

Development of a Support System for Japanese Extensive Reading: Supporting learners' autonomous learning outside the classroom

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Abstract—This paper reports on the investigation of a support system for Japanese extensive reading. This system was developed for Japanese learners outside the classroom to learn Japanese through e-learning by reading digital books with autonomy. From the results of the questionnaire and the amount of reading by participants, it was found that video clips and a comment board are useful functions for self-study. Additionally, the findings suggest that, unless there are no discussions among learners, reading communities are useful in that learners are made aware of other learners' presence.

Keywords—online library; Japanese graded readers; reading community.

I. INTRODUCTION

Extensive reading (ER) is part of an approach for teaching English to speakers of other languages to build vocabulary and develop reading comprehension [1] [2] [3]. The development of graded readers (GRs) has a long history, and a large number of GRs have been published. Extensive reading has not been a common approach in education programs because it is time consuming and qualitatively different compared with existing reading courses that are typically offered; however, through the development of a module that can hold students accountable for their reading [4], ER outside the classroom has been made possible.

There has been a gradual increase in the number of Japanese GRs, and digital books of Japanese GRs have been prepared. Considering that most learners of foreign languages are studying outside the countries where the target language is used, an online library of GRs is useful for providing learning materials. Online systems have the most benefit for learners who learn autonomously outside the classroom. Currently, there is no system of Japanese ER which is available to independent learners outside the classroom. This study designs and develops a support system for Japanese ER on the basis that an online GR library is appropriate for autonomous learning [5], where learners select their reason or way of learning.

It is recognized that, despite limitations, Video-Based Learning represents an effective learning method that replace teacher-led learning approaches [6]. In this study, video clips and a comment board were used in the self-ER support system as a preliminary study. Based on the results of a post-questionnaire and the amount of reading, the usefulness of the self-ER support system is discussed. Moreover, this study

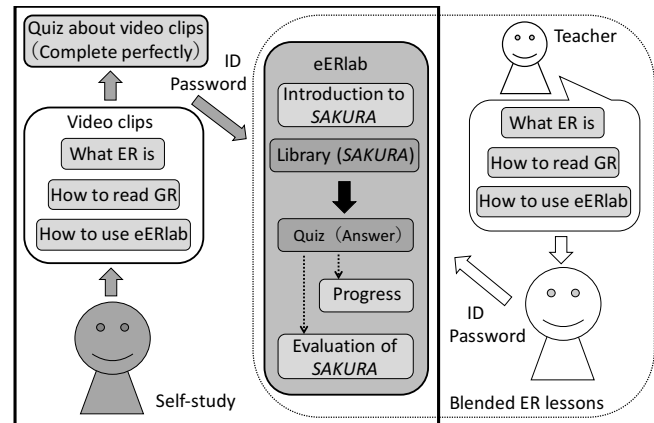


Figure 1. Schematic of a Support System for ER

discusses the potential of post-reading activities for learners who study independently through a reading community on Facebook (FB), where learners discuss books with each other.

This paper aimed to address the following questions:

- (1) Can the video clips replace teachers?
- (2) As an indicator of the presence of other learners, is a comment board useful for encouraging reading?
- (3) Is an ER FB group that discusses books useful for encouraging reading?

In section II, we will discuss the design of this system. Then, in section III, we will look at the methodology of this study. In section IV, we will examine how useful this system was based on the results of a post questionnaire and amount of reading. In section V, we will conclude this study.

II. A SUPPORT SYSTEM FOR AUTONOMOUS LEARNING

Fig. 1 shows a schematic of the support system for ER, which has two purposes and functions. First, the system supports blended ER lessons (blended-ER support system), which are designed for teachers who provide such lessons. Second, it is a support system for learners who study by themselves (self-ER support system). This system was designed to facilitate learning outside the classroom, and provides an online library of Japanese GRs such that learners can select their method and reason for learning. The common functions between the two systems are libraries and quizzes.

In the blended-ER support system, the teacher explains ER, how to read GRs, and how to use the eERlab. The teacher can also provide post-reading activities, such as initiating

discussions about the readings. A blended ER lesson using the blended-ER support system was implemented, and the availability of the system was confirmed [7][8][9].

In contrast, the self-ER support system was designed for learners who learn independently through the system, without teachers. In this system, video clips are used in place of the teacher's explanation so that learners can learn the same lessons as those in the blended-ER support system. Additionally, a comment board, on which learners write their impressions about books, was added to the eERlab to ensure that learners were aware of the presence of other learners. It is expected that knowing other learners' progress would promote reading among learners visiting the comment board [10].

III. METHODS

First, I will introduce the participants and then, explain the methodology of the study. Lastly, I will show the post questionnaire.

A. Participants

Ten international students (5 Chinese, 5 Korean) at a Japanese language school participated in this study. To understand participants' needs and abilities, the Simple Performance-Oriented Test (SPOT), a vocabulary assessment, and pre-questionnaire were administered. SPOT was used to assess grammar [11]. A Japanese language proficiency test was used to assess vocabulary.

The pre-questionnaire asked about the length of time spent learning Japanese, whether the respondent has devices for reading digital books, whether he or she uses social networking services (SNS), and whether he or she would join the ER FB group. The participants' average period of learning Japanese was 1 year and 8 months, with the shortest being 4 months, and the longest 3 years and 3 months. The results of the pre-questionnaire indicate that all the participants had devices for reading digital books and used SNS. Five (4 Chinese, 1 Korean) of 10 participants reported that they would join the ER FB group. Those 5 participants were asked about the kind of SNS used, device used, frequency of use per week, with whom they communicated and the language used. Four of the 5 participants used FB. Four of the 5 participants used smartphones to access SNS. Four participants used SNS every day and the other participant used SNS 2–3 days per week. Participants used SNS mostly with "friends in their country", followed by "family" and "friends in Japan". That is, participants mainly used SNS to communicate with others living in their home countries and used their first language. Four participants used both their first language and Japanese, and 1 participant used only their first language.

B. e-Extensive Reading Lab

Fig. 2 shows a schematic of the self-ER support system. "Video clips" are used to teach "what ER is," "how to read GR" and "how to use eERlab". The time required to watch each video clip is 3, 2, and 5 min, respectively. "The quiz about the video clips" was prepared for participants to check their understandings of the video clips.

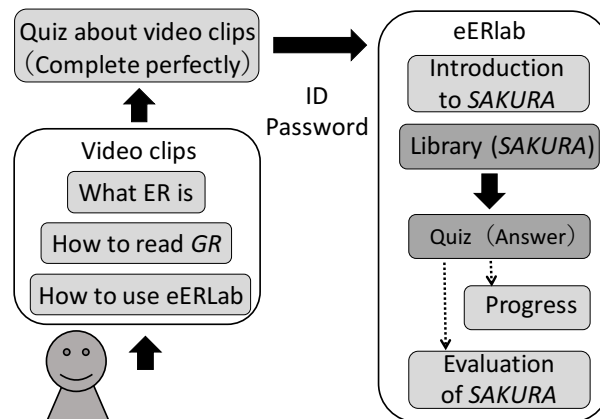


Figure 2. Schematic of a Self-ER Support System

The "Library" contains *SAKURA* which is a small collection of Japanese GRs divided into eight levels from A, beginner to H, higher middle level [12]. "Introduction to *SAKURA*" provides information on each title, such as a brief introduction, number of letters, and vocabulary level.

On the "Quiz" page, participants were required to answer some questions about the book that they had read. Participants were asked five questions with four choices each to gauge their reading comprehension. Additionally, participants were required to complete a questionnaire. Therein, they evaluated the length, difficulty, and contents of the reading, and were asked to report the hours spent reading and the frequency of dictionary usage using a five-point Likert scale. The final part of the "Quiz" page featured a comment board, on which participants could write their impressions about a given story. The data on the amount of reading were displayed in the "Progress" page, and the answers to the questionnaire and the participants' comments were displayed on the "Evaluation of *SAKURA*" page, along with the participants' IDs.

The procedures were as follows:

(1) The participants watch the video clips. After they complete the quiz section about the video clips perfectly, they log into eERlab using their user IDs and passwords. Nicknames are used as IDs.

(2) Participants read books from the library on their devices. Participants are required to read from the lower level of *SAKURA*. eERlab was used for 3 weeks.

(3) Participants answer questions about the story that they read, and complete a questionnaire to evaluate the book. They are then asked to enter their comment about the story.

C. ER Discussion Group on Facebook

The experimenter created a private group on FB and invited participants who opted to join the ER FB group on the pre-questionnaire. The members of the ER FB group were not classmates. Participants used their real names on FB.

(1) The experimenter writes questions about each title on FB.

(2) After completing the relevant reading, participants in the ER FB group are required to post their answers to the questions on the FB group wall.

(3) Participants of ER FB group are also required to comment on other participants' answers and comments.

D. Post-Questionnaire

In the post-questionnaire, participants were asked:

(1) How much did you understand the explanations of the video clips? What are the strengths of the video clips and what needs to be improved? How many times did you take the quiz about the video clips until you achieved a perfect score?

(2) How do you rate eERlab and the difficulty of the quizzes?

(3) Please give your reason if you did not write a comment on the comment board.

(4) Please state why you did or did not find the "Progress" and "evaluation on eERlab" sites useful.

(5) Please evaluate the ER FB group. What are the strengths of the ER FB group and what points need to be improved? Please state the reason if you did not write a comment on the ER FB group page.

(6) Please give your reason if you did not comment on other participants' posts on FB.

Questions (5) and (6) were intended only for members of the ER FB group.

IV. RESULTS AND DISCUSSION

First, we discuss the functions of the self-ER support system. Then, we examine the effect of the ER FB group. Lastly, we discuss the usability and effect of this system on users' Japanese proficiency.

A. Availability of the Video Clips

To the question, how much did you understand the explanations of the video clips, 80% of participants answered "understood very well". Among the strengths of the video clips, participants reported that the activities were: "easy because [they] just imitated the video clip," "explained plainly;" and that "the speed of speaking was appropriate." The points needing improvement were: "the speaking volume was low" and "the explanation was long." The average number of times needed to complete the quiz about the video clips to achieve a perfect score was 1.2 times. This result shows that the video clips could replace teachers' explanations.

B. Availability of a Comment Board

Four of the 10 participants in this study posted their impressions of the readings to the comment board. Participants who did not post their comments gave the following reasons: "I am not good at writing," "I did not have anything to post," "I did not have time to write comment," "I did not notice the space for posting comments on the site," and "it was troublesome." However, regarding the function of displaying their comments on the comment board, 80% of participants reported that they found this useful. For the reason, six participants answered, "I thought it would be interesting to read other participants' comments," and two participants answered, "I thought that I should do the reading when I saw that other participants had already done so." Participants who

answered that "it [the comment board] was not useful" gave the following reasons: "I was not affected by other participants' opinions" and "it was stressful."

It is predicted that participants who had not yet completed the reading were motivated to read by observing other participants' progress. A reading community outside the classroom in which learners can know that other learners are also reading may be effective in motivating learners who have not yet read the book to begin reading.

C. Effect of ER Facebook Group

Three participants (2 Chinese, 1 Korean) in the ER FB group posted their responses to the discussion questions, which the experimenter had posted on FB. However, there was no discussion because the participants did not comment on one another's posts. Although all FB comments were marked "seen by everyone," no participants used FB's "Like" function on their peers' comments.

In the post-questionnaire, participants who posted comments on FB answered that the comment function "allows participants to exchange ideas" as a positive point of having an ER FB group. For points needing improvement, they answered, "Using FB for discussion was good, but it was not useful in this experiment. The rules for commenting should be less rigid.;" and "The more members, the better the discussion.;" In addition, participants stated that "the effect of [having a] FB group depends on whether each member is active or not."

A participant who did not write a comment on FB, but wrote comments on the comment board stated the following in an interview, "I could write on the comment board, but I could not write on FB. I could not [express] my real feelings in Japanese." Another participant who did not write on the comment board or on FB selected "interesting" in post-questionnaire question about the ER FB group, giving the reason, "I was able to learn the other participants' opinions."

Although there was no discussion, participants' impressions about the ER FB group were positive.

D. Effect of Other Learners' Presence on ER

Table I shows the effect of the ER FB group on the posted comments. "Vocabulary" and "grammar" show average scores. "Amount of reading" shows the average number of titles that participants had read. "Quiz" shows the average rate of correct answers to the questions about each story. "Comment" and "FB" show the number of participants who posted their comments on the comment board and on FB, respectively. There was no significant difference in Japanese proficiency between the participants who joined the group and those who did not. In addition, the difference in quiz scores was not large. However, "Amount of reading" among those who joined the group was almost double that of those who did not. Furthermore, the rate of participants who posted their comments on the comment board among those who joined the group was higher than that of those who did not. Three of the four participants who posted their comments on the comment board had joined the group.

Table II shows the relationship between the amount of reading and comment posting. Participants are divided into upper or lower groups depending on the amount read. The five

TABLE I. EFFECT OF ER FB GROUP PARTICIPATION ON POSTED COMMENTS

ER FB group	Vocab	gram mar	Quiz	Amount of reading	Comment board	FB
Joined	77	83	90	7.8	3	3
Did not	83	80	85	4.0	1	

TABLE II. COMMENT POSTING AND AMOUNT OF READING

	Amount of reading	Comment board	ER FB group
Upper	10.4	4 / 4	3 / 3
Lower	1.4	0 / 4	0 / 3

TABLE III. JAPANESE PROFICIENCY AND ER

		Vocab	Grammar	Amount of reading	Quiz
Vocab	Upper	89	85	5.2	96
	Lower	71	77	6.6	79
Grammar	Upper	84	90	5.6	85
	Lower	76	73	6.2	90

participants in the upper group read 10.4 books on average, and the five participants in the lower group read 1.4 books on average. All the participants who posted their comments on the comment board and the ER FB group wall belonged to the upper group. This result suggests that the presence of a reading community encourages participants to read books.

The amount of reading among members of the ER FB group was higher than that among those nonmembers. Although there was no discussion, participants were made aware of the other learners' presence. However, it was suggested that membership in the ER FB group is an important indicator of participation in FB discussions. The effect of ER FB group membership on FB commenting and the effect of the comment board of the self-ER support system were almost the same in that they encouraged learners to read by making them aware of the other learners' presence. These results indicate that an ER FB group is not necessary, but that a comment board is useful in the self-ER support system.

E. Japanese Proficiency and ER

Table III shows the relationship between participants' Japanese proficiency and ER. As for the amount of reading, the lower groups in both vocabulary and grammar read more on average than upper groups. According to the logs of the self-ER support system, the time required to read in the upper group was shorter than that in the lower group. However, the results show that participants in the upper group who could read faster than those in the lower group did not always read more than those in lower group. Two of the three participants who read more than 13 books belonged to the lower groups of both vocabulary and grammar. However, three participants who read only one book belonged to the upper groups of vocabulary or grammar. In the post-questionnaire, these participants stated, "if I was given something that was appropriate to my level, I would have read;" "I did not know my level when I started;" "it was boring because there were same words appeared too many times in the texts." According to these results, implementing a vocabulary level test that

judges the appropriate level of *SAKURA* for learners to start reading is necessary.

V. CONCLUSION

To develop an environment where independent learners outside the classroom can learn autonomously, we confirmed the usefulness of video clips and a comment board as functions of the self-ER support system. We also found that a comment board and FB group were effective in making independent learners aware of the presence of other learners.

Further work is needed to improve the current system and to develop an environment where learners can learn through Japanese GRs independently.

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