Outcomes of Two Reading Management Systems: Printed Graded Readers vs. Digital Graded Readers

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ABSTRACT

Reaching a reading goal of 150,000 words in a semester is no easy feat for many language learners. To reach this goal, an extensive reading (ER) program needs to invest in and select a format that can best enable this achievement. This preliminary study compares the use of two different extensive reading (ER) formats that employ two learning management systems to determine which format has a greater impact on the number of words read and how they influence learner and teacher attitudes towards ER. Printed graded readers (PGRs) using MReader and digital graded readers (DGRs) using Xreading were used in an advanced required TOEFL course for first-year students at a large, private university in Japan in the spring semesters of 2019 and 2020, respectively. This paper examines student achievements (N=95) with MReader and Xreading reading logs (number of words read) and attitudes towards ER as revealed in the student survey responses and teacher (N=3) qualitative feedback. The preliminary findings suggest that PGRs may produce higher outcomes in terms of words read. In general, both PGRs and DGRs were received favorably by students and teachers, suggesting that institutions can successfully utilize either system based upon their existing infrastructure needs.

INTRODUCTION

For years, extensive reading (ER) programs have relied exclusively upon printed graded readers (PGRs); however, the growing popularity of ebooks have increasingly given institutions more options about the types of texts a graded reader (GR) library can use, though suitable online texts for language learners are still rather lacking (Zhou & Day, 2021). Many ER programs may be more inclined to maintain and use the resources that they have already invested in and have at their disposal rather than switch to a digital platform. And why should they? PGR libraries tend to exhibit a high level of teacher-student interaction as teachers remain central in directing, encouraging, and assisting students in the selection of suitable readers (Stoller, 1994; Shibata, 2016; Cheetham et al., 2017). In many respects, a PGR library also encourages camaraderie, as students can physically see classmates selecting and reading books. However online texts provide

greater access to online resources, making the learner and institution less dependent on printed texts (Bui & Macalister, 2021). Current studies (e.g. Cote & Milliner, 2016; Bui & Macalister, 2021) also point to the advantages of digital graded readers (DGRs) which encourage regular reading. Regardless of the format, both printed and digital graded readers aim to provide students with the means to read. However, one wonders if both formats actually deliver the same results in terms of engaging students to read extensively. Can one format have a greater impact on the number of words read and ultimately lead to the learner reaching their reading goal? Furthermore, to what extent does a format influence a user's attitude towards ER?

As Covid-19 ushered in an era of remote teaching, DGRs became an essential resource for the Japanese university where the authors have been coordinating and implementing an ER program. Having run an ER program that relied predominantly on PGRs prior to Covid-19, adapting a digital library that enabled similar teaching and student practices was logical and pragmatic for remote teaching. This preliminary comparative study explores the ER experience, attitudes, and reading achievements over the course of a semester of two groups of student participants using two different formats and reading management systems: MReader (Mreader.org) using PGRs and Xreading (Xreading.com) using DGRs. Additional insight into the two formats and reading management systems was provided by teachers who had used both formats and systems.

LITERATURE REVIEW

Extensive Reading

Extensive reading is commonly characterized as quantitative L2 pleasure reading over an extended period of time in which the learner chooses printed or online books that are level-appropriate and of interest (Day & Bamford, 1998; 2002). Reading extensively requires large amounts of comprehensible input in order for the learner to retain vocabulary, develop their reading fluency, and improve their language abilities overall (Day & Bamford, 1998). It is essential that the learner read at the appropriate level to process words and sentences at about 98% fluency and efficiency (e.g. 3-6 unknown words out of 300) (Grabe, 2009; Nation & Waring, 2020). According to Nation and Waring (2020), a difficult text results in a student reading in "study mode" where the focus is on language items rather than content, hence taking away from the pleasure of reading (p.5).

How a teacher approaches ER will greatly influence learner reading outcomes, as teacher-student interaction is vital to a student's ER journey. In most situations, a teacher needs to provide consistent feedback to encourage, remind, and even coax students to read more (Stoller, 1994). In general, ER activities are relegated to the self-study component of a class for learners to do independently outside the classroom (Bui & Macalister, 2021). According to Nation and Waring (2020), students are inclined to read when an ER program promotes intrinsic motivation by extoling pleasure in reading, rewarding reading success (accomplishing a task at the appropriate reading level), enabling satisfaction through the demonstration of progress (such as improvement in fluency and comprehension), acknowledging the value of the task (developing reading skills), and the ability of the learner to exert control over the task (deciding what to read). These practices ultimately contribute to the long-term goal of building "a reading habit" (Nation & Waring, 2020, p.5).

For a learner to establish a reading routine, it is important that a realistic and attainable reading goal be set that not only enhances learning but also encourages self-evaluation (Leather & Uden, 2021). Setting a reading goal is complicated as it must consider the learner's ability and enable the learner to reach a specific proficiency level. Studies (e.g. Beglar & Hunt, 2014; Milliner, 2017) have suggested 200,000 words or more words per year or 100,000 words per semester as being an attainable target. In a previous study, Cheetham, et al. (2018) looked at the impact of ER and timed-reading activities in terms of reading fluency on student standardized test scores such as TOEIC. The results of the study suggest that there is plausibility to the notion that ER and timed reading help improve standardized test scores under certain conditions. Specifically, a student needs to read at least 150,000 words or more at an average of 160 words per minute (wpm) or an average incremental increase of 27.8 wpm over a 14-week period.

Extensive Reading Learner Management Systems

As Chang and Renandya (2017) point out, one of the major hurdles in implementing ER in a language curriculum is how teachers monitor and hold students accountable. Reading management systems such as MReader and Xreading are designed to promote accountability by setting clear reading targets, tracking student reading progress by the number of words read, and assessing comprehension through quizzes. The positive assessment that such learning management systems provide is seen as "beneficial in maintaining the flow of motivational reading cycle" (Leather & Uden, 2021, p.61).

Sponsored by the Extensive Reading Foundation, MReader is a free management system to accompany PGRs and is used by over 100,000 students worldwide. The system allows teachers to not only track student's reading progress but to ensure appropriate reading levels and continuity throughout the semester. MReader uses a ten-item quiz with multiple-choice comprehension questions and a sequencing question to assess if a learner has read and understood a particular graded reader. The system includes about 8,000 quizzes of popular graded-reader series (e.g., *Black Cat, Cambridge University Press, Compass Publishing, ELI, Helbling Languages, Macmillian Language House, National Geographic-Cengage Learning, Oxford University Press, Pearson,* and *Penguin).* When a student passes a quiz, the book cover and the number of words read (added to the accumulated total number of words read) are credited to their MReader page. In addition, top readers are recognized on MReader's international leaderboard.
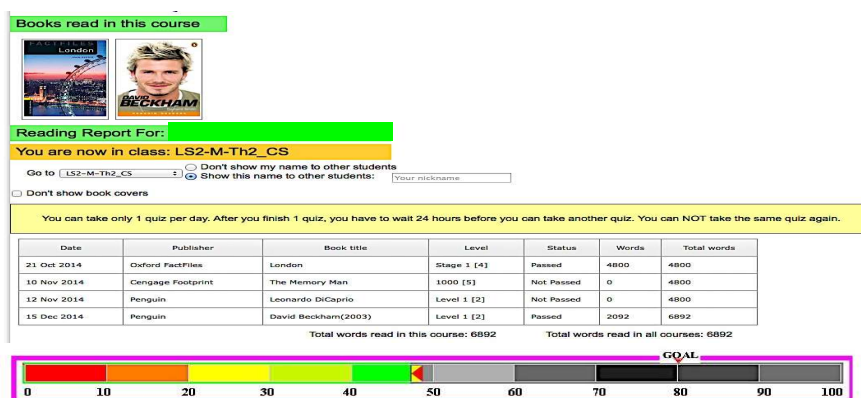

Figure 1. Example of an MReader student page showing credited book covers and number of words read.

Xreading is a paid subscription service which includes DGRs and a reading management system. Xreading has over 1,200 graded readers with audio from *Atama-ii, Cambridge University Press, Compass, e-future, ELI, Helbling Languages, Macmillan Language House, National Geographic-Cengage Learning*. The library has 14 levels that are each sub-categorized from beginner to advanced based on the publisher's headword count (the index for scoring the readability of the text). Like MReader, it also tracks student reading progress but includes only a five-question comprehension quiz. In addition to comprehension and words accumulated, reading time, reading speed, and listening speed can also be assessed.

Date (Check out) ↓	Date (Return)	Books			Xreading Level	Words Read	Percent Read	Read Time (h:m:s)	Read Speed (Word/Min)	Listen Time (h:m:s)	Quiz Grade	Book Rating
Apr 30, 2021 2:01 PM Class: HW-ESP Intermediate 1 Assignment: Spring 2021 Reading	Apr 30, 2021 2:04 PM Read Again Returned (Completed, Passed)		Get WAO Waochi Picture Books 54 words, 1 min	🗑	1	54	100.0	00:01:15	43.2	00:00:00	Pass	Rate
Apr 30, 2021 1:58 PM Class: HW-ESP Intermediate 1 Assignment: Spring 2021 Reading	Apr 30, 2021 1:59 PM Read Again Returned (Completed, Passed)		The Week it Rained Sunshine Books 69 words, 0 min	🗑	1	69	100.0	00:01:15	55.2	00:00:00	Pass	Rate
Apr 20, 2021 12:31 AM Class: HW-ESP Intermediate 1 Assignment: Spring 2021 Reading	Apr 20, 2021 12:34 AM Read Again Returned (Completed, Passed)		Take WAO Waochi Picture Books 61 words, 1 min	🗑	1	61	100.0	00:00:30	122.0	00:00:00	Pass	👍 Read Review
		Average			1	163.7	100.0	00:02:30	65.2			
		Total				5,565		01:25:20				

Figure 2. Example of Xreading student page showing credited books, number of words read, reading time, reading speed, and listening speeds.

PURPOSE OF THE CURRENT STUDY

Those who have attempted to build an extensive reading library will attest to the fact that it is not only expensive, but also very cumbersome to maintain. Increasing interest in digital platforms and the need to adopt a remote teaching curriculum due to Covid-19 have created a need for ER programs to look at alternatives to PGRs. However, program organizers may overlook the needs and preferences of the learner. Before adopting a new medium or revising an existing ER program, it is necessary to assess student ER achievements using PGRs and DGRs. Therefore, this study seeks to compare the extensive reading outcomes of PGRs and DGRs using two reading management systems. The research questions are as follows:

RQ1. Did the average number of words read differ between PGR and DGR users?

RQ2. How many students reached the set reading goal of 150,000 words with quizzes passed using MReader and Xreading?

RQ3. To what extent did PGR and DGR users' attitudes differ toward extensive reading?

RQ4. How did the instructors evaluate the extensive reading materials used (PGRs vs. DGRs) in the ER program?

Participants

Ninety-five students at a private Japanese university participated in this preliminary study over 14 weeks in the spring semester of 2019 and in the spring semester of 2020. Within this required, intensive, advanced-level (CEFR level B1 and above) TOEFL Speaking course for first-year students, class size was limited to approximately 12 students per class and there were four classes taught each Spring semester by four native English-speaking teachers belonging to the university language center. The primary goal of this course was to increase student speaking proficiency so that students could achieve a TOEFL iBT score of at least 71 to fulfill their study abroad requirements.

Table 1. Total Number of Participants Grouped by PGR or DGR Usage

Group	Year	Number of Classes	Student Total	Survey Participants
PGR Users	2019	4	52	25
DGR Users	2020	4	43	24
Total			95	49

RESEARCH METHODS

To compare student extensive reading achievements using PGRs and DGRs, the participants in this preliminary study were encouraged to read over 150,000 words over the course of 14 weeks. The number of words read, represented by quizzes passed were tracked and monitored using MReader (PGRs) in spring 2019 and Xreading (DGRs) in spring 2020. To clarify, different students participated in each semester, and no student used both MReader and Xreading. MReader and Xreading reading logs contained the total number of words read over the course of the semester, reading level, and the number of passed and failed quizzes.

In addition, students were asked to complete a voluntary short online survey at the end of the semester about their reading experience to measure their attitudes toward extensive reading and the ER format they used (Appendix A). This bilingual (English/Japanese) survey asked the students to include a statement about their thoughts on graded readers which could be written in either language. Statements written in Japanese have been translated by the authors into English. To draw comparisons, a qualitative survey was also given to three instructors who taught using both formats (Appendix B).

Procedure

PGRs and Course Extensive Reading Requirements

In spring 2019, the course utilized the language center's mobile PGR library, which it had used for over ten years. Each teacher brought a mobile library cart with two baskets containing

approximately 180 PGRs each from various publishers to their classroom. The titles had been curated by the university graded reader committee for learner reading abilities, and for this course, 5 book levels from 700 to 2,200 headwords were used. The levels were based on the university's graded reader leveling system which combines levels of various publishers and is similar to the Kyoto Scale (a ten-level scale of increasing difficulty based on reported headword counts) used in MReader. On average, students read books at Level 6 (CEFR B1). All graded readers within the mobile library were non-fiction titles on subjects such as archeology, geology, history, biology, etc., which complement the TOEFL emphasis of the course. Students were also encouraged to read and take quizzes on additional graded readers (non-fiction titles only) from the campus main library and the learning commons. After reading a graded reader outside of class, students were required to pass (pass mark=60%), a ten-item MReader quiz. ER accounted for 10 percent of the student's final grade.

Although the course met twice weekly, one class each week was designated for the ER program, and on this day the following activities took place:

- Teachers brought a mobile library cart of PGRs to class.
- Students laid out the books from the mobile cart on the desks and organized the book cards for returning and signing out books.
- Students rated the graded reader out of five stars and left a short comment about the book by completing the rating sheet attached to the inside cover of the book.
- Students gave mini-book reviews (a brief synopsis of the story followed by aspects they liked and disliked about the book) in pairs or in small groups.
- Based on the reading logs, teachers announced the top reader (student with highest word count) and the most improved reader (student with highest weekly gains) in the class.

Students were also encouraged to enter the 'MReader Challenge,' an annual university-wide initiative to support, encourage, and recognize students' ER accomplishments. It is open to all students who meet the contest requirements of reading a minimum of 150,000 words (or 40 books for basic level students) with MReader quizzes passed. The MReader Challenge is not promoted as a competition between students but rather a personal challenge. Those that complete the Challenge requirements are invited to a celebratory lunch hosted by the university's language center.

DGRs and Course Extensive Reading Requirements

In Spring 2020, the escalating pandemic resulted in the course being taught remotely. Unable to access the university's extensive PGR library, the authors turned to Xreading for its virtual graded reader library and reading management system. The students' one-year Xreading subscriptions were generously paid by their department. In keeping with previous reading levels and expectations, students were required to read books from intermediate level 7 (801-1000 headwords) to advanced level 14 (3001-3600 headwords). On average, students in this course read at Xreading's Level 7 (CEFR B1). Although the mobile library only carried non-fiction titles, non-fiction titles within Xreading's library are limited, so no restrictions were placed on book selections. Therefore, although students were encouraged to read non-fiction titles, they were not limited to them. As with MReader, teachers were able to track their student's reading progress by the number of quizzes passed and their accumulated word count over the 14-week semester with Xreading.

The pass mark was set at 60% for Xreading's five-item quiz and ER accounted for 10% of their final grade.

Like the participants in the PGR group, students also gave mini-book reviews each week. These reviews were, however, conducted remotely in Zoom (zoom.us) breakout rooms in pairs or in small groups. Participation in the MReader Challenge was also encouraged as the contest rules also applied to DGR users.

RESULTS

Table 2 compares the average number of words read by participants in the PGR group and DGR group using the Mann-Whitney *U*-tests ($p = 0.0$, $p < .01$). There were significantly fewer words read by participants in the DGR group than the PGR group.

Table 2. Average Number of Words Read by PGR and DGR Users

Group N	Average Number of Words	Mean *S.D.*
PGR Users (*N*=52)	162099.5	32018.38
DGR Users (*N*=43)	92532.4	57633.45

Table 3 compares the average number of quizzes passed and failed by both groups. On average, DGR users passed more quizzes (5%) and had a slightly lower number (0.2%) of quizzes failed.

Table 3. Average Number of Quizzes Passed and Failed for PGR and DGR Users

Group	Average Number of Quizzes Passed	Average Number of Quizzes Failed
PGR Users (*N*=52)	24.4	4.2
DGR Users (*N*=43)	29.5	4.0

Participants in each user group (PGR and DGR) were sub-divided into five groups depending on the total number of words read: Group A read over 150,000 words and reached the MReader Challenge, Group B read 149,999 to 100,000 words, Group C read 99,999 to 50,000 words, and Group D read 49,999 words to 1 word.

**Table 4.** Participants Grouped by User Group and Separated by Number of Words Read

Group	Total Number of Words	PGR	DGR
Group A	150,000 +	50	17
Group B	149,999 ~ 100,000	0	4

Group C	99,999 ~ 50,000	1	9
Group D	49,999 ~ 1	1	13
Total		52	43

In Group A, 96% of the PGR users reached the target goal of 150,000 words, while only 39.5% of the DGR users did. The 13 participants in Group D who read under 50,000 words comprised 30% of all DGR users, while the single PGR user in this group comprised just 1% of all PGR users.

According to Chart 1, 71% of PGR users responded favorably to reading graded readers with just two respondents reporting that they "did not like reading [in this course] at all," which resulted in a 12% unfavorability rating overall. Only 48% of DGR users found reading graded readers enjoyable compared to 16% who found them unenjoyable.

**Chart 1.** Participants Who Enjoyed Reading Graded Readers
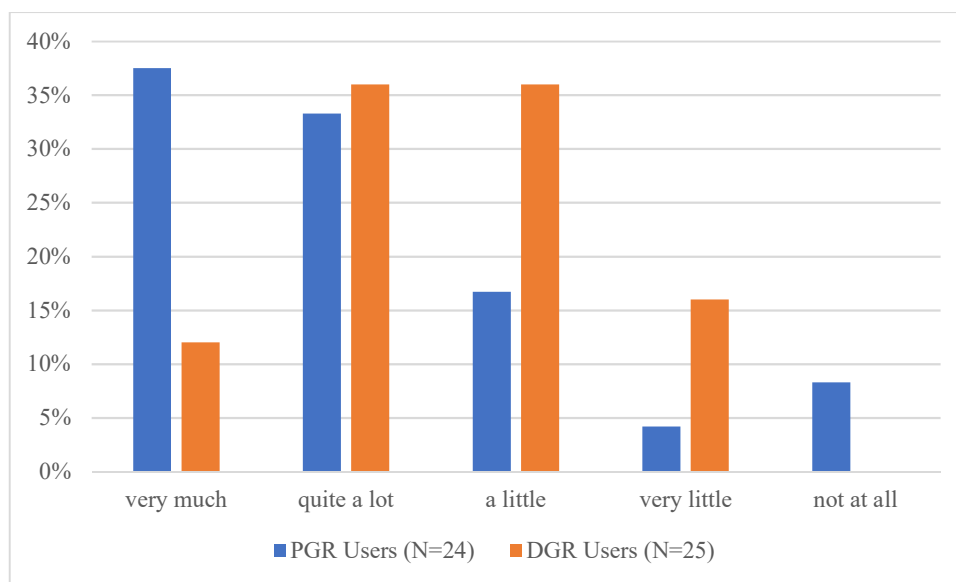
However, in terms of the perception of extensive reading being akin to studying, 46% of PGR users and 37% of DGR users remarked that reading graded readers felt like studying.

Chart 2. Participants Who Felt Reading Graded Readers Didn't Feel Like Studying
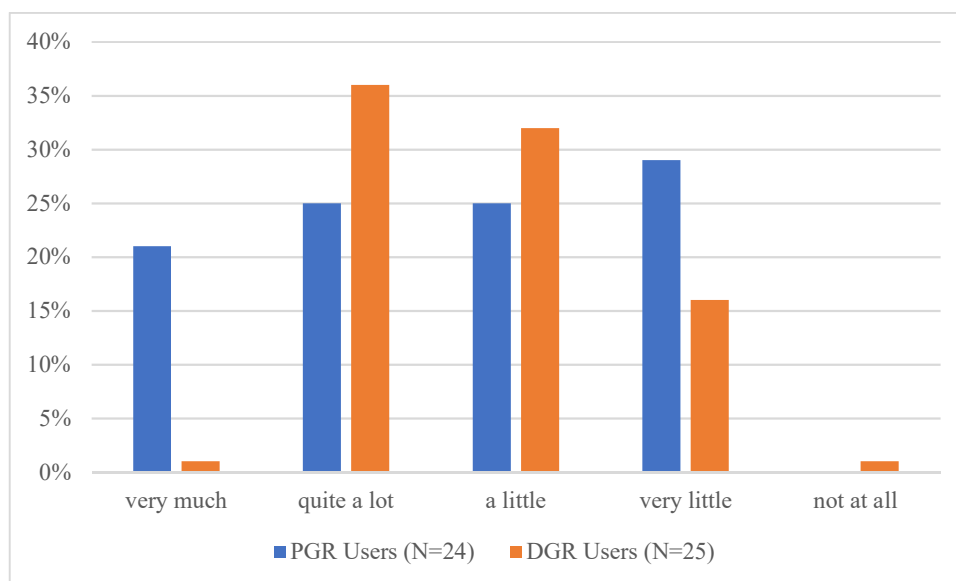
Overall, both groups felt that graded readers helped them improve their English skills with 59% of PGR users and 49% of DGR users responding favorably.

Chart 3. Participants Who Felt that Graded Readers Helped Them Improve their English Skills
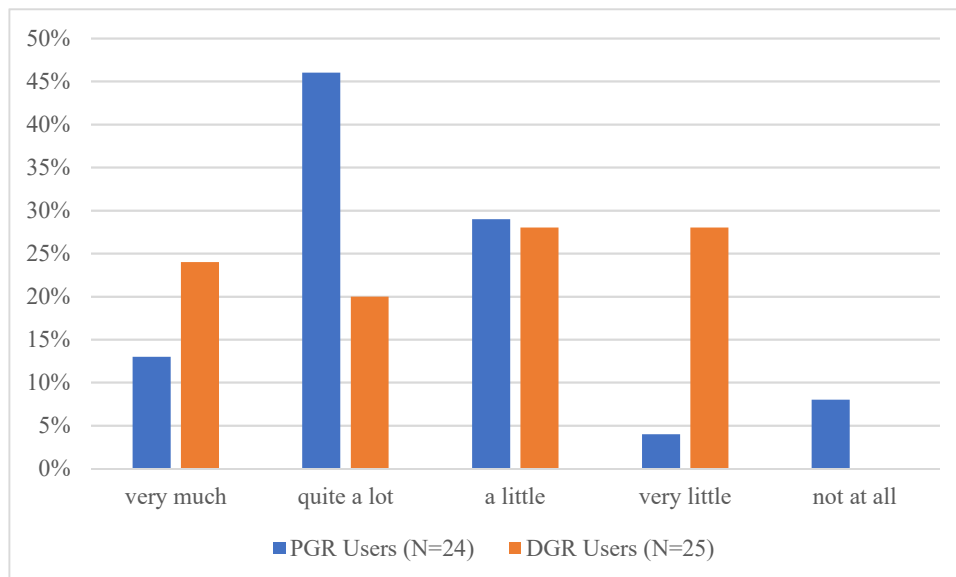
In addition to improved overall English skills, 58% of PGR users indicated they noticed improvement in reading speed, while 41% felt their vocabulary improved and 38% felt their grammatical understanding improved. In contrast, a higher percentage of DGR users felt their reading speed improved (64%), while a lower percentage noticed improvement in their vocabulary (32%) and grammatical understanding (28%). However, it should be noted that Xreading tracks users' reading speed, thereby giving DGR users evidence to support their findings.

  Three instructors with experience teaching the course using PGRs and DGRs were asked to respond to a six-question qualitative survey aimed at evaluating the extensive reading materials used in the ER program (see Appendix B). In response to Question 1, all of the instructors found both MReader and Xreading "valuable" with pedagogical benefits including goal settings, promoting student autonomy and empowerment, and building a classroom community. All three instructors mentioned the benefit of having a "concrete" or "specific" goal (150,000 words with quizzes passed) with visible measures of achievement (aggregate word total and book covers). Instructor 2 responded that "students always know where they stand in terms of reaching their goals," while Instructor 1 praised the flexibility afforded by both systems which allow students to "evaluate and adjust their expectations of themselves." All three instructors mentioned that students "liked" being able to choose what to read by themselves and/or "enjoyed" discussing the books they read with one another. Instructors 1 and 3 pointed out that, for Xreading, it was nice to have the additional information on reading speed.

  In response to Question 2 regarding the difficulties of managing each system, all three instructors indicated that monitoring the book review portion of weekly graded-reader activities was more difficult using Xreading (DGRs) rather than MReader (PGRs) since the instructor could not visit all the breakout rooms in the allotted time. In terms of getting students started with the two management systems, Instructor 1 pointed out that it seemed to "take more time" to explain Mreader to students, while Instructor 3 mentioned that, with both systems, one of the most common student questions was why they did not get credit for reading a book. To clarify, students only received credit for reading a book when they passed the management system's quiz.

  For Question 3, Instructors 1 and 3 clearly indicated preference for MReader over Xreading, while Instructor 2 acknowledged that using Xreading was "necessary" for online teaching and MReader was "preferable for face-to-face instruction." Two of the three instructors mentioned that students in their class had read more using MReader than Xreading, citing the lack of titles for Xreading as a potential reason why students read less. Instructor 1 commented that although students had more choice in terms of genre using Xreading, the fact that students read less "shows that they liked being able to choose books with genres more closely related to their academic goals." Instructor 2 indicated preference for PGRs because of the opportunity for weekly class socialization, with students "taking responsibility" for the administration of the mobile library and being "more eager to talk about their books when they have a chance to grab a book to read next."

  In response to Question 4 about recommending one or both of the systems to other English Language Instruction (ELI) teachers, all three instructors answered "Yes" but with various conditions. Instructor 2 indicated that both systems require technical knowledge to navigate and to explain to students which could "overwhelm" some teachers. Instructors 1 and 3 indicated willingness to recommend MReader over Xreading for a university in a similar position—one which already has a substantial investment in PGRs since the system is free and accommodates a wider variety of books. Instructor 1 indicated that Xreading could be recommended for a university which doesn't already have an extensive PGR library as a way to "quick start" an extensive reading program. Instructor 3 said Xreading "allowed students to continue to read extensively more easily during breaks and holidays" when they don't have access to PGRs.

  Instructors cited a variety of areas of student learning were improved by Xreading and MReader for Question 5. For both systems, instructors claimed improvement of student "reading comprehension" and "vocabulary," though Instructors 1 and 3 indicated that students' academic vocabulary seemed more improved with MReader than Xreading. Also, Instructors 1 and 3 singled

out Xreading for improving student reading speed, which was comparable to DGR user responses also singling out this aspect as improved.

In response to Question 6 regarding the best way to prepare students for reading extensively, Instructor 2 suggested giving students an opportunity to "reflect on and share what their experience of reading was like," or in other words, having students activate schema by thinking about what they already knew about a topic before reading a book and having a reading goal of being able to articulate what new information/ideas they learned from a book. Instructor 3 said that "acknowledgement" was the most important aspect of preparation and that "recognizing the weekly top and most improved reader activated a competitive spirit in some students who craved that acknowledgement, so they would try to read more to receive it." Instructor 1 said that "information," such as a bilingual orientation video at the start of the semester, was the most useful preparation and that "spending time in class to explain what extensive reading is and why it is useful goes a long way to prepare students to actually do it."

DISCUSSION

The remote online learning situation during Covid-19 may have been overwhelming for some students. However, teachers noted that overall, students completed their course assignments on time and in more detail than in previous semesters. This may have been because students had more available time to devote to their studies due to Covid-19 restrictions. In terms of extensive reading under Covid-19, DGR users did not reach the same heights in terms of number of words read as their PGR counterparts had. This is evident when comparing the top PGR user who read 350,314 words to the highest DGR user who read 181,770 words. The authors posit that if the DGR users had had to pay for subscriptions themselves rather than having them paid for by their department, they may have been inclined to read more books. However, another contributing factor may have been "digital fatigue." Under Covid-19, since all the students' coursework was done online, spending more time in front of a computer screen/digital device to do extensive reading was less attractive. This may have resulted in Xreading losing the novelty factor it might have had when students were attending face-to-face classes and completing most assignments offline. Instead, it merely became additional online work. These sentiments seemed to be supported by DGR user comments such as DGR 4 who said, "I didn't feel like reading Xreading books because they were electronic versions." There also appeared to be some distrust of online materials, as DGR 24 perceived Xreading as "less like studying" and felt that he would have been more motivated to read in English with a physical book. Although extensive reading is aimed at pleasure reading, some students may not abide by those principles and instead are motivated to read if it is seen as improving their skills and overall grade.

Although the remote ER format tried to maintain many of the same elements of encouragement, student-teacher interaction, and camaraderie as the in-person format, it was not easy to maintain. Perhaps being less under the watchful eye of the teacher played a significant role. For example, when the weekly mini-book reviews were conducted in-person, the teacher could observe all students completing the task and ascertain if they had, in fact, done the required reading for that week. However, in Zoom breakout rooms this was questionable as students were left to their own devices to complete the task with the teacher being unable to observe all groups. In general, the fellowship and cooperation of the PGRs, where students helped sort and display books each week while giving each other recommendations, seemed lost according to the instructors in

the remote classroom. The social learning environment that thrived in the pre-Covid era most likely contributed to PGR users' overall higher favorability of ER and sense of achievement.

A successful ER program must feature a sufficient number of appropriately-leveled books while providing ample choice and maintaining interest. The mobile library consisted of titles that were tailored to the students' interests and learning goals. This was reflected in the survey participants' comments:

> PGR 2: Since I was reading a book in a field that interests me, I think I was
> also interested in the words and expressions that appeared in it.
> So, I enjoyed studying.

> PGR 7: It was hard to read books every week, but it is useful to read and
> know about a variety of things.

This was not always the case with Xreading, as DGR 25 commented that "there were few books I was interested in" while DGR 14's response, "I wish there was a larger selection of books," reflects some dissatisfaction regarding the selection available readers. This is echoed by Bui & Macalister (2021) who concur in their research that DGR users often need to contend with a shortage of reading materials of different genres and levels.

Although it is difficult to adequately draw comparisons between MReader and Xreading quizzes, they do, however, factor into students' motivational response to ER and ultimately the number of words read. One of the biggest points of contention for both groups was the quizzes. When not passing a quiz, students tended to express demotivation as in the following remark:

> DGR 23: The questions after reading were often very vague, and not getting credit
> for the book I read was demoralizing.

Often students wanted to know why they did not get credit for reading the book and were in disbelief that they had not pass the quiz. However, overall, students tended to perform well on the quizzes, and even though the MReader quizzes may have been more challenging (more questions with the more challenging sequence question), PGR users still outperformed DGR users in respect to achieving the target goal of 150,000 words with quizzes passed.

Clearly, the current study results show that students and teachers overwhelmingly both favored ER to assist in language acquisition. In general, comments from both groups tended to be very positive towards the ER systems. The student survey results demonstrated a resounding like for graded readers and a consensus that student English skills improved which was echoed in survey comments:

> PGR 4: Not only did I improve my English reading comprehension, but I also
> increased my knowledge by reading the biographies of great people.

> DGR 10: It led to a great improvement in my reading ability.

> DGR 12: I felt my reading speed increased the most.

The higher proportion of PGR users and teachers who indicated that student vocabulary improved is perhaps again due to the ability to tailor/restrict the PGR library solely to non-fiction books and the greater selection of these books compared to the DGR library of Xreading. The perception of improvement is based upon increased exposure to vocabulary more in tune with students' learning goals.

For many learners, being able to read 150,000 words in 14 weeks on top of their studies was a huge accomplishment. Students not only expressed their elation at reaching the target goal, but also in understanding the significance of it. Perhaps most importantly as the students sought to reach their target of 150,000 words, they developed a "reading habit:"

> PGR 9: Only when the number of words exceeds a certain number can you feel the effect of MReader, so you need to make an effort.

> DGR 22: Since the goals were set, I was able to study systematically to achieve them, and gradually increasing the level and the number of words helped me improve my English proficiency.

> PGR 3: I'm glad I got into the habit of reading books.

LIMITATIONS

There are four main limitations that standout in this study. One is the different classroom approaches. Although the teachers tried to replicate their pre-Covid-19 classroom setting and practices online with Xreading, undoubtedly remote teaching could not emulate all aspects. Being online changed the dynamics of the extensive reading in the course. The second issue was the difference in the quantity and variety of reading materials offered by the university's mobile library and Xreading. As Xreading did not offer enough level-appropriate non-fiction titles, DGR users were allowed to read fiction titles. This differed from PGR users who read only non-fiction books that were geared toward their study goals and interests. The third limitation pertains to the differing quiz formats in MReader (ten-questions) and Xreading (five-questions), which made it difficult to make comparisons. The final limitation is that not all PGR and DGR users opted to partake in the survey. As the survey was conducted anonymously and outside of class time, collection relied heavily on the willingness of the participants.

CONCLUSION

In conclusion, students were motivated to read using PGRs and DGRs under both management systems to reach the reading goal of 150,000 words with quizzes passed. However, this preliminary study showed greater favorability towards PGRs, as users clearly attained higher achievement goals with 96% of the users reached the target goal of 150,000 words read. The physical element that PGRs play when students select, discuss, and interact within a classroom setting appears to provide greater incentive and motivation in assisting learners to attain their reading goal. PGRs in the classroom are not just reading materials, but something that can be shared and experienced as a class. Perhaps unfairly, DGRs tended to receive higher levels of

criticism in survey comments by both teachers and students. In 2020, remote learning and the introduction of DGRs with Xreading was new to both teachers and students which might have hampered its acceptance. To claim one system or format as champion would be wrong. Each institution needs to find the best system and format for their students. Exploring and assessing various options is essential to finding the best fit.

ACKNOWLEDGEMENTS

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APPENDIX A

MReader Challenge Student Survey

1 – 全くそう思わない not at all   2 – あまりそう思わない very little 3 – そう思う a little
4 – かなりそう思う quite a lot   5 – 非常にそう思う very much

1. グレイディッドリーダーを読むのは楽しかった。
   I enjoyed reading Graded Readers.

2. グレイディッドリーダーを読むときは勉強しているという感じはしなかった。
   Reading graded readers didn't feel like studying.

3. グレイディッドリーダーのおかげで英語力が向上した。
   Graded readers helped me improve my English skills.

4. 英語を読むスピードが速くなったと思う。
   I feel that my reading speed has improved.

5. 英語の語彙が増えたと思う。
   I feel that my vocabulary has increased.

6. 英文法がより理解できるようになったと思う。
   I feel that I have a better understanding of English grammar.

7.日常生活においても役に立つので、英語で読むことは大切だと思う。
   I think reading in English is important because I can use it in my daily life.

8. M・リーダーの問題（MReader/Xreading quiz）は難しいがやりがいあると感じた。
   I found the MReader/Xreading quizzes to be challenging.

9. M・リーダー/Xreading の問題に答えることで、読解の目標が達成できたと思う。
   I feel my reading goal has been achieved when I pass an MReader/Xreading quiz.

10. M・リーダーチャレンジに参加し，もっとグレイディッドリーダーを読みたいと思うように
    なった。
    Entering the MReader Challenge made me want to read more graded readers.

11. M・リーダーチャレンジによって，もっと英語を読んでみたいと思うようになった。
    The MReader Challenge encouraged me to read more.

12. M・リーダーチャレンジによって，これからも英語を使い続けたいと思うようになった。
    The MReader Challenge has made me want to continue using English in the future.

13. グレイディッド・リーダーとM・リーダー・チャレンジへの参加について、あなた
    の感想を 簡潔に書いてください。
    Write a short statement about your thoughts on graded readers and entering the MReader
    Challenge.

APPENDIX B

Instructor Survey on MReader and Xreading Experiences

1 a. Do you think Printed Graded Readers (PGRs)/MReader is valuable? Why or why not?
  b. Do you think Digital Graded Readers (DGRs) /Xreading is valuable? Why or why not?

2 a. What difficulties have you experienced managing/using PGRs/MReader?
  b. What difficulties have you experienced managing/using DGRs/Xreading?

3. Which extensive reading management platform do you prefer: MReader or Xreading? Why?

4. Would you recommend MReader/Xreading to other ELI teachers? Why or why not?

5. Which aspects of students' learning have been improved through PGRs (MReader)/DGRs
   (Xreading)?

6. What is the best way to prepare students for reading extensively?

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