

Implementation of ReadTheory in a University EFL Context

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In recent years the increase of online tools and platforms has made extensive reading for students in an EFL context much more accessible (Dao, 2017; Forster, 2014; Khan, Shamin, & Nambobi, 2018). One such platform, ReadTheory (readtheory.org), was recently implemented as part of a second-year compulsory English course at a Japanese university. As part of the curriculum, students were required to participate in extensive reading over the course of the year. ReadTheory, a free online service that aims to improve learners' reading skills and comprehension, was trialed during the second semester as an alternative to similar services previously implemented at the institution, such as MReader (mreader.org) and XReading (xreading.com) (Mcbride & Milliner, 2014). An overview of ReadTheory and the rationale of its implementation will be briefly outlined with an explanation of how the platform was utilized in class over the course of a fifteen-week semester. Whilst there were some minor drawbacks, the author found that the ease of access to the platform, progress tracking, and the level adjustment feature had a positive effect on students' reading. The overall impressions and merits of the program will be discussed followed by its limitations and future implementations.

Overview

ReadTheory is a free online platform for teachers, parents, and students that has K-12 (school education grades from kindergarten through to 12th grade) focused reading comprehension activities. It gives users immediate feedback via

comprehension quizzes for short texts that are tailored for a user’s individual level. The main aim of ReadTheory is to help students increase their reading ability and comprehension by taking short quizzes. Whilst primarily used by students and educators in the United States, it can be used in a variety of contexts and learning styles (Khan, Shamin, & Nambobi, 2018).


Once students have registered, either by themselves or through registration by their teacher, they take a pretest. The pretest consists of eight texts with one comprehension question for each. Users are strongly recommended not to receive outside help during the test. The level of the texts starts fairly low, grade 3, and increases with each correct answer and decreases with each incorrect one. Students are not made aware of whether their answers are correct; however, the reading grade level and lexile number are displayed beneath the text’s title. Upon completion of the test, the student is assigned an appropriate reading grade based on the results of the test. Following this, students can then start participating in reading short texts and taking quizzes. The length and difficulty of the texts depend on the grade level. The higher the level, the longer and more difficult the texts become. All texts on the platform are all original texts written by a team of teachers and published authors with a mix of fiction and non-fiction texts. Each text includes several simple multiple-choice comprehension questions (Figure 1) that give instant feedback and detailed explanations as to why an answer was incorrect.

The Fresnel Lens

Grade 3, 590L

In the early 1800s, navigation was basic. Although ship captains did have some tools to guide them, they still relied heavily on eyesight. This was especially true when they were close to shore. Captains were on constant lookout to make sure their ship didn't run aground. Lighthouses were constructed to make the shore easier to see. The problem was that lighthouses had weak lights. They could not be seen from far away. This problem was solved by a French physicist named Augustin-Jean Fresnel. Fresnel invented a lens that would focus light into a single source. This focused light could be seen from many miles away.

"Augustin-Jean Fresnel." Wikipedia. Wikimedia Foundation, n.d. Web. 21 Jan. 2016.
"Fresnel lens." Wikipedia. Wikimedia Foundation, n.d. Web. 21 Jan. 2016.



QUESTIONS

What conclusion can we make from the information in this passage?

A. Fresnel was the greatest inventor of the 19th century.

B. Before the Fresnel lens, lighthouses were useless.

C. Ship captains had very good eyesight in the 1800s.

D. Light can be made more powerful by focusing it.

E. Navigation has advanced a lot in the last 100 years.

Submit

Figure 1. Example text and quiz questions. (Grade 3).

The progress page allows both the student and the teacher to view various types of data regarding the student's reading progression. The platform has a game-like aspect to it. For every question they answer correctly and every quiz they complete, they receive "Knowledge Points" (KP). As students accumulate these points, they level up and gain a different title for their progress level (Figure 2). The number of quizzes taken and passed is displayed as well as the pretest and program average of grade and lexile. The grade level progression data allows both students and teachers to track their past reading grades and displays their average, indicated by the dashed line (Figure 3).

Finally, the quiz history table (Figure 4) gives a breakdown of all the quizzes that the student has attempted. Data include the quiz number, title, date taken, grade, and score. Quizzes also have hyperlinks where students and teachers can review the answers, which can be useful as a review if students struggled with the text. Teachers can allocate their students into classes manually and have access to the same information above displayed either by class or by individual. Teachers can also specify a date range when searching for specific data. Other features are

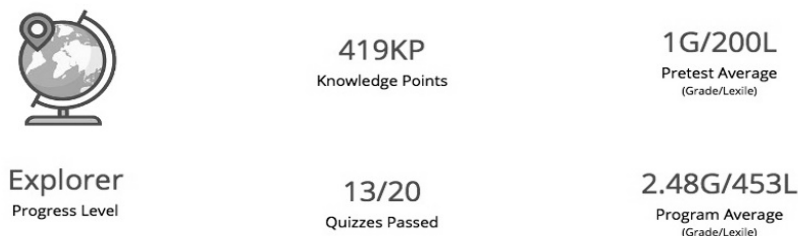


Figure 2. Example of student progression data.

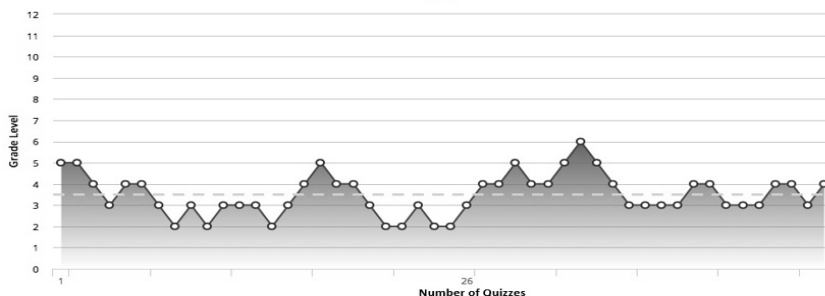


Figure 3. Example of student grade level progression.

Quiz History					
Summary information for quizzes completed since inception.					
Note that Lexile measures do not indicate the student's level of comprehension of the passages or the Lexile measure of the student.					
Number	Title	Date Taken	Grade Level	Lexile Level	Score
#4	On the Farm	03/05/2018	One	110L	75%
#3	Tom Cleans Up	03/05/2018	One	150L	75%
#2	Afraid	03/05/2018	Two	290L	66%
#1	Fun at the Park	09/19/2017	Two	430L	80%

Figure 4. Example of quiz history.

available, such as written responses to texts and printable worksheets, but neither of these was utilized for the class and, as such, will not be discussed in this article.

Why ReadTheory?

Firstly, ReadTheory was chosen over the previously used MReader for a number of reasons. First and foremost, the platform is entirely online, making it easy to access. This makes it more versatile than the previous system which entailed going to the library, choosing a book, reading it, taking the online quiz, and then returning the book. Both the texts and the quizzes are contained within one location. Secondly, ReadTheory also adapts to each student’s level, making the texts to be more consistent with appropriate reading levels for students. It can be difficult for students to choose books at an appropriate level. As shown by Holster, Lake, and Pellowe (2017), students often chose materials that were beyond their level, discouraging them from reading, or chose books that were too easy and unchallenging. The ReadTheory system adapts to user levels by increasing the reading grade level of the next text if the student passes the previous quiz with a pass mark of 90% or above. The reading grade remains the same if the pass mark is 70-89%, and the grade is decreased if the students fail to pass the quiz (less than 70%). The fluctuations of passing and failing quizzes average out to an appropriate level for students as shown by the dashed line (Figure 3).

Finally, ReadTheory makes it harder for students to cheat at quizzes. MReader does have some anti-cheat features, such as not allowing students to repeatedly take the same quiz and having a timed delay before students can take another quiz (Bibby, 2017). XReading, on the other hand, has several options,

such as not allowing students to read the same book and having no access to the text when taking a quiz. It can also show the amount of time taken to read a book, which allows the teacher to see if the student has simply clicked through the book quickly, an indication that they probably have not read the book. However, based on the former system of using MReader at this university, students often chose high-level books based on movies or previously known stories and passed a quiz without reading the book. This was discovered by the author after several students reached an incredibly high word count in a short amount of time. When investigated further, they had claimed they read books based on movies. When confronted, the students admitted that they had watched the movie and not read the book. In other instances, students opened the quiz first, read the questions, and then skimmed the book for the answers without making an attempt to comprehend the text. This was observed by the author on a number of occasions.

Implementation

With the above advantages in mind, ReadTheory was implemented in a second-year class of 25 students over a 15-week semester. The students were Pharmaceutical Science majors completing a two-year English communication course with a four-skills focus. In this particular semester there was more focus on reading and writing. Students met twice a week for 90-minute classes. They accessed the ReadTheory site via a link on Moodle, an online Learning Management System (LMS) which students were already using every class. Once students were registered, they took the pretest which lasted about 30 minutes. Upon completion, students were then asked to read and complete one text and quiz in the same session, as this would enable the teacher to begin tracking the students' progress. The teacher then gave a short orientation on how to navigate the site, check their own progress, and read the different texts. The orientation was given after the pretest, as giving too much information could have overwhelmed the students, distracting them from the test.

The following week, students were asked to read and pass an initial allocation of ten quizzes. There was an emphasis on passing the quizzes rather

than completing them. This was to ensure that students took the reading and comprehension of the texts seriously and to think carefully about the questions and answers, and to deter students from picking answers at random. Students were given about 20 minutes of class time to do this and were asked to complete any unfinished quizzes in their own time. The teacher used the class progress data to keep track of how many quizzes each student had passed and incorporated this as part of their final grade. Students could also check how many quizzes they had completed for that week via the same progression page on the site.

After the first week, student feedback suggested that ten quizzes were too many to manage. This was mainly due to the initial request that quizzes should be successfully passed rather than completed and resulted in students failing quizzes that were too high for them due to an increase in the reading grade level for passing previous level quizzes. These fluctuations in levels, as mentioned above, meant that students would fail quizzes that were too difficult and have their reading grade reduced. They passed the next quiz and had their grade increased to the previous level where they failed a quiz earlier. Illustrated in Figure 5, the large circles highlight three instances when a student had peaked at a level and failed the next couple of quizzes. They then reached a level where they could answer quizzes to a degree where their grade increased again. From this feedback, the number of quizzes required to pass was reduced to five, and further into the semester this was adjusted to have students complete but not necessarily pass the quizzes.

The structure of giving students time in class to complete the allocated number of quizzes continued until approximately three weeks before the end of the semester. Students were graded on what percentage of the number of the

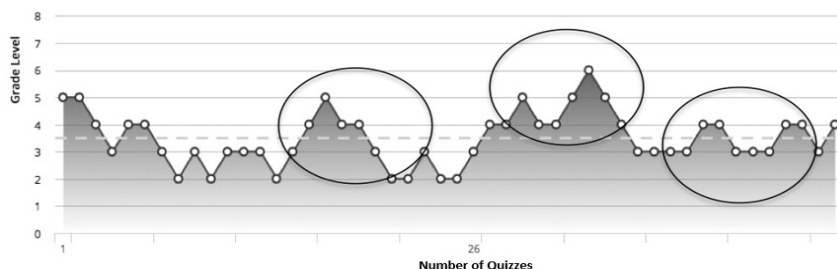


Figure 5. Example of fluctuations in grade levels.

allocated quizzes they completed each week over the course of the semester, and this became part (10%) of their grade for the semester.

Discussion

ReadTheory was used as an experimental alternative to the previously implemented MReader. Having texts online made it easily accessible for students using devices in class and at home. This significantly reduced time and effort, which in turn provided more class time for them to read a variety of articles. Due to its portability, students often completed the required number of quizzes either in class or as homework. Due to the weekly reading structure that was implemented, even if students were absent, they knew what was required of them via the repetitive nature of completing quizzes each week. Compared with this author's experience using MReader, many students in previous classes often failed to complete the required number of quizzes on time. Initially students were given a set amount of words to read by a given time. When the vast majority of students either did little or no reading or read movie books, the author asked the students to read one book every week. By the end of the semester, the vast majority of students had also failed to do this. However, with ReadTheory, the vast majority of students consistently completed the required number on time throughout the semester.

The adapted grade levels are a key feature of the site. Basing the subsequent texts on previously passed and failed quizzes allows for a higher probability that students will have an appropriately leveled text to read. Whilst in some cases the level might be a little too difficult, the level will decrease if a student fails a quiz. This should give the students encouragement as they will eventually start passing quizzes when they reach a certain reading grade level. This notion is supported by Krashen's (1987) theory of $i+1$, where i is comprehensible input that the student can read and $i+1$ is slightly above the student's level. In theory, the student's initial level following the pretest would be i , e.g., reading grade level 3; the $i+1$ level (reading grade level 4) would therefore be the point where students might fail a quiz as it is just beyond their current level of complete comprehension. As students read more and improve, the potentially challenging

$i+1$ should eventually become their new comprehensible input i , making the new $i+1$ reading grade level 5.

Finally, after comparing end of semester surveys for the class using ReadTheory against a class from the previous year using MReader, the author found 86% of students agreed or strongly agreed with the statement “My reading improved during the course of this semester” compared with 78% using MReader. Whilst MReader has proven popular in motivating students to read (Cheetham, Harper, Elliott, & Ito, 2016) this above data, within the context of the university, could be interpreted to show that students feel that they improved their reading by using ReadTheory. Caution must be used here as there is no data between the two platforms to compare actual student reading performance; this only compares students’ feelings towards their own performance. MReader and ReadTheory are quite different in that MReader’s focus is on students reading entire graded books, and ReadTheory is based upon short texts.

Limitations

Whilst there are advantages to using ReadTheory as outlined above, there were also limitations and difficulties with the implementation, which should give caution for other users currently using or considering to use the platform in the future. Deleted users and lost login information were problems that arose early in the course. On some rare occasions user accounts seemed to disappear without explanation. Upon contact with the ReadTheory staff, missing accounts were restored. However, on occasion the website staff were unable to restore accounts; therefore, as a precaution the teacher can print out a weekly report for the class and individual users. Another issue was students forgetting their login information. If students don’t register an optional email address with their account, they will be unable to recover their details, forcing them to create a new account and causing difficulties for the teacher. To avoid this, when registering students there is an option to print out login details for all the students.

Another drawback is that all the texts are randomized, which gives the students no freedom of which texts they read, and they are prevented from continuing to a different quiz until they complete the current one they are

reading. Students were not asked to complete a detailed survey regarding their feelings about these randomized texts and their impressions of the platform overall, although this could be addressed in the future. However, from the authors impression, if a student has a text that they are not interested in, this could result in students simply guessing answers as a method to continue to the next quiz. On the other hand, having a mix of fiction and non-fiction texts on a variety of topics could be good for students, as they are reading about a wide variety of topics.

Finally, there is the chance that students may specifically choose to get a number of questions wrong in order to stay at a level where the text comprehension is overly easy for students, rather than progressing to higher graded texts. Whilst this may not be immediately detectable, the way in which a teacher grades the participation in the reading progression may aid in deterring this. For example, a teacher may grade the student on knowledge points or percentage of correctly answered questions. Relating to this, there is also the possibility that students will simply guess the answers without reading the text, which can result in students given overly difficult or easy texts. Whilst there is no solid solution to this, the course grading structure may encourage students to take the texts more seriously.

Conclusion

The overall impression from using ReadTheory for a semester is that it is a simple tool to expose students to a wide variety of topics through short texts that attempt to automatically appropriate themselves to the user's level. The progress section gives simple visual indications of a user's progress, allowing them to compare a pretest grade to the current progression, as well as allow for review of previously taken quizzes and has a game aspect to encourage users to read more. From a teacher's perspective, it is useful to easily track a class' progress as well as individual users either over the entire semester or more accurately within a specific date range. Whilst the platform does have its limitations, the current implementation in a Japanese EFL university context has shown that students felt that their reading has improved as a result of ReadTheory, and it has more

beneficial features and positive impressions by both teachers and users compared to the previously used MReader. It has proved to be useful, easy to use, mobile and versatile. Possible future research could include more detailed student surveys and teacher interviews regarding their use and impressions of the ReadTheory platform.

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