

【研究論文】

RAZ for All! Exploring the Effects of a Digital Reading App in an EFL Class

RAZ for All! EFLクラスにおけるデジタルリーディングアプリの効果の検証

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Abstract

This paper describes a study examining the effects of the digital English language reading tool, *RAZ Kids* and its implementation in classroom instruction. The study took place during the 2021-2022 academic year among a small group of first year students in the Global Communication Department at a small private university in Hiroshima, Japan. A mixed methods analysis of qualitative data in the form of anonymous surveys as well as quantitative data of the participants' time spent within the app and incentives earned are examined in order to determine participants' English reading levels and participants' perceptions of their reading skill growth. The results indicate that utilizing the *RAZ Kids* reading app can be a beneficial learning tool for both language educators as well as students when engaging in an extensive reading program.

Introduction

The importance of reading skills is fundamental to one's overall language ability, therefore finding ways to provide accessible, effective, and engaging reading practice opportunities is crucial for educators. Nation (2001) informs us that students can improve their reading and vocabulary skills by engaging in extensive reading which consists of, "a large quantity of varied, self-selected, enjoyable reading at a reasonably fluent speed" (p. 2). However, the amount of reading time on a daily or weekly basis learners should spend on such extensive reading varies across studies. In their 2016 study Renaissance Learning laments, "the problem is that fifteen minutes seems to be the 'magic number' at which students start seeing substantial positive gains in reading achievement, yet less than half of our students are reading for that amount of time" (para 4). Finally, in the recent days of pandemics, students of all ages are increasingly using online-based technology (UNESCO, 2022). Renaissance Learning (2015) notes the benefits of using digital readers by providing, "interactive features (e.g., audio narration and online resources) that encourage students to engage with text in ways not possible with print materials" (p. 8). Research conducted by McRel International (2018) claims that by utilizing a supplemental leveled reading program, as provided by Learning A-Z's *RAZ Kids* digital readers, learners can develop a higher level of reading achievement as well as a overall interest in reading. This study examines the effects of using this digital reading app as a self-study reading tool for English language learners, as well as its uses for educators when implementing it into classroom instruction. It is important to note the author of this study has no affiliation and did not receive any compensation from the Cambium Learning Group or Learning A-Z.

Student Background

This study involved a cohort which ranged between thirty and thirty-five first-year university students. All students in this study were members of the Global Communication Department (GCD) which requires a large amount of English language courses, especially within the initial two years. One of these courses is Reading Strategies 1 and 2 operating in students' first year over two semesters. Another requirement for students in this department is frequently taking the Test of English for International Communication (TOEIC), a commonly used English language assessment in Japan. The average TOEIC reading score of the entire cohort is 138. The cohort was split into two streamed classes based on their performance on an in-house English language ability entrance test administered prior to the academic year. The Common European Frame of Reference (CEFR) leveled A1-A2 level class had an average TOEIC reading score of 109 and the CEFR A2-B1 level class had an average TOEIC reading score of 160. Finally, all students in this study had a personal iPad mini provided by the university, as well as access to the university's Wi-Fi network while on campus. The author purchased two *RAZ kids* classroom subscriptions which includes membership into the *RAZ Plus* teacher resources and accommodated all the participants in this study.

Learning A-Z and RAZ Kids

Nested under the Cambium Learning Group umbrella, Learning A-Z provides educational services in science, and English language arts as well as its subskills such as vocabulary, writing, and reading (Learning A-Z, n.d.). Institutions or individual instructors can purchase subscriptions and manage accounts online using its teacher support website. In this study students used the *RAZ Kids* iOS app on their iPad minis, and the author used the *RAZ Plus* educator website to enhance classroom instruction. At the time of this publication the price for one classroom of up to 36 learners is set at \$216.00 USD and so two, year-long subscriptions were purchased to accommodate all of the learners in this study. There is an additional ELL package which can be added onto the standard subscriptions, but it was not used during this study.

The *RAZ Kids* app (referred to as *RAZ app* during classroom instruction and the duration of this paper) provides English language leveled readers in a digital format. Password protected student accounts are quickly and easily created by the instructor, which tracks individual student activity within the app. Once inside the app, students select an appropriate leveled text (see Appendix A) and for this study students were limited to a specific reading range. Students can then either listen to a professional narrator as the text highlights or read it by themselves. Annotation tools are provided in each text so students can highlight, write memos, or use stickers to note their impressions, which teachers can also view. A limited dictionary is also provided within each text where students can access the English definition, an example sentence and hear the word pronounced. Moreover, a comprehensive *word journal* is provided for students to add unfamiliar words they encounter as they navigate all texts within the app (see *Results—Drawbacks*). Upon completing both these activities students can then take a five or ten item comprehension quiz.

Students are provided immediate feedback on the correct answers and provided an opportunity to correct their errors.

There are a variety of incentives which students can earn as they navigate the app. *Stars* act as currency and students can earn varying amounts based on their activity within the app. For example, simply listening to a text earns ten stars, whereas reading the text earns fifty stars and successfully completing a quiz earns one-hundred fifty stars. Even quizzes with only a portion of correct answers earns one-hundred stars and students earn the remaining by correcting their quiz responses. Additionally, students can earn *badges* as they progress which also awards stars. Students can use stars to modify their avatar or decorate their reading room (see Results- ELL Students in Mind). At certain times of the study students could donate portions of their stars to a UNICEF group aimed at providing humanitarian aid (Learning A-Z, 2021). Teachers also have an option to award stars to either individual students or the whole class. Within the teacher online portal teachers can view students' decorated avatars and track how much time students used within these incentives. This feature was especially useful when distinguishing the amount of time learners spent academically as opposed to interacting with these incentives.

Study Structure

This study collected quantitative data in the form of student activity with the app (for example, amount of time and/or log ins, reading level progress, stars earned, etc.) and qualitative data in the form of student surveys during the academic year. The general course evaluation survey contained some RAZ specific questions and was administered during the final week of both semesters. A second survey was developed to gain students' perceptions of the *RAZ app* and was administered twice during the academic year. The first RAZ survey was given halfway through the first semester in June 2021, once students had some time to experience the app and become accustomed to class routines. The identical RAZ survey was administered a second time in the beginning January to gauge the full extent of students' impressions over the year-long course. Both survey questions pertinent to this study can be viewed in Appendix B and major findings of both the qualitative and quantitative data are discussed in the *Results* portion of this paper.

This study is limited to the academic year of April 2021 to January 2022. Prior to this time the author informally engaged with the *RAZ app* and teacher support website but had not initiated a classroom-wide trial. During the first two weeks of the study the instructor engaged in training using the online teacher portal and created student accounts. The instructor created a demonstration student account to use when explaining or demonstrating *RAZ app* related issues. In mid-April students located and downloaded the *RAZ Kids* app using a QR code and entered the username and icon-based password provided by the instructor. Students then took an initial placement assessment to gauge the best starting level in the RAZ alphabet spectrum. During this period the star currency and badges students could earn was demonstrated and class time was provided for students to explore the customizable options such as an avatar, a reading room and themed background (collectively referred to as *incentives* in this paper) and students were encouraged to continue personalizing these features throughout the year. Periodically throughout the study the instructor demonstrated the *Listen*, *Read*, and *Quiz* portions, how to use the in-app

dictionary and *art tools*. As the study progressed students were expected to highlight vocabulary words in this manner, allowing for efficient monitoring by the instructor (see *Vocabulary Study* below).

The *RAZ app* was heavily incorporated into the Reading Strategies 1 and 2 courses. A large percentage of students' grades rely on outside class extensive reading which traditionally uses paper-based graded readers found at the university's English-language SALC (Self Access Learning Center). However, with the current state of online based courses the author sought a reliable manner to provide high-quality leveled English language texts to learners while providing opportunities for instructors to monitor and assess progress. Therefore, the *RAZ app* was used not only for student extensive reading, but also the vocabulary development and book report portions of the course.

Independent Reading

Primarily the *RAZ app* provided all of the independent reading during the course and was twenty five percent of a student's total course grade. As the study progressed and both the students and instructor became more familiar with the app, the procedures and requirements between the first and second semester differed. In the first semester class time was rarely provided and students were expected to use the *RAZ app* as homework. Likewise, during the initial semester students were encouraged to set a reading goal to complete and note it in the *RAZ App Weekly Reading* digital handout (see Appendix C). While students were encouraged to engage in the *Listen*, *Read*, and *Quiz* features as much as possible, the instructor did not set a minimum book amount or time quota during the first semester. The first semester's focus was also to find the best reading level for each student; therefore, the instructor would readily change individual's reading level based on their perceptions of the *RAZ* texts during this time. As the first semester progressed it was noticed that many students were not using the *RAZ app* consistently in their daily lives (see *Results—Drawbacks*), therefore the instructor changed some approaches in the second semester. During this time the instructor set a daily reading time of fifteen minutes for using the *RAZ app* and the course's pace was modified so that fifteen minutes of class time could be dedicated for the *RAZ app*. Now that students had a better idea of their appropriate reading levels, focus was turned towards students improving their RAZ alphabetical reading level without the instructor modifying reading levels. This was accomplished by completing the *Listen*, *Read* and *Quiz* for each book, and hence became mandatory instead of merely recommended the prior semester.

One major struggle during this study was how to assign grades in a fair manner. An in-depth explanation is provided in *Results--Drawbacks* below. Ultimately it was determined that the total amount of time spent within the app (excluding incentive time) was the best way to assign completion-based grades. The semester was divided into thirds of roughly five class weeks, (although this varied due to the university's schedule) and student log-in time was determined by accessing the online teacher portal. On average a daily *RAZ app* quota of fifteen minutes over a five-week period would require a student log-in minimum of 525 minutes or 8 hours 45 minutes to obtain full points for the time period. However, due to university holidays, the number of actual days or weeks contained within each time frame differed. An easier way to determine student completion would

have simply been to examine total log-in time at the end of the semester. Although this would have been much less complicated for the instructor, it was reasoned that students would not be as invested to use the *RAZ app* in a consistent way and perhaps only do the required reading towards the end of the semester or during holiday periods. Since we know that English learners need regular reading practice (Nation, 2001) this simpler but less effective option was rejected.

Vocabulary Study

Following the recommendations of Nation (2001) the *Vocabulary Study* component of the course required students to complete a digital handout documenting the texts read during the week, unfamiliar vocabulary words, and reflect on their reading progress (see Appendix C). At the beginning of every week students were provided with a *RAZ Weekly Reading* handout which they annotated as they continued their *RAZ* reading practice. This handout asked students to informally gauge how well they felt their English reading and vocabulary skills were progressing on a three-point scale, state how many *RAZ* texts they had read the previous week, set a goal for how many texts they would like to read the upcoming week, and note the location and time they plan to read. This not only allowed for students to plan their workload and make time in their weekly schedules for *RAZ app* reading but had the added metacognitive benefit for students to think more deeply about their goals and act upon them (Chappuis, 2015). During the week students were expected to write the title of each *RAZ* book they completed, find three unfamiliar vocabulary words (using the highlight art tool in the *RAZ app* as well) and provide the Japanese translation. Initially this handout was to be completed using the *Word Journal* feature contained within the *RAZ app*, however there were issues preventing this from being a practical option (see *Results—Drawbacks*). The instructor monitored student responses and verified each text and vocabulary words through the *Student Management* portion of the teacher's portal. Successfully completing and submitting each handout before the weekly deadline earned *vocabulary study* points totaling fifteen percent of students' total class grade.

Book Reports

The *RAZ app* was also utilized for students to complete several book reports during the course. As the students read the *RAZ* texts, they selected six over the year to engage upon in a deeper manner. Most *RAZ* reading texts contain a *Focus Question* posited at the beginning of the book, and a *Connections* extension opportunity at the end. Students chose an appropriate *RAZ* book they had read and submitted a PowerPoint presentation containing key information from the text and their opinions. For the *Vocabulary* slide students shared the three vocabulary words and Japanese definitions they had already selected when completing the *vocabulary study* process. In addition, students identified the correct part of speech and copied the sentence from the *RAZ* text. For the *Focus Question* slide students copied the focus question provided in the *RAZ* text, then typed their response. The *Connections* portion at the back of the text provided two extension

activities which involved applying the text's themes in a more active manner. Students chose one of these activities and completed it using PowerPoint's typing or drawing tools. Students shared a *Discussion Question* they prepared about their book in a small group during a subsequent class. These book reports were twenty percent of the students' class grade. An example of a successful book report can be viewed in Appendix D. While there were limitations and challenges using the *RAZ app* for these book reports (see *Results—Drawbacks*) it certainly incorporated the *RAZ app* into the Reading Strategies 1 and 2 courses.

Results

One major positive of the *RAZ Plus* for instructors is a dizzying array of data and reliable methods for tracking student performance. When accessing class reports in the online portal, teachers can see the number of stars earned, how many texts students listened to, read, the number of quizzes undertaken, how many times students log into the app, amount of time spent within the app and incentives. For this study the amount of time students spent within the app is provided below. Upon analyzing the data, students in both classes tended to spend more time in the app during the first semester and summer holiday with a combined average of 34.6 hours as compared to the second semester with 33.3 hours. This is interesting because students were provided fifteen minutes of class time in the second semester, yet the amount of time students spent within the *RAZ app* slightly declined when compared to the first semester where no class time was expressly provided. Likewise, we can total the amount of stars student earned as they completed *RAZ* activities. While the A2-B1 class earned slightly less the second semester, there is a marked difference for the A1-A2 class. This might suggest students were more motivated the first semester to use the *RAZ app*, or perhaps they had more free time earlier in the academic year as opposed to later which they used for *RAZ* reading. More research and follow up trials are needed to determine a solid answer.

	Average Amount of time logged into the <i>RAZ app</i>	
	Semester 1 & Summer Holiday April – September 2021	Semester 2 & Winter Holiday late September 2021 – early February 2022
A1-A2 Class	16.8 hours	15.8 hours
A2-B1 Class	17.8 hours	17.5 hours
Total	34.6 hours	33.3 hours
	Average Amount of STARS earned	
	Semester 1 & Summer Holiday April – September 2021	Semester 2 & Winter Holiday late September 2021 – early February 2022
A1-A2 Class	329,770	257,370
A2-B1 Class	218,910	215,850
Total	548,680	473,220

As previously stated, data collected from the course evaluation survey, administered at the close of each semester, and a specially designed *RAZ app* survey was used to gather

students' impressions and feedback. All surveys were administered digitally and translated into the participants' native language. There were some differences in participants and class size due to students adding or withdrawing from the course during the academic year, however the majority of students in this study responded to both surveys during both semesters. Overall, the results are positive regarding student perceptions of their reading and vocabulary skills, as well as using the *RAZ* app. In the course evaluation survey administered at the close of the first semester all but two participants indicated that their reading skills and vocabulary knowledge had increased with responses either as "strongly agree" or "agree" and the two outliers responded as "disagree." At the close of the second semester all students surveyed indicated that they "strongly agree" or "agree" regarding an improvement in their English reading and vocabulary skills. When asked specifically about the *RAZ app* the majority of participants in both surveys indicated that their interest in using leveled readers has increased and the *RAZ app* was a useful tool for learning English.

Course Evaluation Questions	End of Semester 1 Late July/ early August 2021 53 responses	End of Semester 2 January 2022 36 responses
My English reading ability has increased	14 Strongly Agree 37 Agree 2 Disagree	13 Strongly Agree 23 Agree 0 Disagree
My English vocabulary has increased	14 Strongly Agree 37 Agree 2 Disagree	15 Strongly Agree 21 Agree 0 Disagree
My interest in reading graded readers (using the <i>RAZ app</i>) has increased	19 Strongly Agree 30 Agree 4 Disagree	14 Strongly Agree 19 Agree 3 Disagree
Graded readers (the <i>RAZ app</i>) are a good way to learn English	19 Strongly Agree 30 Agree 4 Disagree	14 Strongly Agree 19 Agree 3 Disagree

In order to provide more detail in students' overall experience using the *RAZ app*, an additional survey was administered. The first instance was administered in June 2021 halfway through the first semester so as to provide students time to get to know the app, and the other in early January toward the end of the course. As with the course evaluation survey the sample size varied due to class size changes during the year. Unlike the course evaluation, students were asked to provide written comments for the majority of likert-scale questions. Visuals were also inserted next to some questions to assist any students who might not recognize the written terminology. For example, a screenshot of a *RAZ app's* art tools was provided next to the question asking students to indicate how useful the art tools were.

Just as the course evaluation indicated, students perceived an improvement of their English reading and vocabulary skill by using the *RAZ app*. When asked to indicate their satisfaction with the *RAZ app* the majority responded positively ("very satisfied", "somewhat satisfied", "satisfied") with only one participant indicating "dissatisfied" on both surveys. When asked about the likelihood of a student continuing to use the *RAZ app* when the course completes, the majority indicated they would be either "highly likely" or "somewhat likely" with only three indicating "not likely" in the first semester and four in the second semester. Perhaps the strongest indicator of student's positivity of the app can be seen when responding to whether students would recommend this app to a friend

or younger student. The majority confirmed they would either “strongly agree” or “agree” with only four disagreeing in the first semester and one in the second semester. Comments from both surveys indicated the app was enjoyable, easy to use, and learners could progress at their own pace. One learner best summarized saying, “It’s a great way to be exposed to a variety of topics and to learn at your own level.”

RAZ Survey Questions	Semester 1 (June 2021) 35 responses	Semester 2 (January 2022) 30 responses
My reading skills have improved	4 Strongly Agree 25 Agree 3 Disagree 3 Not Applicable	5 Strongly Agree 25 Agree 0 Disagree 0 Not Applicable
My vocabulary skills have improved	6 Strongly Agree 22 Agree 5 Disagree 2 Not Applicable	2 Strongly Agree 26 Agree 1 Disagree 1 Not Applicable
Please indicate your satisfaction with RAZ as a reading practice tool.	9 Very Satisfied 19 Somewhat Satisfied 6 Satisfied 1 Dissatisfied	10 Very Satisfied 12 Somewhat Satisfied 7 Satisfied 1 Dissatisfied
How likely are you to continue using RAZ after this course?	20 Very Likely 12 Somewhat Likely 3 Not at all Likely	18 Very Likely 8 Somewhat Likely 4 Not at all Likely
Would you recommend the <i>RAZ app</i> to a friend or younger student?	8 Strongly Agree 23 Agree 4 Disagree 0 Strongly Disagree	11 Strongly Agree 18 Agree 1 Disagree 0 Strongly Disagree

Teachers in Mind

In this time of online and hybrid class learning using a platform such as RAZ assists both instructors and students. From a teacher’s perspective the benefits of using a self-contained, digital reading program are appealing. The app is easily downloaded from the iOS app store, password protected student accounts can easily be created and managed using the online teacher portal, and Learning A-Z offers engaging teacher training and individualized assistance. Communication features within the app allow teachers the ability to write or record verbal messages or award bonus stars with individual students, selected groups, or the whole class. Upon launching the app students can take an initial diagnostic quiz to gain a relative reading placement which can be easily managed by the instructor. The amount of data provided by the *RAZ app* provides a reliable way to track student activity, such as texts read, annotations made using the *art tools*, quizzes attempted, minutes used within the app, stars earned, reading skills development, and overall progress made in the *Level Up* portion to name a few. Finally, the robust teacher resource website *RAZ Plus* provides access to all the materials students use, as well as many more features such as ongoing benchmark assessments, content-based whole class activities, as well as assigning specific texts.

English Language Learners in Mind

The *RAZ app* is not only an effective tool for students in general, but ideal for the English language learners in this study. For example, the password systems used to enter student accounts can be a traditional text-based password, or visually based in the form of highly recognizable icons (such as selecting a fish icon). This accommodates learners whose English vocabulary or typing skills may lead to issues when asked to input text-based passwords. Once logged into the app, the students' screen appearance and layout can be adjusted between elementary children or older users. This recognizes that improving English language skills is not only limited to children, but that English reading practice spans a myriad of ages. As a student progresses and earns stars, they can personalize the app's appearance such as selecting various themed backgrounds, decorating their reading room or customize their avatar. One student remarked, "There are many costumes which is able to spend a point, so we can play this app to get a point." Indeed, the majority of students indicated earning stars and customizing the avatar was "very useful" or "useful" in both surveys and several specifically cited these incentives as the aspects they liked best about the *RAZ app*.

Another significant point was how the *RAZ app* could accommodate students with visual impairments. Each text contains a professionally recorded native speaker which students can listen to, and several students appreciated this feature in their comments. Although one student wished they had the ability to change the narration speed, most had positive comments about the feature. It was even more crucial for students with visual difficulties or whose English listening skills might be stronger than their reading skills. In addition, because the texts could be provided in a digital format, students could annotate using the app's in-text *art tools* with a selection of colors and utilize the accessibility tools provided by the iPad mini (such as magnifying the words). This is another positive aspect the *RAZ app* provided such accommodations for all learners.

The Texts

At its core, the *RAZ app* provides books in a variety of genres, containing various subject matter, across a leveled spectrum in a number of languages. For this study only English language texts were selected, but it is worth noting that other world languages such as Spanish, Vietnamese, Ukrainian, and French are also offered. In addition, a number of "multi-level" texts are provided in several levels, allowing students at different reading levels to gain the same content. The instructor took advantage of this feature when providing classroom instruction and assigning differing ability groups an appropriate level text.

The wealth of leveled readers provided by *RAZ* supports learning goals and extends students' content knowledge and vocabulary in a variety of subjects. As Fisher and Frey (2014) inform us, "students need practice with a lot of texts so that they build their background knowledge and vocabulary" (p. 3), which is a strength of *RAZ*. When writing their *RAZ* survey responses students frequently commented on the variety of texts and appreciated the steady progress one could make. One student best summarized, "There are different levels, and you can read what suits you best." In addition, the variety of non-fiction texts allows readers to practice their English reading

skills while enhancing their background knowledge such as science, technology, history, and other fields. One participant remarked, “The interesting part is that there are books on many different topics. I can gain more knowledge from them.” This student was not alone, as this sentiment was echoed by many others in this study.

One of the overall aims for students at this university is to enhance international understanding. This includes differences between word usage or pronunciation among various countries as well as overall cultural mores such as politeness. The *RAZ* library offers an array of topical texts. In fact, Learning A-Z was named *Equity and Anti-Racism Champion* for 2021 by the Supes’ (Superintendent) Choice Award sponsored by the Institute for Education Innovation (IEI, n.d.). One specific text titled, *A COVID Birthday*, depicts a fictional family’s struggle to provide a typical birthday party amidst pandemic restrictions. Another reading, *Noni and the Copper Captain*, describes a fictional teenager’s dilemma when writing an article for her school newspaper as her community debates whether to remove a statue of a past war figure. Both these texts showcase current real-world situations and can offer students a look into not only other individual’s perspectives, but how such controversies can impact world events.

Drawbacks

Although this study found several positives using the *RAZ app*, there were some negative aspects encountered, particularly when accessed by English language learners. Firstly, the lack of students’ native language support was quickly observed by both the instructor and students. All instructions and vocabulary definitions are provided in English and the app does not support using a Japanese keyboard. Initially the app’s *word journal* tool was going to be utilized as a way to comprehensively note unfamiliar words. However, students could not type Japanese into the definition area, rendering this appealing feature useless in a practical sense. Instead, students used the digital annotation pen and highlighter within the text’s art tools to write the Japanese definition or any memos. Additionally, students had to log their texts and find three vocabulary words for each text using a separate digital handout. Had the *RAZ app* been able to support students’ native language these accommodations would not have been needed and English vocabulary would have been able to be tracked in an easier way.

Another drawback was encountered with a text’s *Focus Question* and *Connections* activity. Due to the leveling, some of the easier level texts would not have one or both of these. As previously mentioned in Methods—Book Reports students were asked to answer their text’s *Focus Question* and choose one of the *Connections* activities to successfully complete a book report. Therefore, students who omitted these points when submitting book reports received lower grades. This was remedied by revising the book report rubric and individualized assistance by the instructor; however, it was a consistent problem during the first semester of the academic year. In addition, as the text level increased, so did the question difficulty resulting in several students not being able to produce the desired results stated in the activity. For example, when asked to write a paragraph, many could only produce two or three full sentences. Other instances asked students to create a visual representation such as a venn diagram or illustration supporting their written responses. Some students were able to produce the necessary work (see Appendix D), but in most

cases, students could not perform to the desired level unassisted.

One of the more significant challenges of this study was how to assign completion-based grades for students' *RAZ* activity. In past courses using paper-based graded readers, student grades were based on the amount of words within a particular text. The more books a student read or the higher leveled (and therefore longer) texts would award more word counts. This system allowed students of all English reading abilities a fair way to track their reading progress. The *RAZ app* however did not provide a text's word count in an easily accessible manner. Therefore, a new system needed to be developed. The author considered using the number of stars individual students earned as a way to provide grades. This was rejected due to inequalities in the allocation of stars. For example, listening to the narrator would only provide ten stars, whereas reading the book gave fifty stars and finishing quiz awarded one-hundred fifty stars. This would penalize visually impaired students who found it best to follow along with the narrator as they completed the listen function. Another option was tracking how many texts were finished during a certain time period. However, this penalized the students reading higher leveled texts because they were longer and used more complex vocabulary and grammar, therefore took longer for students to complete. Ultimately it was decided to award grades based on total time spent within the app during a particular time frame as this information could be easily found within the teacher's portal and time spent using the incentives could be separated.

Other challenges students noted in their survey comments were technology frustrations and the unequal workload as students advanced in their reading levels. Although students appreciated the ability to access *RAZ's* online library, one learner wrote, "you can learn reading skills from being able to read anywhere" it requires a stable internet connection. Others noted the app's limitations such as not being able to split their screen and use two apps simultaneously, the inability to select and copy sections of text, and some sensitivity issues when trying to zoom in the screen or use the art tool highlighter. Regarding the amount of effort required to complete the *RAZ* activities, students and the instructor noticed an unequal tendency. As one learner wrote about an aspect they didn't like, "As the level goes up, the words become more difficult," which led to some students preferring to stay at the same reading level for an extended period of time. The instructor frequently explained and demonstrated the importance of finding each student's optimal challenge level which led to requiring a greater emphasis on students completing all of the *RAZ* activities-*Listen, Read and Quiz*. This also impacted students operating at a lower reading level when compiling their book titles and vocabulary words each week. Students operating at higher *RAZ* levels did not read as many books each week and therefore did not document as many vocabulary words in the *RAZ Weekly Reading* handout. However, students at lower reading levels frequently read more books and therefore had a larger vocabulary workload.

Future Projects

Moving forward, some areas for further investigation include a more detailed look at the *RAZ app* on students' motivation and how it relates to reading skills performance. Likewise, we can carefully examine the effect of explicit instructor monitoring and feedback can have in a more frequent or direct manner (perhaps using the in-app teacher/student messaging system). While

the initial reading level placement assessment was used in the beginning of the study to informally gauge individuals' starting points, other benchmark assessments provided by *RAZ* were not utilized in this study. Therefore, tracking and documenting such assignments, as well as taking advantage of the voice recording feature within the app could be another area of focus in the future. Finally, researchers can examine and compare learner's experiences using the *RAZ*'s digital or a traditional paper-based reader system in future studies. On a positive note, one student wrote, "there are many books with easy-to-read contents. (I like them) because they are shorter and easier to read than paper books." Yet, when explaining why they would not continue using the *RAZ app* after this course another student simply stated, "I like paper (books) better." As this cohort advances to their second-year university courses, they will encounter a paper-based graded reading system provided by the university's SALC. Follow up studies can take place with these students, or another group of learners who undergo both methods during their coursework. This would also have an added benefit of increasing the participant totals, as one of the limits of this study was the small number of participants involved.

Nation (2001) urges language teachers, "it is worthwhile setting up an extensive reading program, making a substantial, obligatory part of the course and persisting with it in an organized way" (p. 7). Although there were challenges in adopting the *RAZ app* into the Reading Strategies course, the overall benefits outweigh the negatives. Naturally there were issues the instructor and learners noticed as they navigated the *RAZ app* and classroom procedures. However, as adjustments were made the *RAZ app* provided a reliable source of high-quality leveled readers in a digital format, useful in-app tools for annotations and a wealth of monitoring options and additional instructional resources for the instructor. Having completed a full academic year trialing the *RAZ app* instruction can be further modified to provide the best experience for future learners and instructors. English language learners need a rich amount of leveled reading input. As Baumford and Day (1997) tell us, "only by discovering the rewards of reading through actually engaging in it will students become people who both *can* and *do* read" (para 6). As we can see the participants in this study have deepened their reading and vocabulary study through their engagement with the *RAZ app*.

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Appendix

Appendix A: RAZ reading level equivalency chart



English Level Correlation Chart

Learning A-Z Text Leveling System	Lexile*	Accelerated Reader (ATOS)	DRA	Fountas & Pinnell	Reading Recovery	PM Readers
aa	BR70L-10L	0 - 0.9	A-1	A	1	Starters 1
A	BR70L-10L	0 - 0.9	A-1	A	1	Starters 1
B	BR40L-160L	0 - 0.9	2	B	2	Starters 2
C	BR40L-160L	0 - 0.9	3-4	C	3-4	3-4 red
D	160L-310L	1 - 2.4	6	D	5-6	5-6 red/yellow
E	160L-310L	1 - 2.4	8	E	7-8	7-8 yellow
F	300L-450L	1 - 2.4	10	F	9-10	9-10 blue
G	300L-450L	1 - 2.4	12	G	11-12	11-12 blue/green
H	430L-530L	1 - 2.4	14	H	13-14	13-14 green
I	430L-530L	1 - 2.4	16	I	15-16	15-16 orange
J	430L-530L	1 - 2.4	18	J	17	17 turquoise
K	510L-620L	2.5 - 3.5	18	J	17	18 turquoise
L	510L-620L	2.5 - 3.5	20	K	18	19-20 purple
M	530L-810L	2.5 - 3.5	24	L	19	21 gold
N	530L-810L	2.5 - 3.5	28	L	20	22 gold
O	600L-850L	2.5 - 3.5	28	M	20	22 gold
P	600L-850L	2.5 - 3.5	28	M	28	22 gold
Q	660L-930L	3.6 - 4.2	30	N	30	23 silver
R	660L-930L	3.6 - 4.2	30	N	30	23 silver
S	790L-940L	3.6 - 4.2	34	O	34	24 silver
T	790L-940L	3.6 - 4.2	38	P	38	25 emerald
U	820L-1030L	4.3 - 4.9	40	Q	40	26 emerald
V	820L-1030L	4.3 - 4.9	40	R	40	26 emerald
W	820L-1030L	4.3 - 4.9	40	S	40	27 ruby
X	890L-1080L	5.0 - 5.5	40	S	40	28 sapphire
Y	890L-1080L	5.0 - 5.5	40	T	40	29 sapphire
Z	890L-1080L	5.0 - 5.5	50	U-V	N/A	30 sapphire
Z ¹	920L-1120L	5.6 - 6.3	60	W-X	N/A	N/A
Z ²	920L-1120L	6.4 - 6.9	70+	Y-Z	N/A	N/A

* Lexile® bands are certified through a partnership with MetaMetrics®.

<https://www.raz-plus.com/learning-a-z-levels/level-correlation-chart/>

Appendix B: Survey Questions

RAZ Survey Questions

Please indicate your familiarity with the RAZ reading app prior to this course.

Please indicate your satisfaction with RAZ as a reading practice tool. Please explain your answer.

Please indicate how well you feel RAZ has improved your English language abilities.

- ◆ My reading skills have improved.
- ◆ My listening skills have improved
- ◆ My writing skills have improved
- ◆ My speaking skills have improved
- ◆ My pronunciation skills have improved
- ◆ My spelling skills have improved
- ◆ My vocabulary has improved
- ◆ My test-taking skills have improved
- ◆ Other skills (please specify)
- ◆ Please explain your answer to “other skills”

Which RAZ features did you find useful?

- ◆ Listening to the book
- ◆ Reading the book
- ◆ Doing the quizzes
- ◆ Using the dictionary
- ◆ Using the ART tools
- ◆ Using the Word Journal
- ◆ Recording my voice
- ◆ Reading messages from my teacher
- ◆ Earning badges
- ◆ Earning / Using STARS
- ◆ Using the rocket room
- ◆ Using the avatar builder
- ◆ Others. Please explain

What do you like about the *RAZ app*?

What do you dislike or find challenging about the *RAZ app*?

What are your suggestions about the *RAZ app*? If you could change something about the *RAZ app* or how it is used in this class, what would you change?

How likely are you to continue using RAZ after this course? Why/ Why not?

Would you recommend the *RAZ app* to a friend or younger student? Why / why not?

Course Evaluation Questions

My English reading ability has increased.

My English Vocabulary has increased.



My interest in reading graded readers (using the *RAZ app*) has increased.

Graded readers/ the *RAZ app* are a good way to learn English.

Appendix C: RAZ Weekly Reading and Vocabulary handout

NAME: _____ CLASS: **1**

RAZ App Weekly Reading

Reflection		  3 – 2 – 1	
How well do you feel your English READING skills have improved?			
How well do you feel your English VOCABULARY skills have improved?			
I read _____ books <u>last week</u> . I will read _____ books <u>this week</u> .	When?	Where?	
Book Titles	Vocabulary Words (English & Japanese)		
•	1.	2.	3.
•	1.	2.	3.
•	1.	2.	3.

Appendix D: Book Report Student Sample

Slide 1



Slide 2



Slide 3

English Word	Part of Speech	Japanese Translation	Example Sentence
Choreographer	Noun	振付師	Two years after Tallchief joined the Ballet Russe de Monte Carlo, choreographer George Balanchine started working with the company.
Streamlined	Adjective	流線形の、合理化された、最新式の	It required dancers to be very strong, quick, streamlined , and athletic.
Inspiration	Noun	靈感、インスピレーション、うまい思いつき	George Balanchine's choreography came to life with Maria Tallchief's dancing, and she became his muse—his greatest source of inspiration .

Slide 4

Focus Question

Who was Maria Tallchief, and why is she an important figure in ballet?

She is the first Native American professional ballerina and the first shining star in American ballet.

She is an important figure in ballet because she was an American trailblazer, as the first prima ballerina from the United States, she helped inspire a new style of ballet, as professional ballet's first Native American star, she opened its doors to ethnic minorities, and her grace, talent, and achievement helped move the world of ballet forward.

Slide 5

Connections

Writing: Watch a video clip of Swan Lake. Using a Venn diagram, compare ballet to another style of dance you know.

Classic Ballet:
Swan Lake, the Nutcracker, and Sleeping Beauty.

There are rules on music, costume, and choreography.

It follows strictly defined techniques.

It attaches importance to form.

Modern Ballet:
The Afternoon of a Faun, and The Rite of Spring.

It attaches original.

It pursues possibility of expression.

There aren't rules on music, costume, and choreography.

The basics of the ballet are the same.

Slide 6

Discussion Question

What kind of practice have you done before?

Slide 7

Thank you for listening to my book report!

Please read Maria Tallchief: Prima Ballerina when you have time!