



Paper or silicon: Evaluating Xreading as a replacement for an existing graded reader collection

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The pedagogical and administrative advantages of using an online extensive reading (ER) library such as Xreading compared to the traditional campus library have only recently been investigated and require more research to determine which approach is more effective. Historically, extensive reading in a foreign-language program has required providing students access to physical graded readers. Recent advances in digital technology have allowed access to online graded reader libraries such as the Xreading LMS platform. This paper uses three surveys in a longitudinal study to compare student opinions of the Xreading LMS with their views of an existing extensive reading program that used physical graded readings from the campus library and MReader for assessment. Student responses from open questions and Likert scale questions were used to evaluate the existing extensive reading program's effectiveness and determine if the online Xreading LMS would be a better alternative. The results indicate that although most students preferred Xreading because of its convenience, student responses to other questions were considered equally important in selecting which extensive reading system to use. The students' responses highlighted a problem with many students cheating the system and offered solutions to reduce this problem. Students' responses also provided insight into how much extensive reading students complete, where they complete it, and what devices they use for the digital version. This report offers guidance to educators interested in establishing a new extensive reading program or who are interested in using an online graded reader platform such as Xreading in an existing extensive reading program.

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Introduction

A Tale of Two Extensive Reading Systems: Xreading versus the Campus Library with MReader

For a university department with an existing extensive reading program supported by an established collection of graded readers in the campus library, does the Xreading LMS offer enough benefits to students and administrators to consider asking the students to pay for its use? The opportunity to answer this question was provided through participation in a collaborative research project organised by Greg Sholdt, called the "2018 Quantitative Research Training Project" (2018QRTP) (Sholdt, 2018). The 2018QRTP aimed to improve professional development amongst novel researchers (Sponseller et al., 2017). The project used an online extensive reading (ER) service called Xreading VL to provide students with access to reading material to remove reading content as a variable in the research training study about student engagement. However, access to an existing ER program that consisted of graded readers in the campus library and MReader, an online reading assessment tool, provided the opportunity to investigate student opinion regarding the two different ER programs and determine whether Xreading should be incorporated into the existing ER program. As a result, three online surveys were conducted to investigate whether there was a case to adjust or replace the current ER program with Xreading. The surveys were a combination of Likert scale questions, multiple-choice questions and open-text questions. These items were designed to evaluate the student's preferences towards the two systems, identify the problems and advantages offered by both systems,

identify the methods and locations used to access the graded readers, and estimate the student's willingness to pay for Xreading. Results from all three surveys were used to analyse the students' preferences towards using the existing system, compared to the online Xreading library, and the student's overall opinion of ER. The outcomes of this research are explored in detail in the discussion section. They are considered helpful to educators with existing ER programs who are trying to decide if they should expand their program to include Xreading.

Literature Review

Extensive Reading

One of the original principles of ER described by Day and Bamford (2002, p. 138), "Reading is its own reward", implies that comprehension questions should not follow the students' reading. However, more recently, it has been argued that this idea does not consider the administrative needs of running an ER program. The learning institution requires student assessment, and the students expect to be rewarded for their efforts (Collett, 2018; Robb, 2015). Furthermore, because students are required to read books outside of the classroom, their progress is unobservable, and the reading of graded readers can be falsely claimed. For these logistical reasons, in this non-ideal ER world, most instructors require some form of reading assessment. Therefore, Ng et al. (2019) suggest changing this principle to "Reading will need to be monitored and assessed." for some institutions. Originally, ER assessment often consisted of book reports (Robb & Susser, 1989) or reading journals (Lyutaya, 2011). However, more recently, MReader and Xreading, two online systems for assessing student reading, have been created to

offer students and administrators more convenient student administration and assessment approaches.

MReader

Thomas Robb, the creator of MReader (<http://mreader.org>), describes it as "...a free online graded reader assessment system that assesses whether students have read their books." (Robb & Waring, 2012, p. 168). He created MReader as an ER management tool that takes the place of student book reports or other assessment types requiring extra work for students to complete and teachers to grade. Created as a plugin for the Moodle Learning Management System (LMS), it can be accessed via a web browser using any Internet-enabled device (Collett, 2018). It is a quiz platform that students can use once they have finished reading a graded reader. With their graded reader in hand, students log into their account, select their graded reader and take a quiz. Quizzes typically consist of 10 questions, and the students have a time limit of 15 minutes to take the test. The prime aim of the quizzes is to confirm that the students have read the graded reader; consequently, if they pass the quiz, then the words from the graded reader are allocated to their account as having been read. The MReader system allows the system administrator, often the class instructor, to download the entire class results as a CSV file for export into a grading sheet. Initially, many graded readers were not on the system and students needed to complete book reports instead. However, more recently, publishing companies have provided their quizzes to MReader as they publish their new graded readers. In 2015, there were over 4500 quizzes on the MReader system (Robb, 2015).

Xreading

Xreading (<http://xreading.com>), which began operating in 2014, is a company that focuses on providing an online ER service. It comprises a virtual graded-reader library and an LMS that includes a quiz for each graded reader and aids in administering the ER program (Collett, 2018). This system offers the advantage that once students have read a graded reader, they can instantly take the test and have the words assigned to their account. The quizzes have five questions, of which the students must correctly answer four to pass.

Xreading has approximately one thousand graded readers that can be accessed via a web browser on any Internet-enabled device, including PCs, tablets and smartphones. The LMS allows the course administrator to register students into classes, set assigned graded readers or allow free access, and view student progress as the number of words read, time on task, and student reading speeds (Milliner & Cote, 2014).

Because the introduction of Xreading's online library offers a digital alternative to paper-based graded readers, and similarly, its integrated LMS and tests provide an alternative to MReader's online assessment platform, there has been some research analysing the advantages and disadvantages of Xreading in comparison to previous ER programs. For example, Tagane et al. (2018b) compared an entirely paper-based ER course with Xreading to investigate differences in student perception between the two types of ER program. Although based on a small sample size, the results indicated that students reading paper-based graded readers were more likely to enjoy reading, continue reading graded readers in the future, and

consider ER a good use of their time. Research by James (2020) supports this result with claims that students preferred paper-based graded readers. However, this result needs to be cautiously accepted as the students only used Xreading and were therefore not questioned about their experience with paper-based graded readers. In addition, the results from the same survey question indicated that most of his respondents preferred reading using smartphones (James, 2020, p. 119). Similarly, James (2020) suggests that, in general, students found Xreading benefited their English; however, there was no differentiation in the survey question between using Xreading and using paper-based graded readers. Therefore, although this result indicates students found value in reading graded readers on Xreading, there is no way to distinguish if this answer applies specifically to Xreading or ER in general.

Despite showing a preference for physical graded readers, the Tagane et al. (2018b) study does not provide any information about student preferences for using MReader compared to Xreading. This was a deliberate choice by the researchers who noted that as a 'hybrid system', MReader did not fit the parameters of their research project (Tagane et al., 2018b, p. 81). However, in a study comparing MReader to Xreading, Collett (2018) asserted that Xreading gives slightly better outcomes in the number of words read. It should be noted that this finding was heavily qualified based on the author's suspicion that, due to the perception that the quizzes were easier, students were reading paper-based books from the library and then taking the quizzes on Xreading. In his comparison of the two quiz systems, Collett (2018) stated that Xreading's most significant issue was an 'instability of the system' (Collett, 2018, p. 47). This sentiment is similarly echoed

in interviews of the Xreading group by Tagane et al. (2018b). They indicated that frustration with the technical issues they experienced with Xreading and the limited choice of graded readers contributed to the negative survey answers.

Therefore, while these previous studies offer guidance towards student preferences towards online versus digital or hybrid ER systems, they do not provide a clear answer to the educator trying to choose between the administrative and educational benefits of choosing Xreading over an existing ER program.

The university's existing Extensive Reading program

In 2013, the author's English program introduced ER into its first-year and second-year writing courses. The aim was to take advantage of the benefits ER claims to provide students in terms of improved reading speed, vocabulary, general knowledge and overall English ability. During the research period, there were five classes of approximately forty students each. ER was implemented for an entire academic year beginning in October. The ER component of the courses comprised 30% of the total grade and, as such, was an essential aspect of the course, emphasising the importance of the ER program. The student's goal was to read 40 000 words every four weeks, and grades were allocated based on how many words the students read within this submission period. If the students read 40 000 words per submission, they received full marks, and any lesser amount resulted in them receiving a lower grade proportional to the number of words they read. The program utilised the previously described online MReader tool to determine how many words each student read and then assign a grade based on this value. As mentioned,

MReader does not help the students with their ER; instead, it facilitates the administrative aspect of giving a grade to a student by ensuring they have read the book. Therefore, at the end of their courses, if a student has read the minimum number of words required to achieve a score of 100%, they will have read at least 320 000 words.

The students prepare for their ER program with a short PowerPoint lecture on the theory of how ER works and the benefits of doing ER during the first week of their first Writing English course. Understanding ER's purpose and benefits are essential to having the students buy into the concept of doing ER. The students are then registered with the MReader system, followed by the librarian staff giving them a tour of the campus library. To establish the ER program, the on-campus library has acquired graded readers yearly since 2013 and now has over 3000 in its collection.

The ER program at the university was well established and well understood by both the instructors and the students; however, it was not perfect. Therefore, participation in the 2018QRTP offered the opportunity to simultaneously evaluate the program's effect on the students and assess Xreading as a possible replacement for the existing system. Three questions were examined to determine which ER system would better suit the program. First, what are the advantages and disadvantages of the current ER system compared to Xreading? Second, what factors most affected the students' preference toward using the library with MReader versus Xreading? Finally, what were the students' opinions regarding the existing ER system and its effect on their perceived English ability?

Research Methods

Project Survey Schedule Research Purpose and Research Questions

From the 11th of May 2018 until the 20th of July 2018, students were required to read graded readers using the Xreading website on either a student-selected, group-selected, or teacher-selected topic. During this period, students answered a pre-Xreading trial and two post-Xreading trial surveys to capture their opinions about the two different ER systems.

Research subjects.

The research participants were second-year university students enrolled in a required academic writing class taught in 1st period on Fridays from April 2018 until August 2018. This course was the second of two English academic writing courses and followed a first-year academic writing course in the autumn of 2017. In total, 73 students, 58 male, 14 female, and one gender-neutral student, participated in the surveys; however, the number of respondents varied for each survey.

Treatment.

Because they had used ER in their previously completed first-year English writing course, the students were already familiar with ER, how to borrow books from the library, and using the MReader quiz system. However, the Xreading software was new to the students, so they needed to be registered with the Xreading software and shown how to use it. Therefore, for the first four lessons, the students continued with the existing and familiar ER system of selecting a graded reader from the campus library and then using MReader to do their quizzes. During this period, the stu-

dents were registered on Xreading in preparation for the research project. Before the research commenced on the 27th of April, the students signed consent forms and then 69 students completed a pre-Xreading survey. This survey (Survey 1) evaluated the students' understanding, experience and attitudes towards ER. All the students were assigned Robinson Crusoe as their first graded reader from the Xreading platform. Students were then asked to read a new graded reader on Xreading each week for nine more weeks, from the 11th of May to the 20th of June. At the end of this ten-week period, the students did a post-Xreading survey (Survey2). Finally, on the 3rd of August, the students did an additional survey (Survey 3) to determine their preference between using the campus library and MReader or Xreading. The Schoology.com LMS was used to administer the writing course, host all the surveys, and provide students with information and instructions. The student's responses to these three surveys are presented in the results section. The survey questions used to answer the research questions posed in this publication have been provided in the Appendix section.

Measure.

All three surveys were distributed to the students via Schoology as Google forms. Survey 1 had 16 items, which included a combination of 5-point Likert scale, multiple-choice and free-answer questions. A total of 69 participants (n=69) responded to this survey. Survey 2 comprised 64 items and included 6-point Likert scale, multiple choice and free answer questions. A total of 66 participants (n=66) responded to this survey. Survey 3 consisted of one central question: Which system do you prefer for your extensive reading: X-Reading and reading online or M-Reader and

reading books from the library? This was a free writing item in which the students had to state which system they preferred and explain why they chose it. A total of 64 students (n=64) responded to this survey. Data from the three surveys were analysed to compare the existing system using graded readers from the library to the alternative online Xreading system and to summarise the students' understanding of ER.

Method

Data processing.

The raw data from Survey 3 was downloaded as an Excel spreadsheet. All 64 student responses were initially sorted to determine the students' ER preference, either Xreading or the campus library and MReader. The results were then tallied to provide an overview of student preferences. The students' comments were then read in detail and categorised as either positive comments about Xreading, negative comments about Xreading, positive comments about the library/MReader combination, or negative comments about the library/MReader combination. Finally, each category was analysed for comments considered the same or similar. This analysis is outlined in the results section and used as the basis of the discussion section.

Similarly, the data from Surveys 1 and 2 were downloaded as Excel spreadsheets and examined for valid results in answering the research questions. The selected data was formatted into tabular and graphical formats and displayed in the results section.

Results

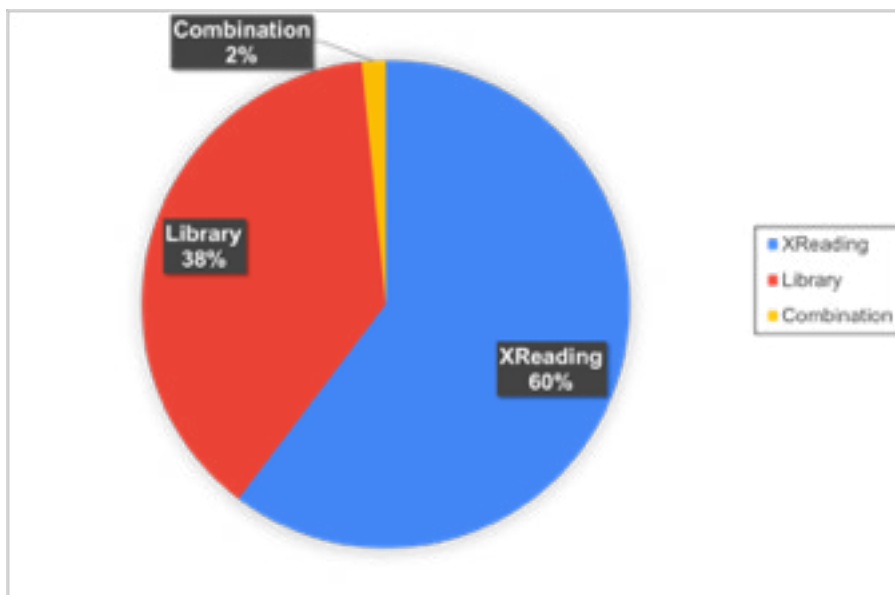
Which system did the students prefer, the Xreading digital library and quizzes or the

campus library and online MReader quizzes?

In Survey 3 on the 3rd of August 2018, students stated which system they preferred, the digital Xreading library, the campus library with online MReader quizzes or a combination of both. An

initial seventy-nine responses were submitted; however, after the amalgamation of duplicate responses by the same students, sixty-three responses were manually tabulated. As illustrated in Figure 1, Xreading (60%) was preferred by a margin of

Figure 1. Student Reading Preference Digital Book (Xreading) versus Physical Book (Library)



Note. These responses were given in answer to Item 3 in Survey 3: Which system do you prefer for your extensive reading: X-Reading and reading online or MReader and reading books from the library?

22% over the on-campus library and MReader quizzes (38%). In addition, one student indicated they felt a combination of Xreading and physical books would be the best system.

What factors most affected the students' preferences?

In addition to stating their preferred ER system in answer to this item in Survey 3, students were given the following instructions: Please write about your opinions for 10-15 mins. State your opinion regarding which one you prefer, Xreading or MReader and then write about the positive and negative points of both systems.

Please try to write 100-150 words.

Each response was analysed for positive or negative comments about the use of the Xreading library (Table 1) or the campus library (Table 2), the use of the Xreading quiz system (Table 3) and the use of the MReader quiz (Table 4). Identical or similar responses were then identified for each category and tabulated, with the results displayed in tables 1-4. The number next to each positive or negative comment equates to the total number of students who made that type of comment. These results will be examined in more detail in the discussion section.

Table 1. Positive and Negative Student Comments about the Xreading Library

Positives	#	Negatives	#
Convenient access to books	34	Reading online causes tired eyes	15
Greater book choice	5	Less book choice	1
Books always available (multiple)	4	Technical issues (WiFi, low batteries)	9
Books easier to select online	5	Requires a digital device	1
Easier to read standing up on the train	1	Story more difficult to remember	2
Many copies allow discussion	1	Costs money to use	4
Remembers page number	1	Online distractions (games, SNS)	1
Provides feedback on reading times	3	Logged out if reading too slowly	2

Table 2. Positive and Negative Student Comments about the Campus Library

Positives	#	Negatives	#
Greater book choice	3	Less book choice	1
Books easier to select (can see A to Z)	5	Takes time to visit library	6
Easier to concentrate on the story	4	Easy to forget physical book	6
Can re-read pages	2	Library limited opening hours	2
Free	4	Overdue books (can't borrow)	2
Enjoy the feel of paper	4	Book is checked out (unavailable)	4
		Doesn't like the smell of the books	1

Table 3. Positive and Negative Student Comments about the Xreading Quizzes

Positives	#	Negatives	#
Quiz is easier	5	Quiz is too easy	2
No 6-hour wait between quizzes	3	Quiz is harder than MReader	1

Table 4. Positive and Negative Student Comments about the MReader Quizzes

Positives	#	Negatives	#
Quiz is easier	1	Quizzes are harder	3
Quiz is more difficult	1	Many students cheat (Unfair)	2
		Have to wait 6 hours between quizzes	3
		MReader technical issues	1

What other factors affect student opinions on Extensive Reading?

Additional information that improves the understanding of student choices between Xreading and using the library and MReader quizzes was provided from Surveys 1 and 2, described in the methods section. Survey 1 (n = 69), given before the use of Xreading on the 27th of April

2018, was designed to gain insight into the students' opinions regarding ER overall. Survey 2 (n = 63), given at the end of the Xreading trial on the 27th of July 2018, included questions designed to evaluate the effectiveness of Xreading. These surveys provide valuable data for understanding student preferences and a better overall picture of the existing ER program used in the English program.

Pre-Xreading trial survey results

Table 5 displays the responses from Survey 1 about the students' understanding of ER and how much it has improved different aspects of their English abilities.

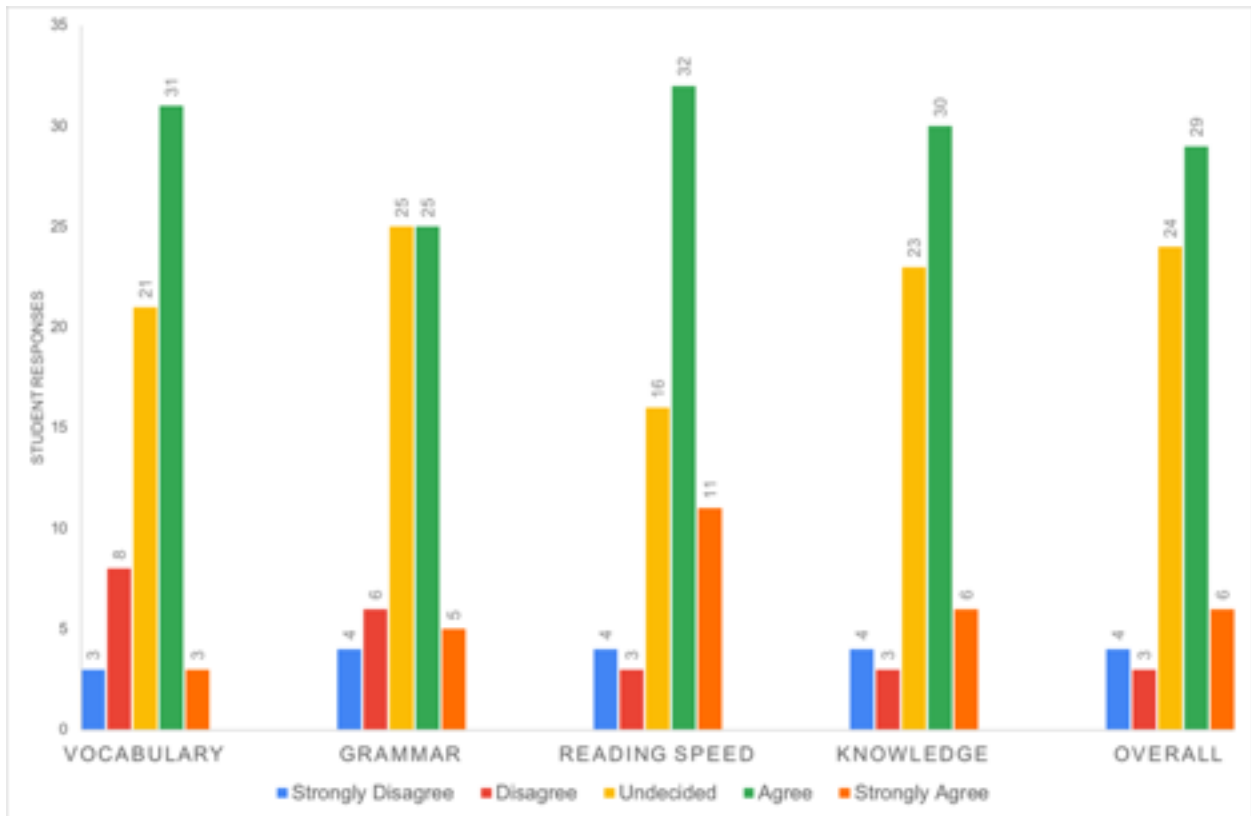
The table includes the complete results from the 5-point Likert scale; however, these have been consolidated into three categories, Agree, Undecided and Disagree for the discussion.

Table 5. Student Understanding of Extensive Reading Before Using Xreading

Statement	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
I enjoy using computers & technology	11(16%)	23(33%)	30(43%)	2(3%)	3(4%)
MReader is easy to use	3(4%)	26(38%)	21(30%)	10(14%)	9(13%)
ER has improved my vocabulary	3(5%)	31(47%)	21(32%)	8(12%)	3(5%)
ER has improved my grammar	5(8%)	25(38%)	25(38%)	6(9%)	4(6%)
ER has improved my reading speed	11(17%)	32(48%)	16(24%)	3(5%)	4(6%)
ER has improved my general knowledge	6(9%)	30(45%)	23(35%)	3(5%)	4(6%)
ER has improved my overall English	6(9%)	29(44%)	24(36%)	3(5%)	4(6%)
I understand how ER will improve my English	5(8%)	29(44%)	19(29%)	11(17%)	2(3%)

The perceived improvements in knowledge and skills in Table 5 have been displayed in a graphical format in Figure 2.

Figure 2. Perceived Improvement in English skills due to Extensive Reading

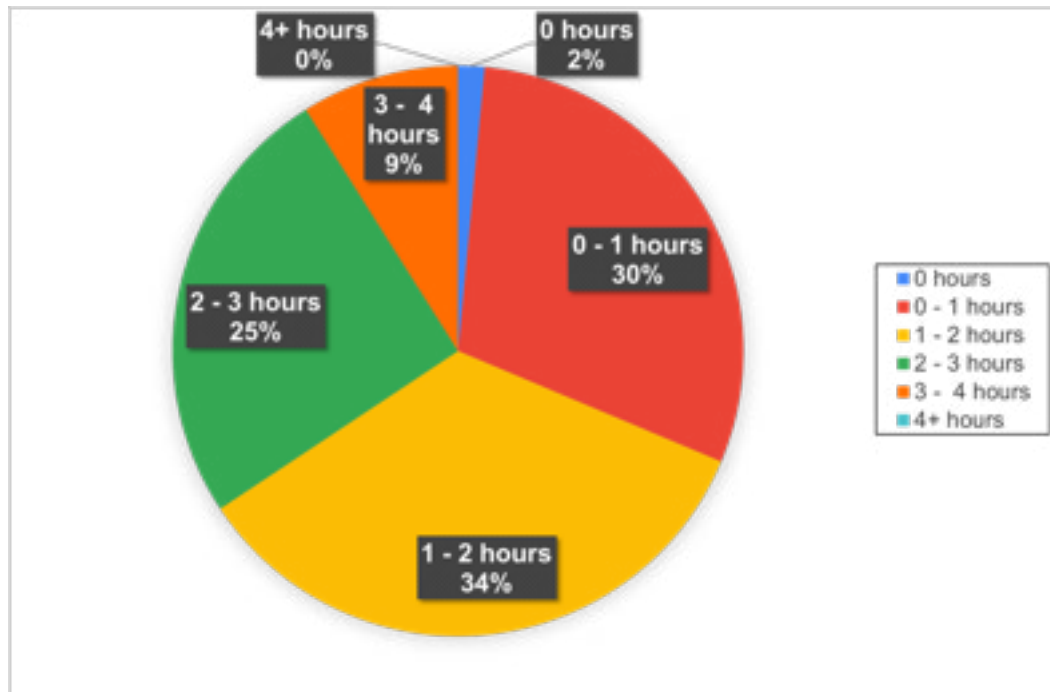


Note. Results of Survey 1 are based on the statements Extensive Reading has improved my -vocabulary, -grammar, -reading speed, -knowledge and -overall English ability.

Another essential metric is how much time the students spent doing their ER. The majority of students reported that they spent 1-3 hours per week on this activity.

However, six students spent 3-4 hours per week, and one student admitted they did not do any reading with 0 hours.

Figure 3. Self-reported Student Estimates of Reading Time per Week



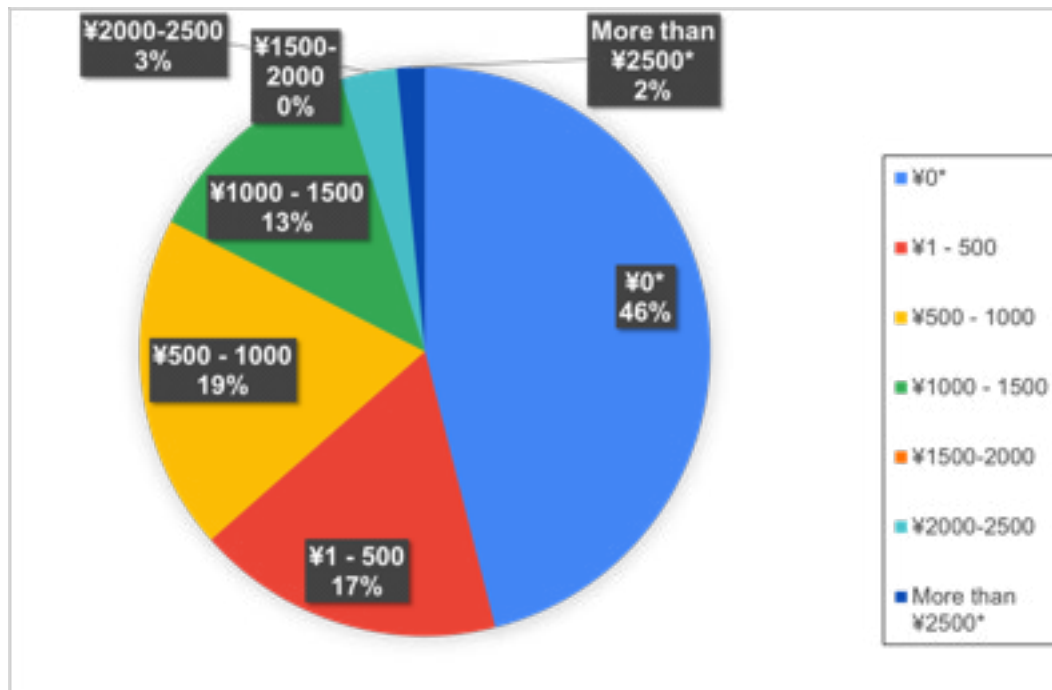
Note. These responses were given to answer Survey 1, Item 15: In a normal week, how much time do you spend on doing extensive reading? These answers relate to reading the library's graded readers and not to the use of Xreading.

Post-Xreading trial survey results

The cost was projected to be an essential factor in student willingness to use Xreading. Because the campus library and the MReader quizzes

are free, knowing how much the cost of using Xreading would influence student choice was considered important. Figure 4 illustrates what percentage of students were willing to pay and how much.

Figure 4. Willingness to Pay for Xreading

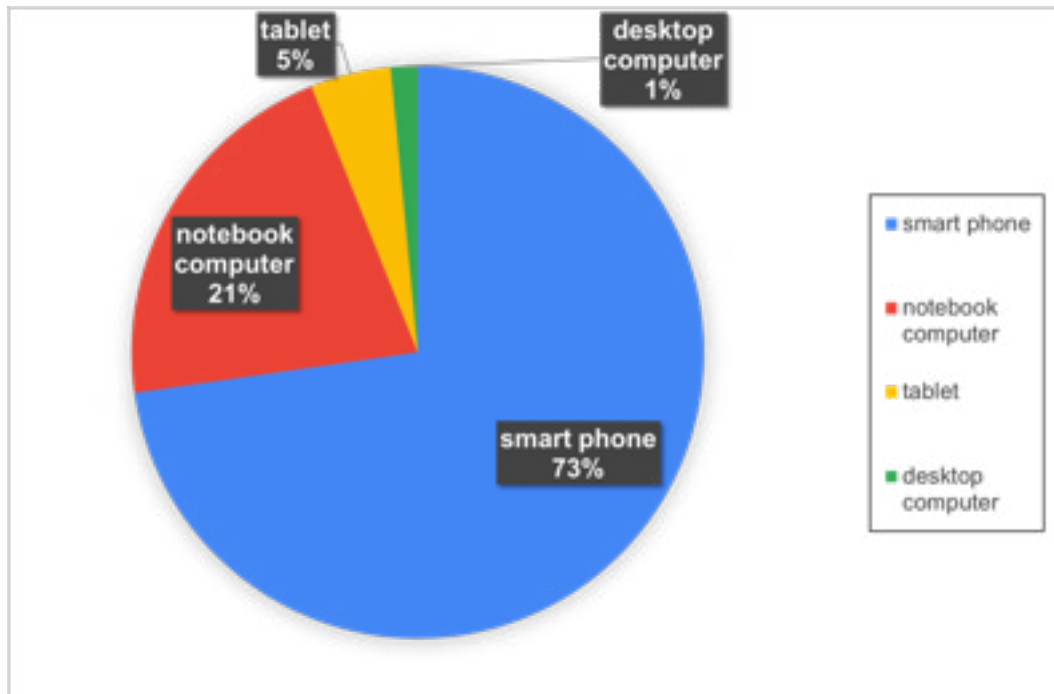


Note. These responses were given in answer to Survey 2, Item 20: If asked to pay for Xreading, how much would you be willing to pay?

The device choice could also influence the students' preference between paper and digital graded readers. As illustrated in Figure 5, most

students (73%) used smartphones to complete their Xreading assignments.

Figure 5. Device Used for Xreading

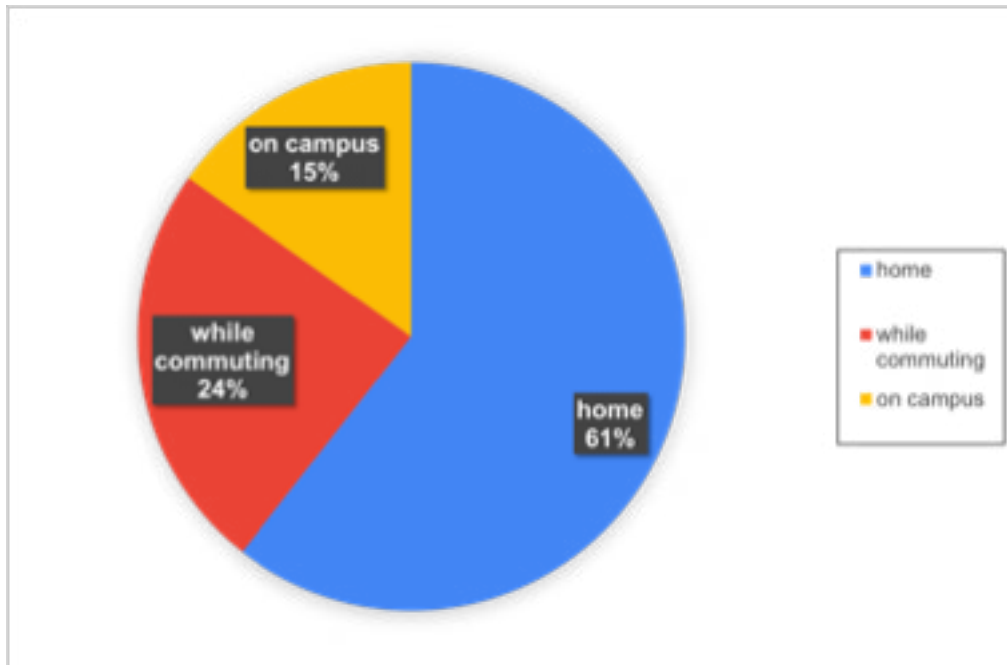


Note. These responses were given to answer Survey 2, Item 18: What device did you usually use to read the online graded readers?

The location students chose to read was also considered important, and as illustrated in Figure 6, most students (61%) elected to do their

reading at home. Perhaps more interesting is that 24% of students utilised their commuting time to do their required reading.

Figure 6. Preferred Location to Read



Note. These responses were given to answer Survey 2, Item 19: Where did you usually read the online graded readers?

The following fifteen topics in Table 6 (from Survey 2), provide more information about the students' opinions of Xreading and ER. The table includes the complete results from the

6-point Likert scale; however, these have been consolidated into two categories, Agree, and Disagree, for the discussion.

Table 6. Student Opinions on ER, Xreading and the Library/MReader Combination at the End of the Course

Summary of statement	Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree
1 My English Improved because of ER	5(8%)	16(24%)	26(39%)	12(18%)	3(5%)	4(6%)
2 I believe ER can help me improve my English	12(18%)	15(23%)	22(33%)	9(14%)	4(6%)	4(6%)
3 Talking about books with other students was valuable	7(11%)	14(21%)	22(33%)	14(21%)	7(11%)	2(3%)
4 The amount of reading required per week was reasonable	12(18%)	13(20%)	23(35%)	11(17%)	3(5%)	4(6%)
5 The grading of the activity was fair	9(14%)	8(12%)	31(47%)	11(17%)	5(8%)	2(3%)
6 The instructor gave me help when I needed it	21(32%)	16(24%)	19(29%)	8(12%)	2(3%)	0(0%)
7 The instructor explained the goals clearly	16(24%)	16(24%)	23(35%)	9(14%)	2(3%)	0(0%)
8 I understand the benefits of ER	10(15%)	11(17%)	24(36%)	14(21%)	4(6%)	3(5%)
9 I enjoy reading English graded readers	6(9%)	8(12%)	18(27%)	26(39%)	6(9%)	2(3%)
10 I would rather use Xreading than the library	6(9%)	13(20%)	16(24%)	14(21%)	9(14%)	8(12%)
11 I enjoy using the Xreading system	2(3%)	5(8%)	21(32%)	21(32%)	4(6%)	13(20%)
12 I would rather read a paper book than read an online book	21(32%)	9(14%)	14(21%)	13(20%)	6(9%)	3(5%)
13 I felt that Xreading was convenient	9(14%)	21(32%)	13(20%)	8(12%)	7(11%)	8(12%)
14 I learned how to use Xreading without difficulty	15(23%)	20(30%)	15(23%)	9(14%)	4(6%)	3(5%)
15 Once I understood how to use Xreading it was easy	17(26%)	19(29%)	12(18%)	8(12%)	7(11%)	3(5%)

Note. These responses are in answer to Survey 2, Items 1-15.

Discussion

Concerning which system the students preferred, Xreading or borrowing books from the library and using the MReader quizzes, Survey 3 indicates a strong preference for Xreading. As clearly illustrated in Figure 1, 60% of respondents prefer Xreading compared to 38% who prefer the library/MReader combination. While this observation suggests that Xreading should either replace- or be included in addition to- the existing library/MReader system, other results indicate that more caution is required. For example, in Survey 2 (Table 6), the majority of students (67%) suggested they preferred reading paper books over reading digital books (33%). Furthermore, most of these students (32%) reported that they strongly preferred reading paper books. In contrast, less than half (42%) indicated they enjoyed using the Xreading system, and only slightly more than half (53%) preferred the Xreading library to the campus library. Based on these contrary results, it is worth looking more closely at the reasons students gave for their preferences in the final survey.

The results are divided into summaries of the student's positive and negative comments for the Xreading library (Table 1), the campus library (Table 2), the Xreading quizzes (Table 3) and the MReader quizzes (Table 4). This discussion will begin by comparing the positive and negative aspects of borrowing or reading the physical paper graded readers held in the campus library (Table 2) with the positive and negative aspects of using the digital e-book system provided by Xreading (Table 1). Two clear responses stand out for Xreading. First, with 34 student responses, the convenience of Xreading was the most cited factor of the two systems. Secondly, many students (15) reported that using

digital devices to read books was tiring for their eyes. It should be noted that all 15 of these participants also voted for using the library and MReader.

Being mentioned by 34 different students, the convenience offered by Xreading was overwhelmingly the most significant positive influence on the students. By comparison, the next most important positive factor for either the campus library or Xreading was the greater book choice (Xreading) and that books are easier to select (both campus library and Xreading library), which were all mentioned five times. There were various reasons provided as to why Xreading was more convenient. For example, some students stated that Xreading was more convenient because they could access books anywhere. This problem of access to physical books is explained by the limited access to the campus library and students forgetting their graded readers. As shown in Figure 6, 61% of students read their graded readers at home, and another 24% read during their commute. Many students are not on campus every day or only for a short time. Therefore, if they forget to borrow a book from the library or finish a book while off-campus, they have to wait until their next visit to campus before they can borrow their next book. In another example demonstrating the convenience of Xreading, students described the ability to access books at any time using the Xreading library, unlike the campus library, which, as two students noted, has limited opening times. A second reason students could not access their physical graded readers is that they forgot to carry their books with them. Six students (Table 2) gave examples of occasions when they forgot their physical graded reader meaning they couldn't read it. In contrast to these two problems associated with having access to physical books,

the Xreading library was available when the students had access to a digital device and the internet. With 73% of the students stating they use their smartphones to read Xreading (Figure 5), most students likely had their smartphones available to read books from the Xreading library.

Another example given by two students illustrates the convenience of Xreading compared to the campus library. They commented that if they forgot to return their books to the campus library by the due date, they were not allowed to borrow new books and could not complete their required reading. The number of copies of a graded reader held by the library also limited student access to library books. Four students raised this issue as either a problem with the campus library or an advantage of using Xreading, implying they had experienced this problem with borrowing books from the library. Xreading's ability to provide an unlimited number of the same version of graded reader from their digital library is a significant advantage over a traditional library. This feature of the Xreading library would be an advantage for courses that require groups or even entire classes of students to read the same book. However, it would be less of a consideration for ER programs, such as the author's, which promote the free choice of material. This concept of allowing students free choice over their reading material is described by Day and Bamford (2002), in his third principle of ER, as "...a crucial step in experiencing foreign language reading as something personal." and is, therefore, to be encouraged (Day & Bamford, 2002, p. 137). Consequently, although having access to multiple copies of the same graded readers is beneficial, the diversity in the range of graded readers is considered more important. This concept is further supported by Day's (2002) sec-

ond principle, in which he states that "...the texts made available should ideally be as varied as the learners who read them and the purposes for which they want to read" (Day & Bamford, 2002, p. 137).

Regarding graded reader selection, the survey results are less clear over which service students considered better, the campus library or the Xreading library. Five students suggested that Xreading provided a better range of graded readers; however, three others indicated the opposite is true and claimed that the library has a better range of graded readers. This discrepancy in student views exemplifies how student perception can differ from fact. That is, the library with approximately 3000 graded readers had a more comprehensive selection than the Xreading library, which only contained around 800 different graded readers at the time of the survey. This apparent contradiction in student perception versus fact could result from each individual's personal experiences with the campus and Xreading libraries. For example, the students having problems selecting graded readers from the campus library might have been trying to borrow checked-out books. Alternatively, the students who felt the Xreading library offered a better selection might have been interested in a genre better catered for in the Xreading library than the campus library. Due to this alignment in preference with the Xreading library, those students would consider Xreading to have a wider selection of books more suited to their personal reading preferences. However, these hypothetical explanations can only be confirmed by further questioning the students involved. This result provides a note of caution on relying too heavily on student perception surveys. It suggests that future studies should include follow-up interviews to understand the students'

reasons for their opinions.

Another example of Xreading's convenience is the time saved in selecting and borrowing a book. In Survey 3, six students mentioned that choosing a book from the library took longer. Similarly, five other students said it was easier to choose graded readers from the Xreading library than the campus library. Further examples offered by students to support this idea include one student's suggestion that Xreading's level system made selection easier. Similarly, another student explained that being able to read about the plot on Xreading helped her choose quickly. However, five other students made the same claim about the campus library. They offered reasons such as selecting a graded reader from the campus library was easier because they could see all the books "A to Z" on the shelves at once. Another student claimed it was more challenging to select books in the Xreading library because the screen only showed ten titles, meaning it was difficult to see the full range they could choose from. Despite the survey results not definitively answering which system is easier for selecting a graded reader, it is undeniable that the time taken from choosing a book to reading it is quicker on the digital Xreading platform than the time required to visit the library, choose a book, check it out and then begin reading it. Therefore, for this reason, and the other reasons stated by the students, such as accessibility, preferred reading times and preferred locations, the most significant advantage the Xreading library has over the existing system is its convenience.

Although the Xreading system seemed to appeal to most students due to its convenience, several negative features were also reported about Xreading. These were related to either the actual reading of the

graded reader or technical issues the student experienced using a digital device. In the most common complaint about Xreading, fifteen students said that reading from an electronic device for too long resulted in eye strain. Similarly, some students said they could better concentrate on the story when reading from a physical graded reader. This idea is supported by the results of Item 12 in Table 6, showing that 67% of students (32% strongly) prefer to read a paper book to an online book (33%). Some students also mentioned that they liked the feel of the paper in physical books, although one student commented that the books in the campus library had a bad smell.

Other technical issues students reported while reading included issues with connectivity, such as bad WiFi, no WiFi, and the lack of mobile data on their phones. One student wrote that in areas with poor WiFi connection, the pictures disappeared off the screen while reading the electronic graded reader. Another complaint was that reading on their smartphones became problematic when their batteries were low. One student complained that they were easily distracted by other digital interruptions such as SNS, games, and internet browsing when reading on their digital device. The student added that this issue did not occur with a paper-based graded reader, and they could concentrate more easily. Two students mentioned the Xreading function of automatically logging students out if one page was left open on the device for too long. This feature is designed to prevent a student's reading time be incorrectly measured. However, both students explained that their reading speeds were relatively slow, and they found the system would log them out while they were still reading a page. This is not necessarily a fault of the Xreading

system; rather, it indicates that the students had selected graded readers that were too difficult for them. Instead of being a technical problem, this issue should be considered a red flag to warn the teacher that the students need help selecting the correct reading level.

In contrast to the negative influence the technological aspect of Xreading had on the students' ER experiences, there were also reported benefits of reading digital books. For example, several students enjoyed the reading speed feedback feature offered by the Xreading system, and they felt knowing their reading speeds helped them develop their English skills. Another student enjoyed that Xreading would "remember" their page when they opened their graded reader after they finished.

Another issue raised by several students was the issue of cost. In Survey 3, four students raised cost as an issue affecting choosing Xreading or the campus library. Similarly, 46% of the students in Survey 2 (Figure 4) indicated that they would not be willing to pay any money to use Xreading. Although this result implies that cost could be a problem, 54% of students in Survey 2 (Figure 4) indicated they would be willing to pay varying amounts to use the Xreading system. This implies that if implemented in a program, the cost of the system would probably not be outside the majority of the student's willingness to pay. Furthermore, at the time of the survey, a six-month institutional subscription for Xreading in Japan cost ¥1650. At this price, 37% of the students surveyed would have been willing to pay for Xreading (Figure 4), meaning cost might not be a significant impediment to using Xreading.

Student comments related to the quiz aspect of the study in Survey 3 indicate that

most students felt the Xreading quizzes were easier than the MReader quizzes and suggested that Xreading is a fairer system due to alleged mass cheating with MReader quizzes. After reading a graded reader, the students must take a quiz that assesses whether they have read the book. When students pass the quiz for the graded reader, they are assigned the number of words in the book, contributing to their ER grade. In the existing program, this function was performed by the free-to-use online MReader tool, which has ten questions; however, the Xreading system's quizzes only ask five questions. The student comments in Tables 3 and 4 about the relative merits of both systems were interesting in that there was a lot of disagreement over which set of quizzes was easier to pass and which was best. Most students commented positively that Xreading's quizzes were easier (5 students) or negatively that MReader's quizzes were more challenging (3 students). However, two students disagreed with this assessment, with one commenting that Xreading was more difficult and the other that MReader's quiz was more straightforward. Overall, this feedback suggests that most students consider the Xreading quizzes easier to pass than MReader's quizzes. This finding supports Collett (2018), who similarly noted that students preferred Xreading quizzes over MReader quizzes due to the student perception that they were shorter and easier to pass. Although this result may imply that MReader is considered too complex and that Xreading should be used instead, in contrast, two students commented that the Xreading quizzes were too easy. They felt it was too easy to pass the quiz, with one student who selected Xreading over the existing system stating, "So I recommend x reading. But Xreading quiz is so easy so only this point i hate x reading." This comment was similar to two other

statements made by students related to cheating on MReader. One student stated, "Many people c[h]eat on M-Reader so I recommend extensive reading." The other student who objected to the cheating on MReader wrote the following about Xreading "...it is difficult to cheat. Last years, we borrowed books from the university's library, and answer m-reader's quiz. However, most of us cheated, and people who didn't cheat were not estimated by teacher. It is not equality." The students who are serious about their learning feel that if the test is too easy to pass or too easy to cheat on, then it is unfair to those who do the ER program honestly. Although only two students made these comments, they have made a significant impact on the ER program at the author's institution. If, as suggested, "most" students cheat, this indicates a grading issue. However, more importantly, it means that many students are not doing the actual reading and are therefore not benefitting from the improvement to their English that would otherwise occur. In an article about cheating in ER Tagane et al. (2018a) outline five main types of cheating, these are: 1) asking friends to help, 2) using online resources, for example, using Google to find the quiz answers, 3) reading and writing about familiar topics, 4) watching movies instead of reading the book, and 5) skim-reading headings. Although any of these five methods could be used by students to cheat on MReader, it is thought the most likely methods being used are numbers 1 and 4. The article further suggests several ways to combat cheating, including changing the method used to evaluate ER, mixing evaluation methods to include paper and online evaluation, and finally, emphasising the importance and benefits of doing ER (Tagane et al., 2018a).

Another comment about the quizzes re-

lates to the inconvenience associated with a feature of the MReader system, which enforces a six-hour delay between quizzes. This delay is in place to prevent students from trying to read too many graded readers at the end of the submission period and then try to pass all their tests in one or two days. Although at least three students preferred Xreading over MReader because it does not include this restriction, perhaps MReader's system is more beneficial to the students' English acquisition. Although it is suggested by Day and Bamford (1998, p. 91) that students should be free to choose, what, when and where to read, the author considered consistent reading over the entire teaching term to be more beneficial in terms of English acquisition rather than a frenzy of reading at the end of the submission period. However, a literature review could not find any research to support this assumption indicating a gap in the extensive reading research that could be answered in future research. This research should determine if a consistent approach to reading changes student learning outcomes. Alternatively, are the benefits of extensive reading based purely on the number of words read regardless of the length of time taken to read them?

In the end, despite the clear student preference for the Xreading system, the decision was made not to adopt Xreading permanently due to several factors. First, although more convenient, a sizable proportion of students stated they were unwilling to pay for it. Second, some students would prefer to read physical books due to the eye strain they reported from reading online. As noted, the majority of students suggested that they preferred reading physical books to reading online. This means that better access to the library could change many students' opinions regarding the inconvenience of accessing

the library. Another issue is the degree of difficulty of the Xreading quizzes. Although there appears to be cheating associated with the MReader quizzes, this can be addressed; however, the Xreading quizzes with only five questions appear too easy to pass. Finally, although the ability for multiple students to read the same book simultaneously is advantageous, for ER, a diversity of book titles is considered more important. In their instruction for creating an extensive reading library, Day and Bamford (1998, p. 111) state that 'An extensive reading library ... requires as many different titles as possible in order to give the students with as much choice as possible.' Currently, the library has three and half times more graded readers than the Xreading library and therefore offers more book titles. For these reasons, the English program instructors decided to continue with the existing system. However, as Xreading's library increases in size and because the students are now required to carry PCs to class, this decision may be reviewed in the future. Also, for any institution which does not have access to a library with an extensive graded reader collection Xreading offers a quick and efficiently implemented alternative to creating a physical extensive reading library and one that does not require a significant initial investment of funds.

The second question this research project aimed to address was the students' opinion of ER overall. Concerning students' understanding of the benefits of ER, Survey 1 indicated that only 52% of the students understood the benefits of doing ER. Similarly, in Survey 2, 68% of the students indicated that they believed ER would help them improve their English. These results indicate the majority of students understood the benefit of doing ER. However, it should be noted that 29% of

students were undecided in Survey 1, and 36% of the 68% of students who agreed in Survey 2 only slightly agreed. Because of this difference in the 5-Likert scale and 6-Likert scale survey structure, these results can only weakly infer that after participating in the ER project, the students had increased their understanding of the benefits of doing ER.

Regarding the perceived improvement in their English, prior to the use of XReading (Survey1), 53% of the students indicated they felt their English had improved (Table 1), with reading speeds being the most mentioned improvement. These results are more clearly illustrated in Figure 2, in which the breakdown into the 5 Likert scales for different skills is shown. It is evident from this graph that most students perceived ER to have improved their English in every area queried. However, as shown in Figure 2, the most substantial perceived improvement (65%) was in student reading speeds. However, it should be noted that this particular result was probably influenced by an additional reading speed recording activity done in class. It is possible that weekly checks of their reading speeds made their improved reading speed more evident than other criteria such as grammar, vocabulary and general knowledge. Another 29% of students were undecided, suggesting they were unsure if there was an overall improvement in their English ability, and 11% disagreed with this statement, meaning they felt there was no improvement at all. Similarly, after the completion of the XReading project (Survey 2), 71% of the students indicated they felt ER had improved their English skills. In addition, the number of students who believed ER would result in a future improvement of their English skills increased to 74%. This opinion also corresponded with a larger number of stu-

dents agreeing or strongly agreeing (42%) that ER would result in improved English skills. These results indicate that students both understand the benefits of ER and think their English skills have improved as a result of their ER. However, many students still need help understanding the benefits and the process required to do ER effectively.

Another factor examined was the amount of time students spent reading each week. As shown in Figure 3, one-third of the students did less than one hour of reading per week, while one honest student admitted to doing no reading at all. However, most students (68%) did more than one hour of reading, with six students (9%) doing three to four hours per week. It was also validating that a large majority (73%) of the students suggested the amount of reading assigned was reasonable (Table 6). Although it is encouraging that most students did more than one hour, this value also indicates that too many students are not doing enough reading. This observation poses several problems; first, because of the significant grade assigned to this activity (30%), these students leave themselves open to failing the course. In addition, these students lose the increased benefits to their English skills that the ER program aims to achieve.

Overall, the student feedback is more positive than negative, with most students suggesting they understand how ER works, know the benefits, and spend at least more than one hour per week doing ER. However, there is still much room for improvement as there are still students who are uncertain about the benefits of ER, don't understand how it works and haven't bought into it, as indicated by the amount of time they spend reading.

Conclusion

Educators aim to improve their methods to impart knowledge and help students learn. It is vital to use the feedback and analysis acquired through student research projects like this to implement changes based on that information to benefit student learning. As such, although this project found that Xreading was viewed positively due to the convenience it offers, other factors such as the existing investment in a collection of 3000 graded readers held in the campus library, technical issues with Xreading, reports of eye strain and an additional cost to students, resulted in our decision not to use the Xreading platform.

Furthermore, student feedback regarding the reported cheating on MReader has led to a change of approach toward the ER program. When the next in-class writing lessons start, the English program will trial a 30-minute ER activity at the beginning of every writing class. The students will use this time to take their MReader quizzes or read their graded readers silently. In addition, the ability for students to take their MReader quizzes will be restricted to this one time period only. Doing this will allow instructors to better monitor students during their quizzes and, at the same time, provide students with a weekly incentive to access the campus library. In addition, the 6-hour delay between quizzes will be removed to allow students to take multiple tests if they have read numerous graded readers since the previous week's class. It is hoped that implementing this system will make the MReader system and ER program more equitable.

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Appendix A

All three surveys used for this research were created and delivered as Google Forms.

Survey 1 (Pre-Xreading Survey)

Survey Item	Response Option
Section 1 - Personal Details This section will collect your personal details such your name etc.	
1 What is your name?	Short open answer space
2. What is your student number?	Short open answer space
3. How old were you on the 1st April 2018?	Multiple Choice: less than 17, 18, 19, 20, 20+
4. What is your gender (sex)?	Multiple Choice: Male, Female, prefer not to say & Other
Section 2 - Attitudes towards studying English This section will ask you about what you have already studied, what you like to study and don't like to study.	
5. What are your goals for studying English? (check (✓) all that apply)	Radio List: For my future career (job or business), to help me study abroad, to help me when I travel, to help me live abroad (overseas), to develop and maintain relationships, to understand English entertainment, to improve my TOEIC/TOEFL/IELTS score, Other.
6. What activities do you like to do during English class? (check (✓) all that apply)	Radio List: Surveys, tests& quizzes, role plays, presentations, individual projects, group projects, listening to music, watching TV & movies, small group discussions, large class discussions, writing essays, Other.
Section 3 - Use of Computers & the Internet for learning English This section will ask you about your experience with using technology to learn.	
7. I enjoy using computers & technology* (1 = strongly agree, 2 = agree, 3= neither agree or disagree, 4= disagree, 5 = strongly disagree)	Likert Scale: Strongly Agree 1 2 3 4 5 Strongly Disagree
8. What do you use computers and technology (tablets, smartphones etc) for?*(check (✓) all that apply)	Radio List: Email, homework & schoolwork, Internet search, playing games, social chat, watching movies, listening to music, Other.
9. Have you ever used computers or the internet to learn any of the following English skills (check (✓) all that apply)	Radio List: Vocabulary, Grammar, Listening, Reading, Writing, Speaking, Pronunciation, Other.

<p>10. How would you rate your computer skills? *For each of the different uses below check which rating is true for you. 1 = Very Strong and 5 = Very Weak</p> <p>Word Processing Presentation Software Spreadsheet Software Internet Searches Video Editing Software Social Networking</p>	<p>Multiple choice grid: 1 Very strong, 2 Strong, 3 Okay, 4 Weak, 5 Very Weak</p>
<p>11. Q.7 Moodle Reader is easy to use *How easy or difficult has it been for you to use Moodle reader to find a book you have read and then taking the test?</p>	<p>Multiple Choice: Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree</p>
<p>Section 3 Extensive Reading This section is designed to find out your opinion of extensive reading</p>	
<p>12. Effect of Extensive Reading on my English ER has improved my vocabulary ER has improved my grammar ER has improved my reading speed ER has improved my general knowledge ER has improved my overall English</p>	<p>Multiple Choice Grid: Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree</p>
<p>13. I understand how Extensive Reading will improve my English</p>	<p>Multiple Choice: Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree</p>
<p>14. I understand how to select the correct level of graded reading book to match my reading ability</p>	<p>Multiple Choice: Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree</p>
<p>15. In a normal week how much time do you spend on doing extensive reading?</p>	<p>Multiple Choice: 0 hours, 0-1 hours, 1-2 hours, 2-3 hours, 3-4 hours, more than 4 hours.</p>
<p>Section 4 Your reading habits In this section you will be asked to provide information about what kind of books you like and how much you read during your normal weekly activities.</p>	
<p>16. I enjoy reading in Japanese *How much do you enjoy reading in your own language?</p>	<p>Multiple Choice: Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree</p>
<p>17. I enjoy reading in English</p>	<p>Multiple Choice: Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree</p>
<p>18. What types of books (genres) do you like to read? *Please select all of the types of books that you enjoy. If there is a type of book you enjoy which is not listed please write it down in "other"</p>	<p>Radio List: Romance, Comedy, Mystery, Action, Horror, Movies, Non-Fiction, Science Fiction, Fantasy, Manga, Sport, Children, Other</p>
<p>19. In a normal week, how much time do you spend reading non extensive reading material?</p>	<p>Radio List: 0 hours, 0-1, 1-2, 2-3, 3-4, 4-5, more than 5 hours</p>

Appendix B

Survey 2 (Post-Xreading Survey)

Survey Item	Response Option
Section 1 - Personal Details This section will collect your personal details such your name etc.	
1 What is your name?	Short open answer space
2. What is your student number?	Short open answer space
Section 2 - Student Perspectives on the Graded Reader Activity Please rate the following statements based on your opinions using the scale below. 1 = Strongly Disagree, 2 = Moderately Disagree, 3 = Mildly Disagree, 4 = Mildly Agree, 5 = Moderately Agree, 6 = Strongly Agree	
1. My English improved by doing this reading activity.	Likert Scale: Strongly Disagree 1 2 3 4 5 6 Strongly Agree
2. I believe that extensive reading can help me improve my English.	Likert Scale: Strongly Disagree 1 2 3 4 5 6 Strongly Agree
3. Talking with other students after reading a book seems valuable to me.	Likert Scale: Strongly Disagree 1 2 3 4 5 6 Strongly Agree
4. The amount of reading assigned each week was reasonable for homework.	Likert Scale: Strongly Disagree 1 2 3 4 5 6 Strongly Agree
5. The grading of this activity was fair.	Likert Scale: Strongly Disagree 1 2 3 4 5 6 Strongly Agree
6. The instructor gave me help with the activity when I needed it.	Likert Scale: Strongly Disagree 1 2 3 4 5 6 Strongly Agree
7. The instructor explained the goals and the steps of the activity clearly.	Likert Scale: Strongly Disagree 1 2 3 4 5 6 Strongly Agree
8. I understand the benefits of doing extensive reading.	Likert Scale: Strongly Disagree 1 2 3 4 5 6 Strongly Agree
9. I enjoy reading graded readers in English.	Likert Scale: Strongly Disagree 1 2 3 4 5 6 Strongly Agree
10. I would rather use the Xreading library than a regular library.	Likert Scale: Strongly Disagree 1 2 3 4 5 6 Strongly Agree
11. I enjoy using the Xreading system.	Likert Scale: Strongly Disagree 1 2 3 4 5 6 Strongly Agree
12. I would rather read paper readers than online readers.	Likert Scale: Strongly Disagree 1 2 3 4 5 6 Strongly Agree
13. I felt that using Xreading.com was convenient.	Likert Scale: Strongly Disagree 1 2 3 4 5 6 Strongly Agree
14. I learned how to use Xreading without difficulty.	Likert Scale: Strongly Disagree 1 2 3 4 5 6 Strongly Agree
15. Once I understood how to use Xreading, it was easy to use.	Likert Scale: Strongly Disagree 1 2 3 4 5 6 Strongly Agree
Section 3 Additional thoughts about the activity	

18. What device did you usually use to read the online graded readers?	Multiple Choice Smart phone, tablet, notebook computer, desktop computer, Other:
19. Where did you usually read the online graded readers?	Multiple Choice Home, on campus, while commuting, Other:
20. If asked to pay for Xreading how much would you be willing to pay?*	Multiple Choice More than ¥2500, ¥2000-2500, ¥1500-2000, ¥1000-1500, ¥500-1000, ¥1-500, ¥0 (I wouldn't want to pay for Xreading)

Appendix C

Survey 3 (Xreading versus Campus Library & MReader Preferences)

Survey Item	Response Option
Section 1 - Personal Details This section will collect your personal details such your name etc.	
1 What is your name?	Short open answer space
2 What is your student number?	Short open answer space
3. Which system do you prefer for your extensive reading: X-Reading and reading online or M-Reader and reading books from the library? Please write about your opinions for 10-15 mins. State your opinion regarding which one you prefer, XReading or MReader and then write about the positive and negative points of both systems. Please try to write 100-150 words.	Long open answer space