Visual Novel Media in Enhancing Intermediate Japanese Reading Comprehension

Nuria Haristiani, Herniwati Herniwati and Aditya Muhammad Jauhar Azhar
Japanese Language Education Department,Universitas Pendidikan Indonesia, Jl. Dr. Setiabudhi No. 229, Bandung, Indonesia
nuriaharist@upi.edu

Keywords: Visual Novel, Media, Japanese Reading Comprehension.

Abstract: This study aims to create a new media for learning and improving reading comprehension using a computer software called *Ren'Py*. This media is called 'Visual Novel', a story game-like media that originated from Japan. Visual novel consists of stories, characters, audio, and other game-like features. The stories that used in this study were taken from Japan's Folk. The purpose of this research is to determine the effectiveness of the media in improving student's Japanese language reading comprehension skill, and to find out response of this media. This research used true experiment method, with Randomized Control Group Post-test-only experiment design. Sample of this research including 40 intermediate level Japanese students in Universitas Pendidikan Indonesia. Reading comprehension lesson in experiment class conducted by using visual novel media, while in control class, lesson conducted by using normal text. Post-test result showed that visual novel media were effective in enhancing student's reading comprehension skill. The result from questionnaire was also very positive. The students answer that the visual novel media is user friendly, entertaining, gave a very positive impact on motivation to learn.

1 INTRODUCTION

In an ever changing technological world, computer and technology seem to be at the forefront of education (Granito and Chernobilsky, 2012). Along with the advance of these modernization in education field, there are new various facilities and equipment that support the learning process, one of which is media (Williams and Sawyer, 2007). However, the exact impact of using technology for instruction in education is still unknown, and some questioned the role of technology in student's willingness to learn and how it affects their retention of information to them (Granito and Chernobilsky, 2012).

According to dailymail in 2015, average persons now spends more time on their phone and laptop than sleeping. The average person spends 8 hours and 41 mins on electronic devices. This means that technology device can not be separated from everyday life, including in students life in general. To answer to this phenomenon, in Japanese language learning and teaching, some lecturers and researchers tried to combine technology in developing learning medias such as image picture (Sasadhara and Sasanti, 2013), Smart Card (Primayanti et al., 2014), and Interactive Media (Haristiani et al, 2015) to improve the quality of learning and to help Japanese language learners to improve their Japanese language skill. However, these medias development are mainly for learning vocabularies or kanji characters, and there are still limited media that created for enhancing Japanese language learner's reading comprehension. Researches to improve reading comprehension conducted were such as using supplemental reading comprehension curricula (James-Burdumy et al., 2012), or using graphic novels (Sabbah et al., 2013). Despite using combined curricula and graphic novel is effective in improving reading comprehensive, these method is only can be conducted in class under teachers' guidance. Thus, providing media that can help students to improve their reading comprehension skill independently using technology is still necessary.

To answer to this problem, this study proposed to create a user friendly media using information

Haristiani, N., Herniwati, H. and Azhar, A.
Visual Novel Media in Enhancing Intermediate Japanese Reading Comprehension.
DOI: 10.5220/0007173707100715
In *Proceedings of the Tenth Conference on Applied Linguistics and the Second English Language Teaching and Technology Conference in collaboration with the First International Conference on Language, Literature, Culture, and Education (CONAPLIN and ICOLLITE 2017) - Literacy, Culture, and Technology in Language Pedagogy and Use*, pages 710-715
ISBN: 978-989-758-332-2

technology that can enhance Japanese languages learners's reading comprehension. This study also aimed to examined the effectivity of the media by conducting experiments to Japanese language learners. A quistionairre also held to find out the student's impression of the media.

2 RESEARCH METHODOLOGY

2.1 Application Development

2.1.1 *Ren'py* as *Visual Novel*'s Media Development Software

A new technology media that will be created in this study is a *Visual Novel* media. Technology in this context is often said as Information Technology (IT), which is a combination of computer technology (hardware and software) to proceed and save the information (Clemons, 1993), while Visual novel is a digital-based interactive fiction work featuring novel stories in the form of pictures (Cavallaro, 2010). Using visual novel media in teaching reading comprehension is considered more comprehensive than using normal text because in addition to text, the media is also able to display images, featuring music and sound effect, and even featuring a video. Visual novel also has other advantages as we can enter commands into it to run special features such as providing options that can change the story path. Another feature that can be used is the feature to provide various explanations in a practical and easy way. However, the most important things in creating this media is that the media should be user friendly, and must run on all devices such as smartphone and laptops. Therefore, to create this media as projected, we use a free visual novel-making software called *Ren'Py*.

Ren'Py is a free cross platform engine for digital storytelling. Using *Ren'py* makes it easy to combine words, images, and sounds to create visual novels and life simulation games. This program also can run on many platform engines including *Android* smartphone and *IOS*. *Ren'Py* are developed in Java programming language although on the making of this media we mostly used python scripting language. *Ren'Py* is an open source, which means that everyone is allowed to change and use this software. Ren'Py is cross platform for Computer and Mobile, meaning the media could be created and offered on Windows, Mac OS and Linux. *Ren'Py* is not dependent on any other software on these platforms. Therefore, there is no need for users to download runtimes, drivers, codecs, etc. *Ren'Py* runs on many devices, but have to be developed on the computer platforms. *Ren'Py*'s main menu is as seen on *Figure 1*.

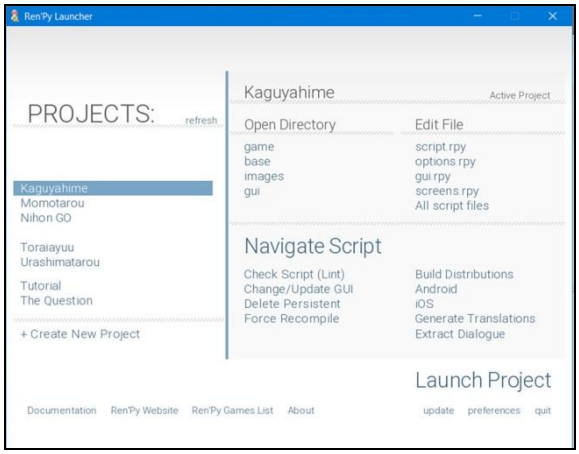

Figure 1: The display of *Ren'Py*'s Main Menu.

2.1.2 *Visual Novel* Media Development

The first things to do to develop a visual novel media is to make a new project by clicking on "+Create New Project" on the Main Menu, and follow the next instruction. After a 'Project' made, the name of the project will be shown on 'Projects Menu'.

Visual novel media created in this study includes three Japanese traditional folktales, which are *Momotarou*, *Urashimatarou* and *Kaguyahime*. Developing the story for the media conducted in three months, since the story has to be made in Japanese and needed a thorough checking by Japanese native speaker. The reason why *Momotarou*, *Urashimatarou* and *Kaguyahime* stories were selected for this research is because these stories considered suitable as reading materials for intermediate level JLL. Furthermore, these stories do not use difficult words, easy to understand and interesting to read.

After developing the stories for the media, the next thing to do was to make characters for each story. The characters of these stories all came from Japanese folktales, so there are no real pictures. But since the folktales are popular, there are many pictures of characters which can be used as reference to draw the characters for media in this study. The image of main characters created for each story that will be used in this study is as shown in *figure 2*. *Figure 2* shows only the main characters of each story, which are *Momotarou*, *Urashimatarou*, and

Kaguyahime. The names of the main characters are the same with each story they represents. There are many other characters used in the stories besides characters in *figure 2*.

Figure 2: The character image of visual novel stories, which are *Momotarou* (a), *Urashimatarou* (b), and *Kaguyahime* (c).

After the image of all characters including main characters is made, the next thing to do is gathering all contents such as background, back sound and music to complete the media. After all of the contents are ready, everything was inputted into a script so it can be opened in the media. The coding process in inputting the script is as shown on *figure 3*. After all of the steps are completed, the next thing to do is to input all of the menu on *Ren'Py*, so the media will be ready to use on many platforms.

Figure 3: Coding process of inputting the script for visual novel media.

2.2 *Visual Novel* Media Experiments

2.2.1 Experiment Method

To find out the effectiveness of Visual Novel media, some experiments had been conducted. The experiment method used in this study is *true experimental method*, control group and experiment group post-test design, and questionnaires. Post-test design is generally used to measure the change from experimental treatments in order to assess its impact (Dimitrov and Rumrill, 2003). Post-test test is performed after the researcher provides treatment for each group, and consists of 20 questions for each story. Meanwhile, questionnaire is given only to experiments group after they used visual novel media, which consists of 10 questions.

2.2.2 Subjects and Material

The sample of this experiment was the intermediate level Japanese students in Universitas Pendidikan Indonesia, which includes 20 students for the experimental group and 20 students for the control group.

The material of this study is Japanese traditional folktales which are *Momotarou*, *Urashimatarou* and *Kaguyahime* stories which presented using visual novel media for the experiment group, and normal text on the control group.

3 RESULTS AND DISCUSSION

3.1 *Visual Novel* Media

Visual novel is a very-easy-to-play game like media. Basically, it is a story with some pictures and additional effects such as sound or even videos. This media is user friendly and can be played on PC and smartphones, either IOS or Android. The icon of each story also made in this media to represents what the story is about. These icons are 'Peach' for *Momotarou*, 'Turtle shell' for *Urashimatarou*, and 'Moon' for *Kaguyahime* (see *figure 4*).

Figure 4: The icon image for each story.

In the main menu, there are various menus as shown in *figure 5*. 'Start' menu is used to start the story from the beginning, 'Load' is to continue the story from the saved save point, 'Preferences' is to set the settings or option, 'About' is to find information about the game, 'Help' is to see the play

instruction, and 'Quit' is used to exit the application. The display of the 'Preferences' menu is as seen on *figure 6.*

Figure 5: 'Main Menu' display of *Momotarou* story.

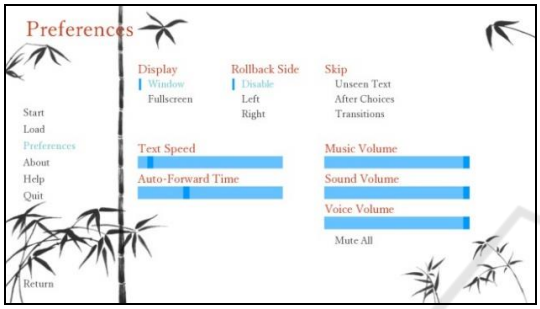

Figure 6: 'Preferences' menu display.

In the 'Preferences' menu there are various settings such as screen size, text settings and also volume settings as seen on *figure 6.*

Figure 7: Text of the story's display.

After user pressed the 'Start' button, the story will appear gradually at the bottom display, and the character image will pop at the top of the display. If it is played on a computer, there also will be a character displayed on the bottom left of the screen. Unfortunately, this feature cannot be viewed on a smartphone. Meanwhile, at bottom right of the screen there are menu containing 'History' to view text that has been read before (see *figure 8*), and 'Auto' to run automatic mode, so the text will run by itself according to our settings. 'Save' and 'Quick Save' is also available to save the wanted reading section (see *figure 9*), while 'Quick Load' is to load the game faster from menu. Lastly, 'Prefs' is used for open the 'Preferences' menu (see *figure 10*).

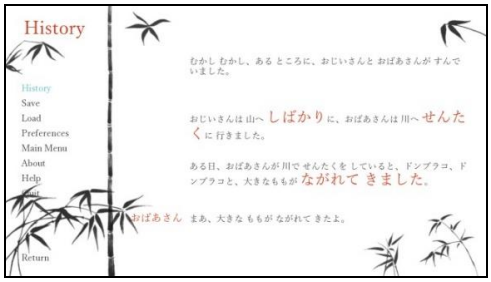

Figure 8: 'History' menu display.

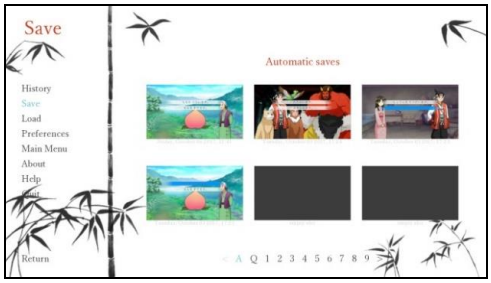

Figure 9: 'Save' menu display.

One feature that will be used by user the most in this media, is the 'Explanation' feature. Throughout the story there will be red text. Inside the story user will find some red texts. The red texts are difficult words that considered too difficult for intermediate level learners. When the user pressed the red text, the translation of the words will appear at the top left of the screen in Indonesian language. This feature designed to assist the students to find out the meaning of difficult words or new Japanese vocabularies used in the stories.

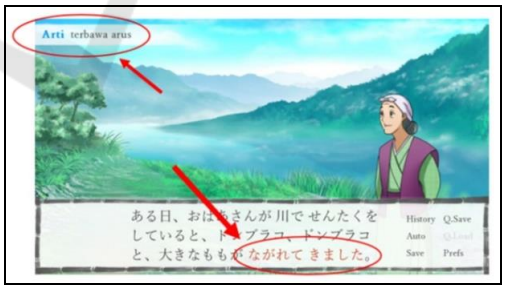

Figure 10: 'Explanation' feature containing Indonesian translation of difficult words or new vocabularies.

Above are the tutorials to use this visual novel media. Basically, this media is very user friendly, since the user only need to click on the screen to read the stories, and selecting a menu when necessary. Moreover, this media also fun to use, since it has sounds and interesting characters.

3.2 The Effectiveness of *Visual Novel* Media to Enhance Reading Comprehension Skill

To prove effectiveness of *Visual Novel* media created in this study, some experiments including post-test and questionnaires were conducted. In this section, the results from both post experiments test (post-test) and questionnaires will be explained. Post-test data are including results from experiment group and control group. The overall result from post-test is as shown on *table 1*.

Table 1: Post-test results from Experiment Class and Control Class

Object No.	Experiment Class (score)	Control Class (score)
N1	92.38	90.48
N2	90.48	87.62
N3	89.52	87.62
N4	88.57	84.76
N5	88.57	80
N6	86.67	78.1
N7	86.67	76.19
N8	84.76	73.33
N9	84.76	71.43
N10	83.81	71.43
N11	83.81	69.52
N12	82.86	65.71
N13	82.86	64.76
N14	81.9	58.57
N15	80.95	58.1
N16	79.05	55.71
N17	78.1	54.29
N18	74.29	53.33
N19	70	52.86
N20	66.67	51.43
Σ	**1659**	**1385**
M	**83**	**69**

Table 1 shows result scores from each respondent, and the scores total and its average is shown on the bottom of the table. From the total score and average, it is seen that Experiment group have a higher average score than control group. Highest scores from both group showed only slight difference, while lower scores showed much more on the control group.

Table 2: Scoring Standard for Post-test

Scores	Information
86-100	Very Good
76-86	Good
66-75	Enough
56-65	Not Enough
46-55	Highly Not Enough
36-45	Fail

Scoring standard used in this experiment is as shown in *table 2*. By referring both *table 1* and *table 2*, we can see that the average score for Experiment group is 83, which can be classified into 'Good'. 80 % students from Experiments group student passed the test with scores above 80, which means passed with 'Good' standard. Meanwhile, average score from Control group are lower, and only 30% students passed the test with score above 80 and classified into 'Good' standard. Based on these results, it can be concluded that using visual novel media improved student's reading comprehension.

Furthermore, questionnaire about *Visual Novel* media also had been conducted to all students from experiment group. The result from questionnaires overall were very positive, and the most interesting findings from the answers were selected as seen on *table 3*.

Table 3: The Results of Questionnaire

Question	Answer
Visual novel media is easy to use for learning reading comprehension.	Highly Agree 22,5 % Agree 75 % Less Agree 2,5 %
Learning using visual novel media increase motivation in learning.	Highly Agree 35 % Agree 60 % Less Agree 5 %
I want reading comprehension learning using visual novel media more often.	Highly Agree 47,5 % Agree 47,5 % Less Agree 5 %

Table 3 shows that results from questionnaires were very positive. Almost every student chooses 'Agree' and 'Highly agree' for using visual novel. Moreover, 97.5% students answered that visual novel media is easy to use for learning reading comprehension. Also, 95% students agreed that using visual novel media can increase their motivation in learning. Motivation is a fundamental concern among teachers, and motivating students is a continual problem throughout education (Linnenbrink and Pintrich, 2003). Furthermore, constructing meaning during reading is not only a cognitive endeavour but also a motivated act, and motivation is the key of students' reading success (Guthrie and Wigfield 1999; Taboada and Buehl, 2012). In order to motivate, teachers must encourage and challenge their students (Sanacore, 2008). From questionnaire result, using *Visual Novel* media considered succeeded in challenging and improving students' motivation to learn reading comprehension. Lastly, 95% students also agreed that they want to study reading comprehension using visual novel

media more often. Based on these results, it can be concluded that visual novel media have a positive effect in increasing student's motivation in learning reading comprehension, and almost all students want to use it more often.

4 CONCLUSIONS

This study aimed to create a *Visual Novel* media to enhance intermediate level Japanese Language Learner's reading comprehension skill. The media successfully developed by using *Ren'Py* software to make it user friendly and can be used in any platforms. The stories included in the media are well known Japanese traditional folktales which are *Momotarou*, *Urashimatarou* and *Kaguyahime*. The media also consists of many user friendly features including Indonesian translation for difficult words or new vocabularies. Experiment and questionnaires also conducted in this study to prove the effectiveness of created *Visual Novel* media, and to examine student's impression of the media. The results from experiment showed that the students in Experiment group that used *Visual Novel* media get better scores than students that did not used *Visual Novel* media. Furthermore, questionnaires results showed that the student's response in the using of *Visual Novel* media is very positive overall. The students answered that *Visual Novel* media user friendly, entertaining, effective and improve their reading comprehension skill.

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