

# Web-Based Kanji Characters Learning: Undergraduate Students' Conception

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## ABSTRACT

The use of web-applications in online learning has rapidly developed during the COVID-19 pandemic. In higher education, these internet-based educational technologies have been believed to play a significant role as an agent for quality learning improvement. This study reports on undergraduates' conception of the use of web-based applications on learning Kanji characters. It seeks to identify Mrs. Kanji's application effects on students' capability to retain both the visual forms of the Kanji characters and their meaning. Considering the pandemic situation, data was collected by administering a set of online questionnaires to 186 undergraduate students who learn Japanese in six universities located in different geographical areas in Indonesia. The quantitative analyses showed that the students had firm beliefs that the application had helped them retain the forms and meanings of the kanji characters. This study suggests the significance of utilizing the application to improve students' reading performance.

**Keywords:** *Kanji Characters, Learning Media, Online Learning, Memorizing Skills, Web Application*

## 1. INTRODUCTION

In recent years, the development of digital technology is currently changing a new paradigm of the way teachers teach and students learn [1]. The use of e-learning and mobile learning as a convenient tool for teaching and learning has become more and more popular. Especially during this pandemic, all learning is doing online. Starting from learning a speaking course, reading course, listening course to learning writing course, all of the learning language skills are doing online. Technology can make it easier for someone to learn something and is considered a solution for education in this pandemic, but besides that, it creates various problems. Among them are the availability of quotas, the stability of the connection, up to understanding material.

Some discussions have been raised about whether to use a smartphone or any mobile devices to use in e-learning and mobile learning. Many teachers and students are shocked by learning using technology. In this case, since 2009, mobiles adoption is expected to occur, but the goal does not seem to be achieved» [2]. Many learning support tools or systems have been developed to help Japanese learners in various situations in Japanese learning [3], [4], [5]. However, a new paradigm of online learning approaches is developing, m-learning is now

becoming increasingly important and, even if it is still in its early stage. it shows a very fast development [6].

They construct their knowledge base and share that with their stakeout utilizing various modern technologies; they are the creators of their content based on what is important to their lives and interests [7]. The younger teacher or students generation, more responsive than the older one, engage in such activities [8], [9]. However, students often do not use the technologies for learning but games.

Many kanji web applications come in various forms and focus on learning. However, this research limits the scope of the web application language, namely using the Mrs. Kanji web application as the medium. The reason for using this web application is because it was formed based on the results of a previous study. Web application media for learning Kanji using the illustrative picture and mnemonic hint model. In this study, two trials and revisions were carried out to achieve maximum results.

The features in this application are built based on the results of a questionnaire that has been given to Japanese language student respondents. Some of them are given kanji containing the JLPT kanji from N5 (basic level) to N4 (basic to intermediate level), there is a writing sequence (*kakijun*), examples of words, pictures, games, the origin of kanji, history, kanji category (*rikusho*), kanji

recognizer. Besides, the web application is easy to use, free, attractive appearance can be distributed and obtained from trusted sources. Mrs. Kanji web application content illustrative picture and mnemonic hint models as media.

## 2. MRS. KANJI WEB APPLICATION

This web application design is based on the results of the analysis in the previous study. The content is consists of the data structure, user interface, sequence diagrams, class diagrams, and application module designs. Mrs. Kanji's web application display starts with a welcoming character in Figure 1. All you have to do is click the sign-in button and, the user can log in and use this application.



Figure 1. Mrs. Kanji web application

The Kanji content display, in Figure 2, contains several features such as word examples, illustrative pictures, mnemonic hints (in English and Japanese), how to read (*kun-yomi* and *on-yomi*), meanings of English, Japanese and Indonesian.

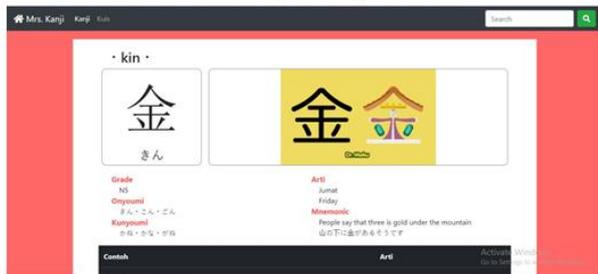


Figure 2. The kanji content display

The Kanji that has been grouped thematically, like Figure 3 kanji groups with color themes.

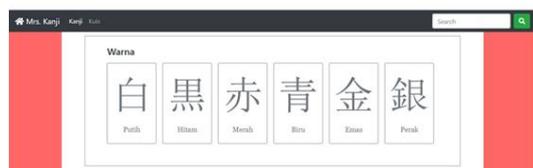


Figure 3 Kanji groups with color them

Display Quiz in this application is divided into several levels according to the level difficulty.

## 3. METHOD

### 3.1. Setting and Participants

One hundred eighty-six participants were recommended with purposive sampling by a lecturer who teaches the kanji writing course. Participants were informed of the purpose, interview process, and confidentiality of this study by a researcher. Once they decided to participate in the study, signed consent was obtained in the initial meeting with the form online. The undergraduate students (hundred seven female, seventy-nine male, median Japanese studying experience = 1 year) in six universities, agreed to participate in qualitative semi-structured interviews online. Participants are undergraduate students who learn Japanese in six universities located in different geographical areas in Indonesia.

### 3.2. Instruments

#### 3.2.1. Online Questionnaire

The instruments used in this study consisted of online questionnaires (Google Form) and online interviews with WhatsApp video calls. Both of these instruments are in Indonesian. The online questionnaire instrument is designed to collect information about kanji learning media, difficulties learning kanji, and online kanji lectures. The instrument consists of 3 questions about kanji learning media, 3 questions about the difficulties of learning kanji, and 5 questions about online kanji lectures.

#### 3.2.2. In-Depth Interviews Online

Then the guideline online interview was used to explore more detailed information from the questionnaire questions which needed more in-depth information. The type of question guideline is semi-structured so that it is more focused and detailed in the answers of the respondents. This questionnaire consists of 10 semi-structured questions in Indonesian.

### 3.3. Data Collection

All participants involved in this study provided evidence of consent to take part in this study. Participants were asked to complete a questionnaire after using the Mrs. Kanji web application independently. To collecting data, participants were grouped by self-efficacy and regulated learning efficacy. The data were then analyzed using statistical analysis. Due to the pandemic Covid-19 situation, data collection was carried out online along with Zoom and WhatsApp media. Specifically, it takes the following steps to accomplish this task.

**Step1.** Explanation of activities using the web application via Zoom; **Step2.** Participants use the web application through their respective smartphones or laptops, with unlimited usage frequency; **Step3.** After using the web application, fill out an online questionnaire to gather information about the advantages and disadvantages of the web application; **Step4.** The questionnaire data were analyzed automatically through the Google Form system; **Step5.** Categorize the results of data analysis; **Step6.** Interpret the results of data analysis through descriptions.

#### **4. FINDING AND DISCUSSION**

After the data has been collected through an online questionnaire, it is then interpreted along with the results of the analysis of each answer that appears.

##### ***4.1. Web Application for Learning Japanese Characters***

Most of the respondents often use the kanji application to support learning kanji (63%). This was done before online learning during the pandemic. Some of the applications that are widely used include the Takoboto, Duolingo, Kanji Study, Obenkyou, and others. Many benefits can be obtained from using the kanji web application, the main reason is that this media is easy because there is no need to install the application. So it can be used immediately.

##### ***4.2. How Web Application is Used: Undergraduates Students Conception***

**Like/dislike of the web application.** Of the 186 respondents, 134 respondents (72%) liked the web application and made positive comments to support this. One of the students said, "I like using web applications because there is no need to bother installing them." Other positive responses by other students include "This is easy because it does not require a lot of memory used in smartphones." Students' positive responses believed interactivity when asked non-subject specific questions. Samples of responses said, "how to play the quiz is interesting but the pictures are still lacking". The most opinion is the illustrative kanji, like "Because it is accompanied by picture illustrations so we can remember more easily", "Because it is clearer with strokes and all kinds. Making it easier for the brain to absorb.", and "Because there are several alternative methods for memorizing kanji", "Because there is an illustrative aid that makes it easy".

One hundred thirty-two (85.2%) of respondents answered that it is easy to use this web application and 92.5% answered that this web application is interesting, one respondent answered "It's interesting and easy to use" (IR # 7); "color variation and easy on the eyes" (! R # 98).

The majority of respondents stated that the part of the kanji list feature is the most interesting part of this web application because it displays the kanji with an illustrated image and the hint. So "easy to remember" (IR # 126); "It's interesting because in addition to a picture, there is an explanation as well. Then in the quiz section there is also a story-like explanation to explain the shape of the kanji." (IR # 87).

##### **Web application as an alternative media.**

Educational uses for web applications include projects, research, and submitting homework for most participants. About 80% of students registered quizzes as their popular thing about learning kanji with the web application. All students said that they used a web app to play quizzes and view kanji mnemonics. Students like to "be interesting in the quiz section because it uses illustrations to increase understanding"; "With this learning medium we can easily find and understand various kanji"; "Can be taken anywhere"; and "looking for kanji is easy using this web application". Most of the class assignments are completed on LMS sites such as Google Classroom, UPI, SPOT. But some don't like this web application, "Because they are not familiar with how to learn mnemonic", "just like any other application I use".

Based on the results of the questionnaire, it can be concluded that the advantages of this web application are that it helps in memorizing both how to read, how to write and the meaning of the existing kanji<sup>2</sup>, the Quiz which makes us more often practice, There is a quiz to find out how kanji are formed. Which I haven't met in the applications I use lately. Besides, the disadvantages of this web application are that the mobile or smartphone versions are still less than optimal in appearance, and you should provide an option for the choice of language used so that it can be used en masse in Indonesia or any country when viewed from a smartphone, it looks a little messy, there is a picture and the writing is truncated and overlapping each other, and there is no voice feature (how to pronounce/read kanji).

**Availability of learning support facilities.** In addition to providing many benefits, it turns out that new problems arise, namely quota data, stable connections, and supporting facilities to carry out bold learning activities.

#### **5. CONCLUSION**

This research is to identify the effect given by learning kanji through a web application, both in terms of positive and negative aspects. Although web applications provide a lot of effectiveness in learning kanji in this pandemic situation, many weaknesses must be overcome to support this online learning. This research was conducted in a short time and is limited to only using the web application, not yet at the continuous use process, so that it can give

the effect of increasing kanji learning outcomes from the use of the application.

For further research, it will be focused on the use of this web application media as an alternative media for learning kanji online which can improve kanji learning outcomes and can improve students' memory skills in understanding the meaning and form of kanji characters.

## ACKNOWLEDGMENTS

The authors thank Marsheila Febriani for her help in developing this web application and Departement of Japanese Language Education Universitas Pendidikan Indonesia undergraduate students for their participation in this research. This study was supported by Kemenristek BRIN Dikti for PTUPT 2020 Grant No. 514/UN40.D/PT/2020.

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