecturers assessed 88% of material, 87% of information, 88.75% of pedagogy, 87.5% of learnability, 85.75% of design, 87.75% of robustness, and 88.25% of affective with an average of 86.7 with a very good category. So it can be concluded that the development of a Japanese kanji learning digital module based on the Kanji-Go Application is considered feasible to be used in Kanji learning.

Based on the data from the feasibility test, the Japanese kanji application-based digital module is very suitable for use from various categories of material, design, pedagogy, interactivity and user affectiveness, as evidenced by an average score above 85% which is categorized as very good and statistically inferential with significant results ( $t > t\text{-table}$ ,  $p < 0.05$ ).

## **5. Conclusion**

Based on the results of the research, the development model used in this study has followed the stages of the ADDIE development model, namely Analysis, Design, Development, Implementation, and Evaluation, by producing a product in the form of a digital module of Japanese kanji learning based on the Kanji-Go Application. At the analysis stage, a needs analysis is carried out as the basis for research and development, and from the results it will be known whether or not it is necessary to develop a product in the form of a Japanese kanji learning digital module based on the Kanji-Go Application. Furthermore, the design stage is carried out by making a concept map, an outline of the content of the media and a description of the material for making digital kanji modules. The number of kanji in the module is adjusted to the needs of students who have graduate profiles and Shokyu Kanji and Chukyu Kanji courses. Then at the development stage, it is carried out by changing the format from a digital module to an application form that is integrated with the Kanji-Go application. The use of kanji-go applications as a support for strengthening starch

materials in digital modules. The design of the Go kanji application is designed to adapt to the digital module but more feedback is done. Then after it is completed, it is assessed by experts to determine the feasibility of the digital module developed. The results show that the digital module is feasible and continues to the implementation stage by conducting product trials for lecturers and students. This is done to see the feasibility from the user side for the digital module developed. The results show that the developed Japanese kanji learning digital module based on the Kanji-Go App is feasible to use. In the last stage, an evaluation was carried out on the digital module of Japanese kanji learning based on the Kanji-Go Application, and the results were obtained that there were no inputs and suggestions for improvement either from expert assessments or lecturer and student assessments, so that the researcher did not make further improvements. Thus, the development of a Japanese kanji learning digital module based on the Kanji-Go Application has been feasible and can be used in Kanji learning.

## 6. Reference List

- Al Ghiffari, M. G., & Sukmara, R. (2024). Application of Asobiba Application Learning Media to Improve Japanese Vocabulary Skills in Students. *Kiryoku: Journal of Japanese Studies*, 8(2), 293–304. <https://doi.org/10.14710/kiryoku.v8i2.293-304>
- Alifiarti, N., Richel, A., Fajar, L., & Masrokhah, Y. (2023). The Influence of Japanese Language Learning Media with YouTube Media to Improve Japanese Memorization and Writing Skills for High School Class X Students. *Kiryoku: Journal of Japanese Studies*, 7(1).
- Alobaid, A. (2020). Smart multimedia learning of ICT: role and impact on language learners' writing fluency— YouTube online English learning resources as an example. *Smart Learning Environments*, 7(1). <https://doi.org/10.1186/s40561-020-00134-7>
- Asrini, D. P., & Setiawati, A. S. (2022). The use of online media as a source of teaching materials for the Dokkai Sakubun Shokyu course. *Kiryoku*, 6(2).
- Assyauqi, M. I. (2020). Borg and Gall's Development Model. *State Islamic Religious Institute, December*, 2–8. <https://www.taufiq.net/2019/09/model-penelitian-pengembangan-borg-and.html>
- Beatty, K. (2013). *Teaching and Researching Computer-Assisted Language Learning* (C. N. Candlin & D. R. Hall (eds.); Second Edi). Routledge.
- Dick, W., Carey, L., & Carey, J. O. (2009). The systematic design of instruction. In *Instructional Design: International Perspectives: Theory, Research, and Models* (7th Editio). Pearson Education.
- Lau, R. W. H., Yen, N. Y., Li, F., & Wah, B. (2014). Recent development in multimedia e-learning technologies. *World Wide Web*, 17(2), 189–198. <https://doi.org/10.1007/s11280-013-0206-8>
- Lenaini, I. (2021). Purposive sampling and snowball sampling techniques. *HISTORICAL: Journal of Historical Education, Research & Development*, 6(1), 33–39. <http://journal.ummat.ac.id/index.php/historis>
- Mayer, R. E. (2017). Using multimedia for e-learning. *Journal of Computer Assisted Learning*, 33(5), 403–423. <https://doi.org/10.1111/jcal.12197>
- Mogi, Y. (2020). *Language Ideologies on the Language Curriculum and Language Teaching in a Nihonjinkakkō ( Japanese overseas school ) in Belgium : Implications for Developing Multilingual Speakers in Japan.*

- Sato, E., Chen, J. C. C., & Jourdain, S. (2017). Integrating Digital Technology in an Intensive, Fully Online College Course for Japanese Beginning Learners: A Standards-Based, Performance-Driven Approach. *Modern Language Journal*, 101(4), 756–775. <https://doi.org/10.1111/modl.12432>
- Seruni, A. P. (2018). Application of the Multiple Intelegences (Linguistic & Visual spatial) approach to Kanji Learning. *Taiyou Japanese Journal*, 1(1), 86-103.
- Seruni, A. P., & Karnawati, R. A. (2019). *Development of Japanese Language Learning Media Android Application Based on Mobile Assisted*. 2008, 67–75.