# The Impact of Blended Learning on Medical Students' Reading Performance in a Saudi University

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## ABSTRACT

This study examined the effect of an extensive reading online program implemented in a blended learning format to increase students' reading comprehension. The participants were Saudi freshmen students in a medical university, and the data were collected from two sources: pre- and post-test scores and an open-ended questionnaire. The results indicated students' significant progress in reading comprehension and vocabulary knowledge in the post-test stage. Similarly, students had positive attitudes and experiences after the intervention toward learning reading. Students reported that the extensive reading online program helped them to read more efficiently with maximum comprehension and work at their pace to develop their learning skills. It also was found that extensive reading created a motivating environment for learning. Students changed their views of reading as solely as an academic activity into seeing it as a personal interest and a lifelong learning activity. Finally, the study offered some pedagogical implications and recommendations for further research that will help teachers attempting to improve students' reading comprehension via blended learning modes.

## INTRODUCTION

Reading in academic settings is an important skill, and if students fail to attain sufficient reading proficiency, they will lose a crucial tool for further learning (Koda & Zehler, 2008). This is because students often need to spend a long time reading different materials at classes and studying at home. However, some students encounter many reading difficulties, such as dealing with long texts and recognizing unknown vocabulary, which might lead to ineffective reading, developing bad reading habits and having negative attitudes toward the read materials. One way to tackle the problem of reading failure is to encourage students to be actively involved in reading, by using different strategies to approach the complexity of reading texts (AL-Roomy and Alhawsawi, 2019). Another way is to support students in exposure to different long texts in a blended learning format. Such kind of reading is known as extensive reading, which was viewed traditionally as an activity in which students pick up a book and read it for pleasure without any follow-up activities. This is an additional process students undertake outside the classroom. (Bamford & Day, 2004). It has many benefits including but not limited to increasing students' motivation to read, enlarging students' repertoire of vocabulary and grammar, speeding up reading rate, affecting positively reading comprehension and improving students' retention of the read materials (Nation, 2001, Richards & Schmidt, 2002, Williams, 2009, Rott (1999).

This study focuses on the impact of creating an entertaining online extensive reading program suitable for each student's reading level and then monitoring student progress. However, few studies have been done to investigate whether extensive reading in a blended learning format could help ESL students perform better in reading comprehension. Therefore, in this paper, we recognize the value of online extensive reading but with immediate online follow-up comprehension questions. It is intended to find out whether an electronic reading program could improve students' comprehension proficiency, meeting their current reading level and them gradually exposing them to higher levels of reading. This program also includes an offline component with teacher observations of students' reading progress. Students have the traditional face-to-face interaction with the teacher and at the same time complete their online extensive reading program with teacher support and feedback. Such a blended learning approach is undertaken in this study where traditional face-to-face interaction is combined with online learning (Gray, 2006) happening in two modes in a flexible way (Tarnopolsky, 2012). To the best of our knowledge, it is the first study in the Saudi context, that aims to analyze the impact of extensive reading in the blended learning format on improving students' comprehension and vocabulary repertoire.

## LITERATURE REVIEW

Before we talk about research questions and examine our method for conducting the study, this paper illustrates briefly our view of extensive reading and its advantages and the learning theory of extensive reading and blended learning. Also, the paper discusses the few studies done on blended learning in Saudi Arabia.

### Definition of Extensive Reading

Intensive and extensive reading approaches are two different ways to teach reading. Nation (2001) states that in intensive reading maximum comprehension is sought by focusing on the vocabulary, grammar, and discourse of the text. On the other hand, extensive reading (ER) is an additional educational process for students in which they read materials appropriate for their language level in their target language (Bamford & Day, 2004). It "means reading in quantity and in order to gain a general understanding of what is read. It is intended to develop good reading habits, to build up knowledge of vocabulary and structure, and to encourage a liking for reading" (Richards & Schmidt, 2002, pp. 193–194). It is seen as an indirect way to improve students' vocabulary and reading comprehension and establish a good reading habit.

### Advantages of Extensive Reading

Some advantages of extensive reading can be seen in previous ER research. It helps to improve TOEFL scores in less motivated and less proficient students (Williams, 2009). It assists in enhancing vocabulary growth for students. Rott (1999) highlighted how a few exposures to a new word help to improve students' retention, while Waring (2003) asserted that vocabulary growth exists only with a large amount of extensive reading. They, both, however, stated that students' minimum amount of ER would consolidate vocabulary items that they learned before. ER is found to push students ahead to more difficult L2 reading (Nash & Yuam-Pi, 1992) and improve reading rate (Leo & Krashen, 2000).

There are some other well-supported positive impacts of ER on various language skills such as reading comprehension (Nation, 1997; Bell, 2001; Yamashita, 2008), reading rate (Fujita & Noro, 2009; Iwahori, 2008), vocabulary and grammar knowledge (Pigada & Schmitt, 2006; Poulshock, 2010), and general L2 proficiency (Iwahori, 2008). In addition, it has been proven that ER has positive impacts on students' attitude and motivation (Day & Bamford, 1998; Grabe, 2009).

### Extensive Reading and Motivation

ER has some foundational impact on students' affective aspect of ESL reading. It is an enjoyable program in which students have the freedom to choose whatever material they want at a level that is easy for them (Day & Bamford, 1998). It could be followed by activities in which students share their perceptions of what they read. Students seem to be more inclined to do ER activities than their regular reading assignments because of its flexible format and students' freedom to choose their reading text (Robb & Susser 1989). Also, ER is positively associated with reading motivation (Mason & Krashen, 1997) in which students have an overall positive attitude toward reading (Yamashita, 2004).

### Underpinning Theory for Extensive Reading and Blended Learning

One of the theories that supports the efficacy of ER and blended learning is Krashen's input hypothesis (1982) and reading hypothesis (1993), in which he emphasized how written inputs through reading are foundational for second language acquisition. His theory, though it received criticism, clarifies an essential principle for language learning: students need to be exposed to many written inputs. Now, ER is a positive classroom environment for students as it is loaded with language inputs. Blended learning supported such an environment by providing enormous language exposure for students in and outside of the classroom and in different online forms with three theories interwoven. According to Torrao and Tiirmaa-Oras (2007), "The theory of blended learning does not seem to belong to one learning theory but is rather a method used within different pedagogical approaches" (p. 11). Ally (2008) refers to some of the learning theories that blended learning may include and that might overlap at some levels such as behaviorism, cognitivism, and constructivism. Behaviorism learning is based on the observable behavior of learning with no role given to the mental processes. Cognitivism views learning with a focus on internal processes inside learners' heads and emphasizes memory, motivation, thinking, dialogue, and reflection in the process of learning. Constructivism appreciates the role of individual perceptions of learners in constructing and interpreting knowledge (Ally, 2008). Ertmer and Newby (1993) indicate that the three theories can serve as a taxonomy of learning when students implement behaviorist strategies to learn the facts, cognitive strategies to learn how these facts are processed in our minds, and constructivist strategies to learn the way personal meanings are contextualized and constructed. In this study, the three theories intertwined in blended learning matter to students because they affect their reading in many ways. First, the behaviorist aspect was evident when students observed the progress of their learning and moved from one level to another to meet the demand of the reading tasks, distinguishing between good and bad reading strategies and finally repeating the good ones and creating useful learning habits. Second, the cognitivist aspect was played out when students consciously monitored their learning by planning and monitoring their learning and adjusting their reading rate accordingly. Third, the constructivist aspect was practiced when students worked on the reading texts more interactively, which were relevant to their interest and level, and tried to create meaningful interpretations for themselves; in this they relied on their personal experiences and interactions either with their peers or teacher. The interaction was sought after each reading task where students share their answers and collaborate with their counterparts who shared with them the same read material. The teachers provided constructive feedback and help where necessary.

## Definition of Blended Learning

The term blended learning was first coined in the business world and more specifically in corporate training. Later it was employed in higher education and finally in English language teaching (Sharma & Barrett, 2007). Many definitions have been given to blended learning. Gray (2006), for example, states that blended learning occurs when traditional delivery methods are combined with new technology. The implementation of technology requires either the use of certain software or online learning modes. Littlejohn and Pegler (2007) argue that while e-learning has to do with distance-Internet learning, blended learning takes place when face-to-face interaction is combined with an online mode. Tarnopolsky (2012) adds that blended learning has more of a synergic learning structure, creating a unity between traditional classroom learning with online learning, which allows for flexible learning and more opportunities for intensifying and practicing their learning.

When deciding to use a blended learning approach, there are some considerations to be borne in mind to maximize its benefits. Sharma and Barrett (2007) suggest several guiding principles teachers should consider when they put blended learning into action. These principles, as implemented in this Saudi study, include differentiating the role of the teacher from the role of technology, meeting learners' needs when using technology, not using technology for its own sake, and considering technology as complementary to face-to-face interaction, not as a substitute for it.

## Blended Learning in the International and Saudi Contexts

In international contexts, researchers have used blended learning to investigate its efficiency for learning and to play a possible role in higher education reform (Matheos & Cleveland-Innes, 2018). Its impact has been examined from both instructor and student perspectives. Shebansky (2018) concluded that ESL instructors were positive about using blended learning in their classes. However, ESL instructors did not deploy it very often due to a lack of time, skills, and technical support, and they emphasized the need for pedagogical training to overcome these obstacles. In another study, Huong (2019) found that students were interested in using online materials because they had more room to practice communication skills and were more engaged in self-study mode.

Similarly, in the Saudi context, Almegran (2008) highlighted that there has been a trend in the Saudi universities' educational system to implement blended learning as an instructional approach to delivering the curricula to improve the quality of teaching and learning. He asserted that blended learning helps to improve face-to-face interaction and give students a wide range of learning opportunities because they can access full lectures online and have more exercises to work on with the mentoring of their instructors.

Several studies were conducted at the university and pre-university levels to ascertain the efficiency of blended learning in teaching different subjects and language instruction. Alamri (2019) asserted that introducing new technology to students resulted in a high level of satisfaction and led to better academic achievement performance. Also, Alebaikan and Troudi (2014) pinpointed the benefit of using blended learning in ESL classes, where teachers could utilize online interactive materials that suit the needs of students. They asserted that there were several factors to be considered before and after making decisions to make use of blended learning. These factors included teacher education, teachers' and students' experiences of blended learning, teaching strategies and assessment tools, and the need to have outside evaluators to assess the learning process.

Also, Al Zumor et al. (2013) conducted a study to examine the perceptions of male university ESL students while implementing blended learning. The study indicated that blended learning promoted students' reading skills, broadened their vocabulary, and exposed them to indirect learning strategies needed for successful learning such as metacognitive strategies, affective strategies, and social strategies. Similarly, Al-Kathiri (2015) completed a study to try a learning tool called Edmodo by integrating it with ESL classroom instruction in a secondary female school. The study yielded positive results in terms of students' perceptions of the learning tool, creating in students a more positive attitude toward English. They reported that they had more time to interact with English, which they lacked in traditional classrooms. However, some challenges of blended learning were reported: technical problems and a need for proper training on the new technology.

There have been some factors that inhibit or delay the use of technology in Saudi universities which were considered before conducting this study. Alharbi and Alotebi (2019) did a systematic review to investigate the studies published between 2008 and 2018, which examined the external factors affecting teachers' implementation of new technology. They concluded that the main external factors were a lack of training, administrative support, time, and rewards.

## RESEARCH QUESTIONS

In this study, we aim to draw a deeper picture of current reading comprehension instruction in Saudi Arabia, looking at both teachers' and students' experiences of reading with online learning tools. Therefore, the research questions are the following:

1- What are the teachers' experiences of teaching reading and implementing online learning tools in their classes?

2- What is the impact of using extensive reading in a blended learning format on students' reading comprehension and vocabulary repertoire?

3- What are the students' experiences in learning reading and implementing online learning?

## METHOD

### Sample

The study was carried out on two groups of students: experimental (N =20) and control (N =21). They were in their first year at a Saudi medical university, enrolled in a preparatory

program with a clear focus on English learning. They took an entrance English language assessment, which determined that they had intermediate English language abilities. Both groups took a pre- and post-test on their reading ability, whereas the experimental group took a mandatory online extensive reading program for four months beside their regular reading course.

## Online Extensive Reading Program

The program was designed to meet each student's current level of English and provide students with individualized and appropriate small reading passages, followed by comprehension questions in a multiple-choice format. The program is ReadTheory.org, an independent online reading program founded by Tanner Hock. It determines students' initial reading level by a signup placement test that is used as a benchmark for students to see their individual progress as they go further in more reading passages.

Reading passages students encountered in the program differed based on topics. They also differed in difficulty level based on the students' placement test level. The students read 5 passages per week for a total of 80 passages over four months. (A sample of these passages is found in Appendix A.) Unlike other extensive reading programs, students were not able to select what they read, but did this reading activity on their own with an appropriate and easy language level. The program was a self-study approach, monitored by the teacher to ensure that each student completed the five reading passages a week and to track their performance progress on the comprehension questions. The students could access the online program anywhere outside the classroom as long as they used their usernames and passwords. The students in the control group, however, did not undertake this program, having only undertaken the regular reading course. This study was aligned with the blended learning format because the students in the experimental group had traditional face-to-face interaction with the teacher while also being exposed to the online extensive reading program. Moreover, they had access to teacher support and feedback on their online performance; students who had the same reading passages were asked to collaborate with each other to discuss their answers.

## Open-ended Questionnaire

Twenty-five teachers were given open-ended questions in the form of a questionnaire to complete before the intervention, and another questionnaire was given to students from the experimental group after the intervention (Appendices B and C). The two questionnaires designed by the two researchers consisted of ten questions given in advance to three teachers and 6 students for piloting to check the clarity of questions, suitability, and time duration needed for completion. The aim of the questionnaire was to identify how teachers and students see reading courses and to attend to their experiences of deploying online learning tools. While completing the questionnaire, the teachers and students were free to decide on the wording and the length of their answers to ensure the full richness and complexity of their views. Prior

consent in written form was obtained before they started filling out the questionnaire where they were asked to consider several statements as a way to learn their rights in advance (see Appendices B and C). To guarantee the anonymization of the research participants, there were no names written on the questionnaire papers to ensure the protection of their identities. For analyzing the open-ended questionnaires, the written answers were broken down into smaller units, coded, categorized, and analyzed based on the recurrent themes relevant to the main focus of the study (Denscombe, 2014).

## Pre-test and Post-test

The participants in the experimental group were given two reading tests, i.e., a pre-test given before the experiment, and a post-test given after the intervention. Each test consisted of 33 questions. The participants in the control group were given both tests to compare answers with those of the experimental group. The aim of the two tests was to figure out if there was any difference because of the intervention of the online extensive reading program. Four questions in the test were given to gauge vocabulary and grammatical knowledge, followed by a reading passage that included a set of questions to measure comprehension and critical thinking. The test was given to three reading instructors to assure its reliability and validity, and their concerns were taken into account when designing the final draft. For analyzing the test, the p test value was used to account for the differences between the mean and the standard deviation of the tests. The pre- and post-test are triangulated with data gained from the open-ended questionnaire to have a clearer picture and more detailed explanation of the findings.

## RESULTS AND DISCUSSION

In this part, we will show the results of both pre- and post-test and the open-ended questionnaire and discuss its interpretation and implications.

## Teachers' Experience of Teaching Reading

First of all, teachers' voices were recorded in the questionnaire to find out their attitudes toward teaching reading and using online tools in their classroom before the intervention of this study started. Our goal here was to illustrate what these teachers think and combine that with the results of the intervention (to be explained in the next section) to understand the impact of blended learning on reading comprehension skills with teacher reflection. The majority of teachers revealed concerns that teaching reading courses was more difficult than teaching other courses because it required teaching many things including vocabulary building, critical thinking skills, inferences, grammatical knowledge, and cultural awareness. They elaborated that their students struggle answering reading passages and scored low in exams, although the teachers spent a long time exposing the students to reading texts. This can be clearly seen in their results in the pre-test discussed in section 5.2 and their improvement after the intervention. Teachers' concerns about how their

students encountered difficulty in reading confirm that reading is a complex process that requires more linguistic and cognitive abilities. It should be looked at as an interactive process that includes the reader, text, and activities with implementing many strategies simultaneously (Koda, 2007).

Also, the survey results revealed that these instructors often stick to the prescribed books and keep deploying traditional methods to teach reading. They do not tend to provide students with supplementary materials, use new technology, or use any means to assess their reading skills except giving exams or other forms of feedback sessions after each task. Their justification was that they lack time to finish what is required. They could not engage students in anything outside the syllabus. Besides, they were not sure that students would be motivated if they presented something new or used new teaching methods. Also, they added that some equipment is rudimentary in their workplace. For instance, the internet connection is either very slow or not connected in some classrooms and the smart board is not functioning well.

Another reason given by teachers for avoiding online tools is that the lack of proper training in new technology. One teacher explained that if students asked him about any technical problems while using the Internet, he had no answer; as a result, students lost interest in the subject matter and the teacher's credibility was put at stake. Teachers' fear of using new technology, and more specifically blended learning, can be attributed to the fact that the implementation of any new learning tool requires proper training.

## Test Results Analysis

We carried out two analyses to test the impact of the intervention of the online extensive reading program. The first one was to find whether there is a difference between pre- and post-test results separately in experimental and control groups.

The null hypotheses for each group states that there is no significant difference between the means of scores before and after the intervention, i.e., there is no effect of the online extensive reading program on the experimental group. The alternative hypothesis is that there is a difference between the means of scores before and after the study in the given group. For this purpose, we calculate the difference in score between post- and pre-test and compare that variable to 0. As is seen in both Table 1 and 2, descriptive statistics shows that the experimental group has a mean score of 6.65 while the control has a mean score of 2.95.

However, as shown in Tables 3 and 4, the T-test shows whether there is a significant difference between both tests for both groups.

The results show, that there is a significant difference with a 100% level of confidence for the experimental group between pre- and post- test results. Regarding the control group, there is an improvement, but it is not significant with $p<0.1$.

The second analysis was to find out whether there is a difference between pre- and post-test results combining both experimental and control groups together. The null hypothesis states that there is no significant difference between the means of scores before and after study, i.e. the intervention has no effect. The alternative hypothesis is that there is a difference between the means of scores before and after the study. Table 5 shows the descriptive statistics of both samples together.

For the paired samples T-test (Table 6), the practical t-value is 4.401, which corresponds to practically zero p-value, so we reject the null hypothesis and can conclude that the intervention is effective.

When these statistical analyses were seen within the research context, they showed several interesting findings. First, they showed that the program improved students' vocabulary knowledge, as they had a higher score in their vocabulary section in the post-test. This finding asserted that high exposure to reading passages helps students enrich their vocabulary and consolidate their existing one as seen in the studies of Rott (1999), Pigada and Schmitt (2006), Poulshock (2010) and Waring (2003).

In addition, the program improved students' reading comprehension. The students did significantly better in the section of reading passages, confirming that their habit of reading several passages a week for four months is the key

**Table 1.** Experimental Group Descriptive Statistics

| N | Mean | Std. deviation | Std. Error mean |
|---|---|---|---|
| 20 | 6.65 | 2.99 | 0.66 |

**Table 2.** Control Group Descriptive Statistics

| N | Mean | Std. deviation | Std. Error mean |
|---|---|---|---|
| 21 | 2.95 | 8.95 | 1.95 |

**Table 3.** Experimental Group T-test

| Test Value=0 | | | | | |
|---|---|---|---|---|---|
| t | df | Sig. (2-tailed) | Mean difference | 95% Confidence Interval of the difference | |
| | | | | Lower | Upper |
| 9.926 | 19 | 0.000 | 6.65000 | 5.2478 | 8.0522 |

**Table 4.** Control Group T-test

| Test Value=0 | | | | | |
|---|---|---|---|---|---|
| t | df | Sig. (2- tailed) | Mean difference | 95% Confidence Interval of the difference | |
| | | | | Lower | Upper |
| 1.510 | 20 | 0.147 | 2.95238 | -1.1253 | 7.0301 |

**Table 5.** Paired Samples Descriptive Statistics

| | | Mean | N | Std. deviation | Std. error mean |
|---|---|---|---|---|---|
| Pair | post-test | 22.73 | 41 | 7.366 | 1.150 |
| | pretest | 17.98 | 41 | 4.552 | 0.711 |

**Table 6.** Paired Samples T-test

| Mean | Std. deviation | Std. Error mean | 95% confidence interval of the difference | | t | Df | Sig. (2-tailed) |
|------|----------------|-----------------|-------------------------------------------|---|---|----|-----------------|
| | | | Lower | Upper | | | |
| 4.75 | 6.92 | 1.08 | 2.57 | 6.94 | 4.40 | 40 | 0.000 |

factor for such an improvement. Several other studies have supported this conclusion, in different contexts and settings (Bell, 2001; Yamashita, 2008; Fujita & Noro, 2009; Iwahori, 2008).

Another interpretation of the analyses is that having the extensive reading activities in a blended learning format has helped students to learn and practice as much as they would without their necessary presence in the classroom. There is no limitation as to where and when they could complete these activities. They had more time and chances to practice and learn at home, a finding confirmed by Al-Kathiri (2015). Along with the other Saudi studies (Yamani, 2014; Al Zumor et al., 2013; Alebaikan & Troudi, 2014; Al-Mahrooqi & Troudi, 2014), the findings of this study showed that blended learning has worthwhile benefits for the students as it opens the door for them to excel more in their reading abilities with an unstoppable learning experience.

**Students' Experience of Learning Reading**

Students' responses to the open-ended questionnaire after the experiment yielded some positive learning outcomes found in their attitudes toward blended learning while reading extensively.

In response to the questionnaire, the majority of students showed that they were not interested in reading and rarely read outside the classroom for pleasure before the experiment. That was because of several reading problems they encountered that led to a difficulty with reading texts. Some of these problems included low English proficiency, lack of motivation for reading and the target language, and students' stereotype of English reading solely as an academic activity, not for personal interest or lifelong learning. One possible reason for having such problems and holding negative motivation is due to the teaching practices teachers implement inside the classroom which might be traditional and boring. The deployment of new technologies would result in a motivating and supportive environment (AL-Roomy, 2015).

In addition, a few students showed that they enjoyed reading but did so in an unsystematic way. For example, they tended to translate unknown vocabulary into Arabic, underline some important sentences, and stop from time to time to better understand the text. However, such strategies, as they confirmed, did more harm than good because they were a waste of time in most cases and caused reading failure. Finally, none of the students had ever used an online program to improve reading skills.

After the experiment, besides doing much better in the post-test stage in comparison to the control group, all students reported that their motivation for online learning was generally high and more specifically for learning reading. In addition, they enjoyed the extensive reading process by having readable passages and challenging themselves to answer the comprehension questions. This finding is consistent with results that indicate the relationship between motivation and extensive reading; the extensive exposure to reading passages enriches students' vocabulary repertoire, allows them to work at their own pace, and improves their reading speed (Richards & Schmidt, 2002; Waring, 2003; Leo & Krashen, 2000).

Having the extensive reading in a blended learning format significantly impacted students' performance. Students reported in the questionnaire that they felt that the program helped them to take small and easy learning steps at home for a better reading experience. They showed that such an online program had a positive impact on their attitude toward reading and made for an enjoyable reading experience. In other studies, where there was no use of online activities, students reported how extensive reading changed their' feelings toward reading since they read for pure pleasure with few follow-up questions; students felt motivated and excited as they went through the program (Day & Bamford, 1998; Grabe, 2009). Now, with more of blended learning and inclusion of online tools, students have a better opportunity to experience more positive motivation and learning experiences toward reading (Mason & Krashen, 1997; Yamashita, 2004).

Another important advantage of this method was that students did not lose any piece of information and were able to vary their learning strategies. They could catch up later on what they missed because blended learning was not constrained by time and place. Viewing blended learning as learner- and knowledge-centered is essential to successful learning, a finding confirmed by other research (Alebaikan & Toroudi, 2014).

Students did experience some disadvantages with blended learning. One drawback was some technical problems students encountered when logging on to online programs. To solve this problem in the future, students need academic and technical support in advance.

**CONCLUSION AND PEDAGOGICAL IMPLICATIONS**

This study was designed to investigate how extensive reading in a blended learning format can boost students' reading comprehension. Students worked on the extensive online reading program under the guidance of their teachers to monitor their progress.

Before the experiment, most teachers reported that teaching reading comprehension was challenging and demanding because it required students to deal with content and linguistic knowledge at the same time. Some teachers acknowledged the potential of blended learning, but there was underlying resistance to implement it in their classes due to their rigid adherence to the syllabus, the lack of technical

support, and the reality that students and teachers needed proper training.

Students' findings indicated positive impacts shown in their results in the post-test stage and their experiences after the intervention. Extensive reading via blended learning held considerable promise in promoting students' reading comprehension skills and meeting their needs. Students reported that the online program helped them significantly; their learning was strengthened in many ways when they could see the immediate relevance of what they were learning to their reading proficiency. Students emphasized that they were able to work at their leisure due to the flexibility and relevant difficulty level of the online reading program.

A major recommendation from this study is that Saudi schools should create a motivating environment for students to read outside their classroom on a continuous level with teacher support and monitoring. Such an initiative does not require a huge infrastructure but simply an online extensive reading program meant to ease students' experience of reading and help them accomplish a small milestone and measure their reading progress. It can have an impact on students' academic performance for acquiring and consolidating their vocabulary and increasing their comprehension level. Since there are several benefits of using online extensive reading in the blended learning format, as the results showed, it is mandatory to train teachers to use such tools and evaluate the credibility of online materials, facilitating technical and educational support, with a greater focus on their concerns. Teachers need to have professional training on how to teach reading courses with current and updated technology tools and learn how these tools could lift their teaching to a higher level, having more impact on their students' reading progress and injecting huge energy in their classroom.

It is hoped that this study will contribute to current research in the field of higher education and more specifically teaching reading comprehension with the infusion of blended learning. If teachers decide to vary their teaching methods and approaches and incorporate new technologies into their pedagogical repertoire, they have to take the advantage of the fact that students become addicted to new technology and make use of that. However, more studies are needed in the higher education setting to elucidate the rationale behind implementing online learning in different contexts. It would be worthwhile to investigate the efficiency of an intensive reading online program with different genders, ages, fields of study and with a larger scale of participants to make it more representative. Also, meticulous care should be taken when deciding to integrate blended learning into the curriculum of teaching reading. There are some important considerations that should be taken into account, such as acknowledging the goals and objectives of introducing such a learning mode, receiving proper training for both students and teachings on blended learning and encouraging students to provide consistent feedback to follow up easily on their progress

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## APPENDIX A

### A Sample of Reading Passages in the Online Extensive Reading Program

It is easy to make a delicious-looking hamburger at home. But would this hamburger still look delicious after it sat on your kitchen table under very bright lights for six or seven hours? If someone took a picture or made a video of this hamburger after the seventh hour, would anyone want to eat it? More importantly, do you think you could get millions of people to pay money for this hamburger?

These are the questions that fast-food companies worry about when they produce commercials or print ads for their products. Video and photo shoots often last many hours. The lights that the photographers use can be extremely hot. These conditions can cause the food to look quite unappealing to potential consumers. Because of this, the menu items that you see in fast-food commercials are probably not actually edible.

Let's use the hamburger as an example. The first step towards building the perfect commercial hamburger is the bun. The food stylist—a person employed by the company to make sure the products look perfect—sorts through hundreds of buns until he or she finds one with no wrinkles. Next, the stylist carefully rearranges the sesame seeds on the bun using glue and tweezers for maximum visual appeal. The bun is then sprayed with a waterproofing solution so that it will not get soggy from contact with other ingredients, the lights, or the humidity in the room.

Next, the food stylist shapes a meat patty into a perfect circle. Only the outside of the meat gets cooked—the inside is left raw so that the meat remains moist. The food stylist then paints the outside of the meat patty with a mixture of oil, molasses, and brown food coloring. Grill marks are either painted on or seared into the meat using hot metal skewers.

Finally, the food stylist searches through dozens of tomatoes and heads of lettuce to find the best-looking produce. One leaf of the crispest lettuce and one center slice of the reddest tomato are selected and then sprayed with glycerin to keep them looking fresh.

So the next time you see a delectable hamburger in a fast-food commercial, remember: you're actually looking at glue, paint, raw meat, and glycerin! Are you still hungry?

### Questions

1) The author's primary purpose is to
   A. convince readers not to eat at fast-food restaurants
   B. explain how fast-food companies make their food look delicious in commercials
   C. teach readers how to make delicious-looking food at home
   D. criticize fast-food companies for lying about their products in commercials
2) According to the passage, fast-food companies use things like glue and glycerin on hamburgers that appear in advertisements because
   I. no one actually has to eat the food used in the commercial
   II. it is important that people who see these advertisements would pay for the food being advertised
   III. filming a commercial or a print ad can take a very long time
   A. I only
   B. I and II only
   C. II and III only
   D. I, II, and III
3) As used in paragraph 2, something is **edible** if it
   A. can safely be eaten
   B. looks very delicious
   C. seems much smaller in real life
   D. tastes good
4) According to the passage, a food stylist working on a hamburger commercial might use glue to
   A. make sure the meat patty stays attached to the bun
   B. keep the sesame seeds on the bun in perfect order
   C. arrange the lettuce on the tomato
   D. hold the entire hamburger together
5) Based on information in the passage, it is most important for the lettuce and tomato used in a fast-food hamburger commercial to
   A. have a great taste
   B. be the perfect shape and size
   C. appear natural
   D. look fresh
6) Imagine that the author decides to change this passage so that it talks about a cheeseburger instead of a hamburger. Assume that the cheese goes directly on top of the hamburger patty. If the author wants to include a paragraph about how the food stylist designs the cheese and places it on the meat patty, this new paragraph would best fit into the passage
   A. between paragraph 2 and paragraph 3
   B. between paragraph 3 and paragraph 4
   C. between paragraph 4 and paragraph 5
   D. between paragraph 5 and paragraph 6
7) As used in the final paragraph, which is the best synonym for **delectable**?
   A. disgusting
   B. familiar
   C. fake
   D. delicious

## APPENDIX B

### Open-Ended Questions for Teachers

#### Research Purpose

The purpose of this research is to investigate the effect of an extensive reading online program, implemented in a blended learning format to increase students' reading comprehension.

Please read the participant's rights below and answer ALL the questions before completing this questionnaire. Do not write down your name.

   a. You don't have to take part in this research questionnaire. If you choose to take part, you may withdraw at any time.

b. Any information which you give will be used ONLY for the purpose(s) of this research project, which MAY include journal/book publications, academic conferences or seminar presentations.

c. The researcher will make every effort to preserve your identity.

d. All information you give will be treated as confidential.

1- How do you teach reading?

2- What would you like most about teaching reading courses?

3- How do you go about motivating your students to read?

4- What are other things that you do to help your students to improve their reading comprehension other than teaching?

5- Do you give them extracurricular activities outside the classroom?

6- What are the changes you want to implement in the reading curriculum?

7- What are the problems your students encounter in learning reading?

8- Have you ever implemented blended learning with your students? If so, how and what program do you use?

9- How do you evaluate your students' progress in online learning?

10- What are the major factors you encounter that either help or prevent you from deploying blended learning?

### APPENDIX C

**Open-Ended Questions for Students**

**Research Purpose**

The purpose of this research is to investigate the effect of an extensive reading online program, implemented in a blended learning format to increase students' reading comprehension.

Please read the participant's rights below and answer ALL the questions before completing this questionnaire. Do not write down your name.

a. You don't have to take part in this research questionnaire. If you choose to take part, you may withdraw at any time.

b. Any information which you give will be used ONLY for the purpose(s) of this research project, which MAY include journal/book publications, academic conferences or seminar presentations.

c. The researcher will make every effort to preserve your identity.

d. All information you give will be treated as confidential.

1- How do you prefer to study reading?

2- What motivates you most in your study for reading courses?

3- How do you feel when you encounter difficulty while studying reading?

4- Have you implemented online learning? If so, which programs did you use?

5- How far did online learning motivate you to read?

6- What aspects of learning did online learning improve?

7- In what ways did online learning help you to improve your English generally and reading comprehension specifically?

8- What are the major factors you encounter that either help or prevent you from deploying online blended learning?

9- What are the main advantages and disadvantages of implementing online learning?

10- How do you evaluate your learning with online blended learning?