Researching Extensive Reading and an Online Library

Mitsue Allen-Tamai, Jeffrey Bruce, Juergen Bulach*, Sebastian Brooke**, Brenda Butler, Joseph Dias, and Gregory Strong

Aoyama Gakuin University, *Jissen Women's University, **Kogakuin University

This action research project evaluated an integrated skills approach to ER through in-class reading and discussion and utilizing an online library of graded readers. In addition to class time consisting of 15 minutes of silent reading, then 15 minutes for book talks, students were assigned reading for homework. Eighty-two sophomore students in five classes who accessed the library over a 12-week period were compared to 104 students in six classes serving as a control. Pretest and posttest measures indicated a statistically significant difference in vocabulary growth for the experimental group. An end-of-term survey indicated student preference for paperbacks over digital books, but nearly half found it easier to find books in the digital library than in a physical one. In addition, 59% felt that the digital library improved their English skills. After making classroom observations and creating summaries, teachers expressed optimism for this approach to ER.

The value of extensive reading (ER) for English language learners is well documented in improving students' reading comprehension and reading speed (Beglar & Hunt, 2014), vocabulary and spelling (Pigada & Schmitt, 2006), motivation to read (Judge, 2011), and their writing readiness (Hafiz & Tudor, 1989; Park, 2016). However, in introducing ER into existing university curricula, educators face numerous challenges. These include competing curricular demands, accessing suitable materials, and monitoring student progress. Furthermore, Beglar, Hunt, and Kite (2012) found that over a year, students needed to read at least 200,000 words in order to realize gains in reading speed and comprehension. That threshold bears out the principle in ER of "time-on-task" (Nation, 2007) in which "the more time you spend doing something, the better you are likely to be at doing it" (p. 1).

The action research project described here evaluated an integrated skills approach to ER in which students used their mobile devices to access an online library, available through a commercial website, Xreading Virtual Library (https://xreading.com/). This website provides an online library of graded readers and a learner management system (LMS) that records student time on task, student reading rates, cumulative reading totals, and reading comprehension scores. In our case, the use of the online library was integrated into class time through 15 minutes of silent reading with students accessing the website (primarily by smartphones), followed by another 15 minutes for book talks in pairs or small groups. This approach is one suggested by

the Extensive Reading Foundation (2011). In addition, in terms of using computer-based tools in the classroom, Warshauer and Kern (2000) note the best results are obtained when these are integrated into classroom assessment instead of as stand-alone, extracurricular self-access tasks.

A semester goal of reading 80,000 words was established as part of each student's grade for the course, thus encouraging students to access the online library outside of class time. A second, aligned goal of this project was to increase student autonomy in terms of their own language learning outside of the classroom, which Cotterall (2000) describes as "an essential goal of all learning" (p. 109). Because students choose their own books, this approach also offers potential for greater student motivation according to Dörnyei and Ushioda (2009).

The subjects in the project were English majors in the first semester of their sopho-more year, taking the final level of a com-pulsory combined skills course of speaking, writing, listening, and reading. In a quasi-experimental design, five intact classes that received the integrated skills treatment over twelve weeks were compared to a control group of six classes. In the experimental classes, 93% of the students possessed iOS smartphones, while approximately 5% had Android smartphones.

Both groups met each week for their sched-uled classes, two consecutive 90-minute periods. The two groups followed the same course syllabus, participating in such tasks as learning how to contribute to a small group discussion, writing a journal, making a presentation, and reading two books and writing reports on them. However, students in the experimental group spent less time on these tasks because 30 minutes of their

class time was used for the integrated skills approach to extensive reading described earlier. These students also read outside of class time.

Test Measures

The test measures consisted of online pretest and posttest versions of a Vocabu-lary Levels Test (Productive), which was developed by Laufer and Nation and adapted for the web (Cobb, n.d.). Students filled in the missing words for 18 sentences using their smartphones accessed at an online site. To control for differences in test difficulty, half of the classes were randomly assigned version A for their pretest and version B for their posttest; in other classes, this order was reversed.

A second measure utilized a reading speed and comprehension test for the pretest and a second test for the posttest, both forms drawn from Quinn, Nation, and Millett (2007). Each test was comprised of ten ques-tions. As with the vocabulary test, there was an A and B version and these were randomly assigned.

Also, at the end of the semester, teachers had their students fill out an online Sur-veyMonkey questionnaire on their atti-tudes towards using the online library. The survey adapted questions used by Millner and Cote (2014) in their survey of univer-sity student attitudes to an earlier version of the same commercial website used in this project.

A final measure came from the weekly observations made by four teachers—from five of the classes in the experimental group—about their students' progress. The teachers were encouraged to reflect on their experiences through responding to a series of questions:

i) What are the chief obstacles to student use of Xreading?

ii) What overview would you make of Xreading?

iii) How are you trying to encourage more competition between students to get them to read more?

iv) What other inducements to engage with Xreading might work?

v) What comments do you have about Xreading software?

Results

Pretests & posttests

The data from the pretests and posttests was analyzed using IBM SPSS Statistics 19 (2010). An ANCOVA was chosen to compare the control and treatment groups on the vocabulary and reading speed measures because of the range of student scores on the pretests. In using ANCOVA, the pretest measure was not an outcome, but a covariate. This approach assesses the differences in the posttest means of the two groups after accounting for their pretest values. The analysis shows a significant statistical effect on vocabulary growth for the experimental group after controlling for the pretest values, $F(1, 174) = 11.09$, $p < .05$ (See Table 1).

As for the reading speed measure, after controlling for differences in pretest values, there was no significant effect of the integrated ER approach on the experimental group, $F(1,174) = .03$, $p = .852$ (see Table 3). The mean values are expressed in seconds and therefore on the posttest, both the control and the experimental groups read a little faster (see Table 2).

Table 1: Vocabulary Growth

	Control			*Treatment*		
Tests	Number	Mean	sd	Number	Mean	sd
Vocabulary (pre)	105	60.70	19.91	82	58.60	16.94
Vocabulary (post)	99	58.89	15.80	83	64.66	16.70

Table 2: Reading Speed

	Control			*Treatment*		
Tests	Number	Mean	sd	Number	Mean	sd
Speed (pre)	105	172.46	45.23	81	185.25	40.70
Speed (post)	98	165.26	47.09	83	172.65	47.34

Table 3: Reading Comprehension

	Control			*Treatment*		
Tests	Number	Mean	sd	Number	Mean	sd
Comprehension (pre)	103	8.01	1.58	84	8.51	1.05
Comprehension (post)	100	8.17	1.23	83	8.00	1.28

In the analysis of students' reading comprehension scores, the data did not meet the requirements of homogeneity. Therefore, for this analysis, the gained score was used as the dependent variable and a one-way ANOVA was conducted instead of ANCOVA. A significant difference was found between the control and experimental groups. The experimental group dropped its score, and the control group showed gains. The control group has a statistically significant gain in reading comprehension $F(1,166.69) = 8.74$, $p < .05$ (See Table 3).

Surveys

Compared to the pretests and posttests, a slightly smaller number of students ($n = 74$) took the survey. The survey results indicate that in the experimental classes, the majority of the students, 54%, preferred the traditional paper versions of graded readers to digital versions. In contrast, only 28% preferred to access the readers through their phones, while access via tablet at 13.5% and PC access at 4% were far less popular (See Table 4).

Additional questions on the survey, items 1-9, asked about students' likes and dislikes about Xreading using a five-point Likert scale (strongly agree, agree, neither agree nor disagree, disagree, and strongly disagree; See Appendix 1). Overall, the student survey showed positive results for the use of Xreading. For Question 1, which inquired about whether they liked using Xreading to read books, only slightly more than a third strongly agreed or agreed (4.05% and 29.73% respectively), with almost as many students neither agreeing nor disagreeing (29.73%), while 27.03% disagreed and 9.46% strongly disagreed with the statement. Question 2 indicated that most students strongly agreed or agreed that they liked reading in Japanese (24.32% and 48.62% respectively), with 13.51% neither agreeing nor disagreeing, 27.03% disagreeing and only 1.35% strongly disagreeing.

Only a minority of students had unreservedly positive attitudes toward using Xreading. For Question 3, 5.41% strongly agreed and 36.49% agreed that Xreading made it easier to read in English, while 33.78% of students neither agreed or disagreed, only 18.92 % disagreed, and 5.41% strongly disagreed. Question 4, that before using Xreading the students liked reading, drew only 2.75% who agreed strongly, 34.25% who agreed; 50.68% neither agreed nor disagreed, and 12.33% disagreed. For Question 5, that Xreading helped them find books that they wanted to read, 9.46% of students strongly agreed, 40.54% agreed, 20.27% neither agreed nor disagreed, and 21.62% disagreed and 8.11% strongly disagreed. Question 6, that because of Xreading students wanted to read more, showed that none of the students strongly agreed, 36.49% agreed, 35.14% neither agreed nor

Table 4: Students' Preferred Media for Accessing Readers

Method of access	Percentages	Students
by using an actual (paper) book	54.05%	40
by using a smartphone	28.38%	21
on a tablet (such as an iPad)	13.51%	10
on a PC	4.05%	3

disagreed, 24.32% disagreed, and 4.05% strongly disagreed. Results were similarly divided for Question 7, that it is easy to read a book using Xreading, with 8.11% strongly agreeing, 37.84% agreeing, 27.03% neither agreeing nor disagreeing, 21.62% disagreeing, and 5.41% strongly disagreeing. As will be explained later, the fact that students were required to complete a book report using an extensive reader—and the practical difficulties which were posed by doing this using books on Xreading—may have colored students' appraisal of how easy it was to read a book on Xreading and how much they felt Xreading motivated them to read more in English (Figure 1).
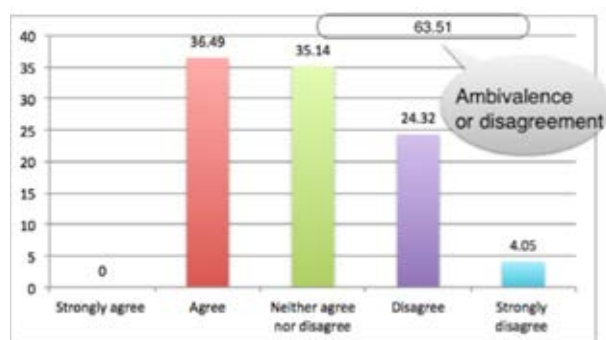

Figure 1: Because of Xreading, I want to read English more.

In other respects, students were positive about the use of Xreading. A larger number of students felt that it was helping them to improve their English, with 4.05% strongly agreeing, 55.41% agreeing, 31.08% neither agreeing nor disagreeing, 5.41% disagreeing, and 4.05% strongly disagreeing. However, a large number disagreed with the statement that it was easy to do a book report using Xreading. No one strongly agreed and only 9.59% agreed, while 13.7% neither agreed nor disagreed, 34.25% disagreed and 42.47% strongly disagreed.

One alarming survey finding was the amount of time students were spending on their smartphones. As shown in Figure 2, approximately 36% of the students were

using their devices for more than 4 hours daily, while around 34% used them for 3 to 4 hours. As the survey was administered at the end of the semester, no doubt students' use of Xreading played a significant role in this large amount of mobile screen time. However, pedagogical decisions that appreciably add to student screen time must be considered carefully. Kuznekoff and Titsworth (2013) found adverse effects of cell phone use on university students' concentration and Acharya, Acharya, and Waghrey (2013) noted that university students in their study experienced anxiety, irritation, and insomnia, as well as headaches and eye strain.
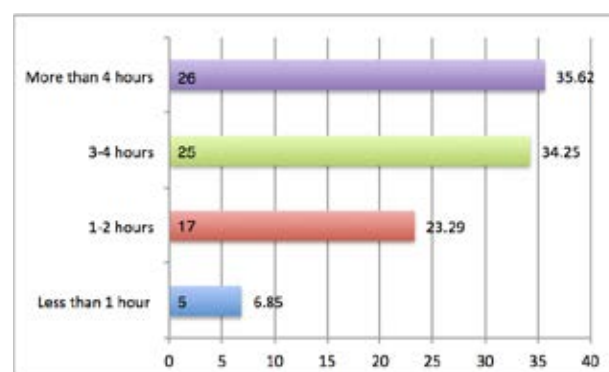

Figure 2: Time Using Smartphones Each Day.

An additional part of the survey consisted of an open-ended question asking students what they liked and disliked about Xreading. Student responses indicated they liked finding out how many words and books they had read. They were able to use their time more efficiently as they could read on their train commute. They found that Xreading was cheaper than purchasing books and that they no longer had to go to the library to sign out books. Their negative comments included the need to have a wifi connection to access the virtual library, the occasional difficulty they experienced reading so much text on a small screen, and that there were not enough books at higher levels of difficulty. Affordances that paperbacks offer, such as the ability to easily

mark important passages of books, were missed by some. They also found that it was hard for them to do book reports using a digital book where they could not move back easily to pages that they had already read.

Teacher Observations

The four teachers used their weekly classroom observation reports and their access to student reading data to prepare summaries for this paper. In responding to the reflective questions described earlier, they identified advantages to using a virtual library in their classes along with some obstacles observed in introducing the program.

The need for better familiarization with Xreading

The teachers concurred that more time should have been spent at the beginning of the semester on familiarizing teachers and students with the functions offered by the virtual library. They also noted that initially students had trouble purchasing the access keys to the program and needed help in choosing books. A few system timeouts occurred and students could not always access the virtual library on public transportation. Some students, erroneously, complained that using the Xreading virtual library put too many demands on the limited data plans for their smartphones when actually the demands were very small.

Benefits of Xreading

Overall, the four teachers were positive about using the virtual library and optimistic about its further potential in their classrooms. They frequently displayed data from its LMS to their students to encourage them to catch up to each other, and to do more reading. The same LMS also identified

stronger and weaker readers in a class and the teacher could conference with them. One teacher, a co-writer of this article, noted that access to the students' reading speeds, and the number of words and books that they had read, gave him *"a very clear picture of how the class was progressing, who was succeeding and who was being left behind."* In addition, he observed that his students' discussions of books were *"healthy and lively,"* and that *"they were giving opinions and recommendations"* of books to each other.

Another teacher, also a co-writer, was impressed with the virtual library's convenience for students: *"They never forgot their phones which meant they could easily access their books."* This same teacher also agreed with the first teacher that *"students were much more engaged in talking about their books than students had been in the past with conventional books."* He also appreciated that he no longer had to rely on his students telling him about their progress in reading a book. He could view this data, which he used to assist him in *"one-to-one advice sessions with particular students"* and this helped him to better advise and motivate them in their studies.

Limitations of the program

A third teacher, another co-writer who taught two classes, focused on his students' relative positions to one another in terms of the total number of words that they had read and the number of books. He found that his best, moderate, and weak students all maintained their relative positions while using the virtual library. He also identified a shortcoming of the system in the quizzes that students take at the end of reading a book. These quizzes which were set at a pass rate of 80% determined whether or not a student got credit for reading a book and for the number of words in the book. Some books in the virtual library consisted

of graded readers based on famous stories such as *Romeo and Juliet*. He suggested that some students flipped through the text on their smartphone very quickly and by taking a test about a book whose story they knew, gained unearned credit for it. Teachers had to monitor student reading speeds to watch for anomalies that would show when students were gaming the system. He observed that in one of his classes, almost every one of his students completed 80,000 words by the end of the term but that many did so in the final weeks of the semester. In contrast, in his second class, there was a more typical variation with "*some significantly exceeding the goal, others just meeting the goal, some failing, and some hardly attempting it at all.*"

Some motivational challenges

A fourth teacher and co-writer noted that the students in her class appeared to enjoy using the virtual library and that most had "*lively discussions, freely using gestures to explain and stress points they were making.*" However, outside of class time, student motivation could vary widely, so much so that the teacher felt she needed to monitor them carefully. Of the 18 students in her class, 7 received an AA for reading 129,000 words, 3 received an A for reading at least 100,000 words, 2 received a B for reading 80,000 words and 6 fell below the level of a B. The same teacher noted the difficulty in providing time for the 30-minute intervention, which took too much time from other course tasks and objectives. She also noted that her sophomore students were being asked to read much more than they had done as freshmen in the combined skills program. Therefore, she suggested that using ER and a virtual library might be best introduced with freshmen who would not compare it to previous course requirements.

Conclusion

The results presented here need to be interpreted with some caution. First of all, in addition to the time spent in class on Xreading, students in the experimental group were expected to read outside of class. The control groups had no additional input beyond the regular homework assignments given to both groups. In terms of test measures, the online vocabulary tests may not have been appropriate. Although convenient to administer to 11 different classes in this project, the tests were intended as measures of productive vocabulary rather than the recognition of vocabulary words typical of reading skills. For testing purposes, a test with more questions might have been better able to demonstrate differences in the initial ability of the students and their later achievements. The survey produced some valuable information as well, but a 10-item Likert scale instead of a 5-item scale may have shown more differentiation between student feelings about the use of the virtual library.

Notwithstanding these limitations, this action research project provides insight into an integrated approach to ER in the classroom and the use of a virtual library accessed through students' mobile devices. Ultimately, students in the experimental groups read far more than the students in classes in the control group. This was much more reading than had been required of them when they were freshmen. Therefore, students who showed some ambivalence towards our integrated approach might have felt differently if this approach had been introduced in their freshman year. Furthermore, at least one practical limitation to the use of Xreading in our course is now apparent. This is the need for students to use paperbacks for their book reports so that they can easily refer to different parts of a book. In terms of curriculum

implementation, a major goal of this action research project has been achieved; that is, familiarizing teachers with Xreading so that they can serve as mentors for teachers new to the system. Finally, this project provided the opportunity to communicate some problems to the program developer so that these could be addressed in the next iteration of Xreading and provide a more successful vehicle for online ER.

References

Acharya, J., Acharya, I., & Waghrey, D. (2013). A study on some of the common health effects of cell-phones amongst college students. *Community Medical Health Education, 3*(4), 214. Retrieved from https://www.omicsonline.org/a-study-on-some-of-the-common-health-effects-of-cell-phones-amongst-college-students-2161-0711.1000214.pdf

Beglar, D., Hunt, A., & Kite, Y. (2012). The effect of pleasure reading on Japanese university EFL learners' reading rates. *Language Learning, 62*(3), 665-703.

Beglar, D., & Hunt, A. (2014). Pleasure reading and rate gains. *Reading in a Foreign Language, 26*(1), 29-48.

Cobb, T. (n.d.). *Vocabulary levels test (Productive)* [Online software]. Available from https://www.lextutor.ca/tests/levels/productive/

Cotterall, S. (2000). Promoting learner autonomy through the curriculum: Principles for designing language courses. *ELT Journal, 54*(2), 109-117.

Dörnyei, Z., & Ushioda, E. (Eds.). (2009). *Motivation, language identity and the L2 self*. Bristol: Multilingual Matters.

The extensive reading foundation's guide to extensive reading. (2011). Extensive Reading Foundation.org. Retrieved from http://erfoundation.org/ERF_Guide.pdf

IBM SPSS Statistics for Windows. (2010). (Version 19.0). [Computer software and manual]. Armonk, NY: IBM Corp.

Judge, P. (2011) Driven to read: Enthusiastic readers in a Japanese high school's extensive reading program. *Reading in a Foreign Language, 23*(2), 161-186.

Kuznekoff, J., & Titsworth, S. (2013). The impact of mobile phone usage on student learning. *Communication Education, 62*(3), 232-252.

Milliner, B., & Cote, T. (2014). One year of extensive reading on mobile devices: Engagement and impressions. In F. Helm, L. Bradley, M. Guarda, & S. Thouësny (Eds.). *Critical CALL–Proceedings of the 2015 EUROCALL Conference*, Padova, Italy, 404-409. Dublin: Research publishing.

Nation, P., & Wang, K. (1999). Graded readers and vocabulary. *Reading in a Foreign Language, 12*(2), 355-380.

Nation, P. (2007). The four strands. *International Journal of Innovation in Language Learning and Teaching, 1*(1), 2-13.

Park, J. (2016). Integrating reading and writing through extensive reading. *ELT Journal, 70*(3), 287-295.

Pigada, M., & Schmitt, N. (2006). Vocabulary acquisition from extensive reading: A case study. *Reading in a Foreign Language, 18*(1), 1-28.

Quinn, E., Nation, I. S. P., & Millett, S. (2007) Asian and Pacific speed readings for ESL learners. University of Welling-

ton, N.Z.: *English Language Institute Occasional Publication No.24*. Retrieved from https://www.victoria.ac.nz/lals/about/staff/publications/paul-nation/Speed-reading-whole.pdf

Warschauer, M., & Kern, R. (Eds.). (2000). *Network-based language teaching: Concepts and practice.* Cambridge: Cambridge University Press.

Appendix 1: Survey Questions

(n=74)	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
1. I like reading books using Xreading.	4.05	29.73	29.73	27.03	9.46
2. I like reading in Japanese.	24.32	48.65	13.51	12.16	1.35
3. Because of Xreading, it is easier for me to read in English.	5.41	36.49	33.78	18.92	5.41
4. Before starting Xreading, I liked reading in English.	2.74	34.25	50.68	12.33	0
5. Xreading helps me to find books that I want to read.	9.46	40.54	20.27	21.62	8.11
6. Because of Xreading, I want to read English more.	0	36.49	35.14	24.32	4.05
7. It is easy for me to read a book using Xreading.	8.11	37.84	27.03	21.62	5.41
8. Xreading is helping me improve my English skills.	4.05	55.41	31.08	5.41	4.05
9. It is easy to do a book report using Xreading.	0	9.59	13.7	34.25	42.47