مجلة كلية التربية العلمية

Article of Reading Speed and Comprehension

Younes Mustafa Abdalla Alagoriya

Faculty of Arts – Ajdabiya University

Dr. Abdelsalam A. Elraggas

University of Benghazi

Abstract

This study is an attempt to investigate reading speed and comprehension of the first semester English Department students at the University of Benghazi. To accomplish this aim, AceReader, which is an online reading speed software, has been used to elicit students' reading speed (in words per minute) as well as their reading comprehension level. The methodology, which has been used, is the mixed-method approach. The results revealed that students of the control group who received the Reading Comprehension I developed their reading speed and comprehension while no significant improvement has been recorded in the experimental group with extensive reading material. The main contribution of this study is that English graded readers do not increase students' reading speed and comprehension which contradicts the literature of the previous studies related to this topic. The researchers anticipate that this study will pave the way to more studies on reading speed using online tools.

Keywords: Reading speed, Extensive reading, Graded readers

هذه الدراسة هي محاولة لتقصي سرعة القراءة والفهم لدى طلاب قسم اللغة الإنجليزية في الفصل الدراسي الأول بجامعة بنغازي. لتحقيق هذا الهدف، تم استخدام أيس ريدر، وهو برنامج سرعة قراءة عبر الإنترنت، لاستنباط سرعة القراءة لدى الطلاب (بالكلمات في الدقيقة) بالإضافة إلى مستوى فهمهم للقراءة.

المنهجية التي تم استخدامها هي نهج الطريقة المختلطة.

أظهرت النتائج أنّ طلاب المجموعة الضابطة الذين تلقوا مادة القراءة والفهم طوّروا سرعة قراءتهم واستيعابهم بينما لم يتم تسجيل أي تحسن ملحوظ في المجموعة التجريبية بمواد القراءة الموسعة.

المساهمة الرئيسية لهذه الدراسة أن كتب القراءة المتدرجة في اللغة الإنجليزية لم تزد من سرعة القراءة والفهم لدى الطلاب وهو ما يتعارض مع أدبيات الدراسات السابقة المتعلقة بهذا الموضوع.

يتطلع الباحثون أنّ هذه الدراسة ستمهد الطريق لمزيد من الدراسات حول سرعة القراءة باستخدام أدوات الإنترنت.

الكلمات المفتاحية: سرعة القراءة، القراءة الموسعة، كتب القراءة المتدرجة

1. Introduction

Slow reading pace of English language learners has been recognized by many researchers as one of the main problems that hinders language learning [9] [4]. It has been defined by [2] as a 'weakness independent of the purpose of reading'. It involves processing text information in a slow speed where readers are unable to absorb details for a full comprehension of the reading text. This issue has been linked with teaching methodology of reading comprehension within the classroom where the main concern is not reading but English language development in general. However, the most currently used practice of teaching intensive reading is through reading texts in which the four stages of 'presentation, practice, manipulation and consolidation of language points' is sequentially applied without taking into consideration encouraging students' reading

comprehension [18]. Therefore, it should be taken into consideration that various purposes of reading require reading with different speeds, and language programs should prioritize the development of reading speed of their learners [1]. By surveying the literature review of reading speed and comprehension in the Libyan context, the researchers found out that this topic has not been researched yet. This motivated them to shed light on this gap by assessing students' reading speed and comprehension to find out whether university courses of reading increase their reading speed and comprehension. The researchers hope that the findings of this study will pave the way to more future research that concentrates on the investigation of reading speed and comprehension in the Libyan setting.

2. Literature Review

Graded readers, as extensive reading material, have been used by many educational institutions to motivate their students to read, build up new vocabulary and be acquainted to various topics of different genres. In the 1960s, the interest was focused on reading speed gained through reading different materials [7] [6]. The researcher [7] explained that a good reader can achieve 350 (WPM), fair reader 250 (WPM), and a slow reader can accomplish 150 (WPM). This interest has led to the development of reading speed courses. The researcher [11] investigated a reading speed course which was previously developed by [6]. The course manipulated extensive reading material to be used for advanced students of Leuven University in Belgium. [21] conducted a study on Japanese students to investigate their reading speed. He compared reading speed of students who used reading machine with those who used paper exercises. The study revealed that speeds in the earlier group increased more than that of the former one, and the difference between the two groups was statistically significant (p<.05).

In addition, a considerable amount of literature has been published to shed light on the potential negative outcomes of overusing intensive reading programs on reading speed [16] [4] [13] [1] [19]. However, the researcher [16] claimed that an extensive reading approach raises reading speed as well as reduces the possible negative consequences of slow intensive methods. Likewise, [27] reported that extensive reading is a method used to improve reading speed, and [12] recommended the establishment of graded readers classrooms to accomplish the same goal. In addition, many current studies have shown that graded readers increase reading speed [25] [3]. The findings revealed that reading speed increases with graded readers while it gradually decreases when ungraded novels are used [25]. In addition, in the empirical study conducted by [3], all groups reported that their reading speed improved when graded readers were used, and their responses on the surveys showed favorable reaction towards graded readers. Thus, the main objective of this study is to investigate reading speed and comprehension in intensive and extensive reading classrooms in the Libyan context. It also seeks to find out whether these two settings develop students' reading speed and comprehension. The next section provides an overview of the methodology which will be used in this study.

3. Methodology

This study implemented the mixed-method approach in answering the three research questions. According to [24], a mixed method is the combination of 'qualitative and quantitative approaches in the methodology of a study'. [14] explained that a group of research team integrates elements of quantitative and qualitative approaches in the mixed methods research. This, however, can be empirically accomplished by using quantitative and qualitative viewpoints, various instruments of data collection, data analysis and inferences. The outcome of this approach is to obtain a wide and

deep understanding of the phenomenon. [23] presents a wider definition of the mixed-method approach in search of more discussion from other researchers:

> Mixed-methods research is defined as research in which the investigator collects and analyzes data, integrates the findings, and draws inferences using both qualitative and quantitative approaches or methods in a single study or a program of inquiry.

However, [8] provides a new concept of the mixed-methods in which the social world is investigated differently by participating in dialogue, applying various ways of hearing and seeing, using different methods to make the social world more sensible and building up strong positions on what is significant and valuable. [10] commented that the most common factor among different mixed-method research approaches is the inclusion of at least one quantitative and one qualitative method in the same research study or in interrelated research projects. [5] listed a group of procedures a researcher can follow in conducting a mixed method research. Firstly, a research collects both quantitative and qualitative data carefully according to research hypotheses or questions. Secondly, he/she combines or integrates the two different types of data and the results. Then, these procedures are organized according to certain research design which provides a rationale and logic of the research study. Finally, the outcome is formulated within a philosophy or theory. Likewise, this study adopts the mixed-method research approach in answering the research questions. The output of the AceReader will be quantitative data while students' responses on the open-ended section of the questionnaires will be the qualitative form of the data. Therefore, the researchers of this study will adopt the mixed-method approach by integrating both quantitative and qualitative data for a better understanding of the topic. Students' reading speed and comprehension level will be triangulated with their responses of the open-ended questionnaires regarding their views on the AceReader and extensive reading materials. The next section will be devoted to more explanation of the subjects and instruments of data collection.

3.1 Participants

The participants of the study are a group of students who were divided into two groups; the control and experimental group. The control group receives an intensive reading comprehension course which is officially taught at the Department of English and marked in the syllabus as Reading Comprehension I. On the other hand, the experimental group receives an extensive reading program which incorporates extensive reading material of graded readers.

3.2 Instruments of Data Collection

3.2.1 AceReader

AceReader is an online free software used to assess and improve reading speed and comprehension. It is used by more than 2000 academic institutions and universities all over the world. According to AceReader Official Website, this software improves reading speed which will inevitably improves reading skills that 'leads to improved test scores, better grades, better careers, more knowledge, a desire to learn, and an increase in self-confidence. The benefits are virtually

unlimited' [29]. The output elicited from students taking up the AceReader is a quantitative data which represents their reading speed in the form of (Words Per Minute) and Comprehension Level ranging from 0% Comprehension to 100% Comprehension of the reading text. AceReader Software has been used by various researchers to assess reading speed and comprehension of their participants [28] [26] [17].

3.2.2 Questionnaires

A questionnaire is generally conceptualized as a group of questions which a respondent has to answer. This can practically be fulfilled by the respondent reading the questions, interpreting the expected goal of the questionnaire and writing down the responses [15]. A number of academic researchers have adopted questionnaires to collect data for their studies in the field of reading speed. Moreover, they implemented them to enhance their analysis by asking their students to share and express their views and experiences regarding the AceReader [22] [26] [20] [17]. This study used two open-ended questionnaires to give participants freedom to express the responses in their own words. The first questionnaire was distributed among participants from both groups. It was designed to gather information from participants regarding their experience with the AceReader Software. The second questionnaire was designed to elicit information from the experimental group only. The main focus was to investigate their opinions and experiences with extensive reading materials during the study. In general, the research instruments are used to collect information to answer the research questions which are the main concern of the next section.

3.3 Research Questions

This study seeks to investigate three research questions. To address these questions, the study will implement the mixed-method approach which incorporates both quantitative and qualitative research methods. Below are the three research questions.

1. Do Reading Comprehension I and extensive reading courses based on graded readers increase students' reading speed and comprehension?
2. What are students' attitudes towards using online reading speed software?
3. What are students' attitudes towards using extensive reading material at the Department of English?

4. Data Analysis

In the analysis part of this study, each research question is addressed in a separate section. In addition, each section clearly explains the nature of participants, the instrument of data collection, how the data was collected and the analysis of data supported by graphic representation of the findings. Below is the section of the first research question.

1. Do Reading Comprehension I and extensive reading courses based on graded readers increase students' reading speed and comprehension?

To answer the first research question, students are divided into two groups; the control group and the experimental group. The control group receives Reading Comprehension Course I which is an

intensive reading course officially taught at the Department of English and marked in the syllabus as Reading Comprehension I. On the other hand, the experimental group receives extensive reading program which incorporates extensive reading material based on graded readers (See Appendix 2). At first, students, on both groups, take the reading speed test, which is the AceReader, for the first time (See the Appendix 1). Their performance is recorded as pre-assessment. This is considered as a very important point of departure because it gives an indicator of students' reading speed and comprehension level. When students complete their course of study, post-assessment is administered to them taking into consideration that both pre-and-post tests are equivalent in level and text complexity. The main aim of taking pre-and-post reading speed tests is to find out whether there is an improvement in students' reading speed and comprehension after finishing their courses. Tables 1 and 2 below illustrate reading speed gains, in words per minute, for control and experimental groups. For statistical considerations, only students who took pre-and-post reading speed tests on both groups were included in this study while those who were absent in either tests were excluded from the analysis.

Control Group			
n	Pre-test	Post-Test	Gains
1	21	18	-3
2	16	16	0
3	48	71	+23
4	35	44	+9
5	33	100	+67
6	55	62	+7
7	51	75	+24
8	58	60	+2
9	55	90	+35
10	95	135	+40
11	85	181	+96
Total	552	852	+300

Table 1: Reading Speed Gains (Words Per Minute) for the Control Group

Experimental Group

n	Pre-test	Post-Test	Gains
1	82	56	-26
2	76	61	-15
3	56	82	+26
4	130	95	-35
5	33	67	+34
Total	377	361	-16

**Table 2: Reading Speed Gains (Words Per Minute) for the Experimental Group**

Paired-sample t-test was implemented to find out whether there is a significant difference in the pre-and-post assessments for each group. The results revealed that in the control group, the means of pre-and-post measurements are 50.18 and 77.45 respectively, and the P value is .015. On the other hand, the mean values of pre-and-post assessments of the experimental group are 75.40 and 72.20 while the P value is .830. In addition, the number of students in each comprehension level of both groups has been calculated and graphically illustrated in the graphs 1 and 2 below:

Figure 1, Percentage of Text Comprehension across Students (Control Group)

The bar chart above illustrates the percentage of comprehension across control group students. The number of students who had 100% comprehension of the text in the pre-test is 4 while it decreased into 2 students in the post-test. Similarly, 4 students obtained 75% comprehension in the pre-test while only 3 reached this level in the post-test. The number of students who comprehended 50%

of the text was stable in the pre-and-post tests (2 students each). Finally, no student scored 25% comprehension level in the pre-test while only two were able to reach this low level of comprehension. Figure 2 below illustrates the percentage of text comprehension across experimental group students.
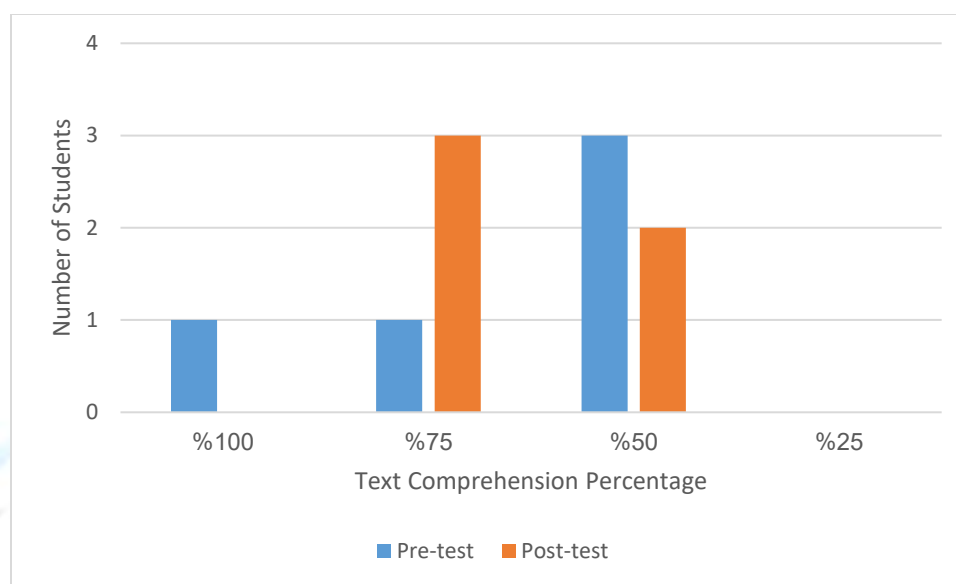

Figure 2, Percentage of Text Comprehension across Students (Experimental Group)

The bar chart above illustrates the percentage of comprehension across experimental group students. Only one student scored 100% comprehension in the pre-test while none of the students obtained this level in the post-test. The number of students who scored 75% and 50% in the pre-test were 1 and 3 respectively. However, in the post-test, the number of students increased to 3 students in 75% level and decreased to 2 students in 50% level. Finally, in the 25% level of comprehension, no student reached this level in pre-and-post assessments.

2.What are students' attitudes towards using online reading speed software?

To answer the second research question, a closed and open-ended questionnaire has been used to elicit students' attitudes and experiences on using AceReader which is an online free reading speed software (See Appendix 3). It is worth mentioning that students in *both groups* responded to the questionnaire, and their performance is illustrated on figure 3 below.
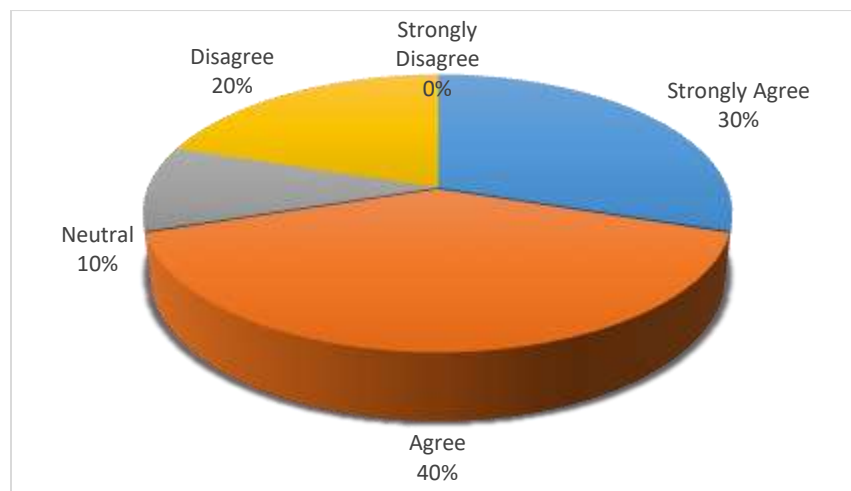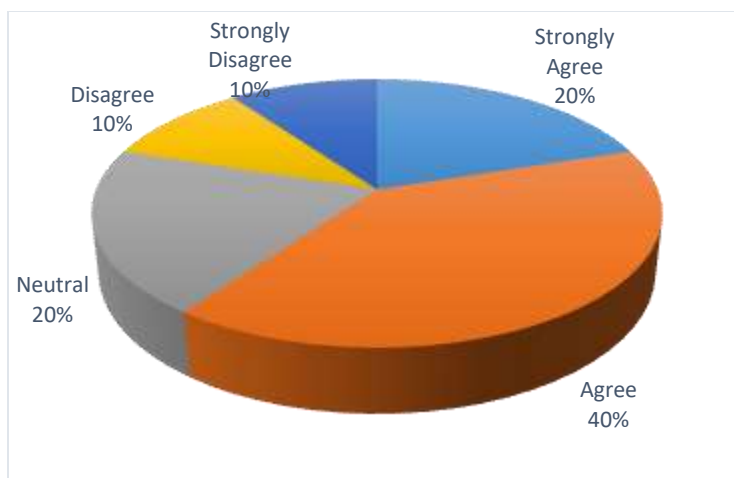
Figure 3, students' Attitudes on using Online Reading Speed Software (Both Groups)

The pie chart above clearly illustrates students' attitudes with regard to using online reading speed tools. The vast majority of students (70%) expressed their agreement on using this free software. A student of this category explains that 'I can quickly find out my reading speed and reading comprehension level'. Another student adds 'it allows me to check my progress in reading comprehension at the end of the course'. On the other hand, 10% of students showed their neutrality on using this technology, and only 20% of students expressed their disagreement of using AceReader. The next section is devoted to the third research question.

3. What are students' attitudes towards using extensive reading material at the Department of English?

To answer the third research question, a closed and open-ended questionnaire has been only distributed to *experimental group* students (See Appendix 4). The main focus of this questionnaire is to elicit their attitudes and experiences on using extensive reading materials based on graded readers. The analytics is illustrated on figure 4 below.

Figure 4: Students' Attitudes on using Extensive Reading Material (Experimental Group)

The pie chart above illustrates students' perceptions on using extensive reading material. 60% of students expressed their agreement of using extensive reading courses in their syllabus. They found them more useful than other courses. One student questioned the significance of the non-departmental courses which according to her are useless in developing reading speed and comprehension; 'In our department, we don't need courses such as general psychology. We need more English language courses which can improve reading and English language skills in general'. On the other hand, only 20% of students expressed their disagreement of using graded readers in the classroom. They explained that these materials are not challengeable as one student explained 'when I was reading them, I did not find a new vocabulary'. This is due to the fact that students in the experimental group vary in their reading level, and those with high level of reading comprehension did not come across new vocabulary, and, therefore, did not use word attack skills which help them find the meaning of new vocabulary items. The next section is devoted to the discussion part of this article.

5. Discussion

From the literature review, it has been empirically proved by many researchers that extensive reading classrooms would develop more reading speeds than intensive reading classrooms would accomplish. See [1] [17]. However, this fact has been refuted by the data of this study. It has also been statistically disapproved by applying paired-sample t-test to find out whether there is a significant positive improvement on students' reading speed before-and-after the two assessments. The results showed that there is a significant difference in the control group P value (.015) which is less than .05. On the other hand, the P value of the experimental group with extensive reading materials is .830 which shows no significant difference between pre-and-post tests. This contradictory between the literature review and the analysis section of this study might be due to the small size of the data which provides less representation of students at Benghazi University, the majority of whom complied with covid-19 restrictions and study at home. In addition, the researchers include only students who performed on pre-and-post assessments, and those who performed on only one setting have been deliberately dropped out from the analysis by the researchers.

The analysis section also revealed that the outcome of reading speed vividly contributed on comprehension percentages of both groups. In the comprehension level of 100%, two students of the control group were able to reach this level while none of students were able to score the same level in the experimental group. This, also, disapproved the hypothesis in the previous research that extensive reading groups would obtain higher comprehension levels and scores than intensive groups. This is due to the fact that English Department students are used to read intensively rather than extensively in the official reading comprehension courses at the Department of English.

As it is mentioned above in the analysis part of this study, 60% of students expressed their agreement of using extensive reading courses in their syllabus although these materials did not allow them to increase their reading speed and comprehension. This result, however, violates other studies whose findings showed that extensive reading materials increase students' reading speed and comprehension. See [1] [17]. Such discrepancy might be due to the fact that students are not used to read extensive materials as well as graded readers in their reading comprehension syllabus at the Department of English. In addition, as expressed by various participants, the overinclusion of non-departmental courses in the syllabus of the English Department minimizes their opportunity to read extensively. The next section is devoted to conclusions, limitations and future research.

6. Conclusions, Limitations and Future Research

The main aim of this study was to examine whether English Department Reading Comprehension I and extensive reading courses based on graded readers increase students' reading speed and comprehension. The most important finding of this study was that the intensive reading course (Reading Comprehension I) increases students' reading speed and comprehension whereas extensive reading courses based on graded readers did not enable experimental group students to increase their reading speed and comprehension. These two findings contradict with the literature of the previous research. The main drawback of this study is the very limited number of sample size. This, however, is due to the fact that many students avoid attending university classes for covid-19 restrictions. They prefer to study at their homes or use online zoom applications to watch lectures online. In addition, only those students who were able to take pre-and-post assessments were included in the study while those who missed either pre-or-post tests were excluded from the analysis. As a result, the researchers are so cautious to generalize the findings of this study, and they suggest more studies on reading speed and comprehension to be conducted when the academic environment at the University gets better.

References

[1]: Bell, T. (2001) 'Extensive reading: speed and comprehension'. *The Reading Matrix*, 1, 1, pp. 1-13.

[2]: Brown, P, & Hirst, S (1983) 'Writing reading courses: The interrelationship of theory and practice. In Brumfit, C (ed) (1983). *Language Teaching Projects For The Third World.* ELT Documents 116. British Council English Teaching Information Centre.

[3]: Cheetham, C; Harper, A; Elliott, M; Ito, M. (2016) 'Assessing student attitudes toward graded readers, MReader and the MReader Challenge'. *The Reading Matrix: An International Online Journal*, 16, 2,1-19.

[4]: Cooper, M. (1984) Linguistic competence of practiced and unpracticed non-native readers of English. In Alderson & Urquhart (1984).

[5]: Creswell, J, & Clark, V (2018) *Designing and conducting mixed methods research*. Los Angeles: SAGE.

[6]: De Leeuw, E, & De Leeuw, M (1965) *Read better, read faster.* London: Penguin.

[7]: Fry, E (1963) *Teaching faster reading: a manual*. Cambridge: Cambridge University Press.

[8]: Greene, J (2007) *Mixed methods in social inquiry*. San Francisco, CA: Jossey-Bass.

[9]: Hamp-Lyons, E (1983) 'Developing a course to teach extensive reading skills to university-bound ESL learners'. *System 11,* pp. 303-12.

[10]: Hesse-Biber, S, & Johnson, R (2015) *The Oxford handbook of multimethod and mixed methods research inquiry*. Oxford: Oxford Press.

[11]: Hill, J (1981) 'Effective reading in a foreign language'. *English Language Teaching Journal, 35,* pp. 270-81.

[12]: Hill, J (1986) *Using literature in language teaching*. London: Macmillan.

[13]: Hino, N (1988) 'Yakudoku: Japan's dominant tradition in foreign language learning'. *JALT Journal, 10,*1/2, pp. 45-55.

[14]: Johnson, R, Onwuegbuzie, A, & Turner, L (2007) 'Toward a definition of mixed methods research'. *Journal of Mixed Methods Research*, 1, 2, pp. 112-33.

[15]: Kumar, R (2011) *Research methodology: a step-by-step guide*. Los Angles: Sage.

[16]: Light, T (1970) 'The reading comprehension passage and a comprehensive reading program'. *English Language Teaching, 24*, pp. 120-24.

[17]: Luchsinger, C (2001) 'A white paper on the impact of project semiotics: implementing acereader software and e-Books to raise standardized reading scores'. Available at: https://www.acereader.com/white-papers.

[18]: Nuttall, C (1982) *Teaching reading skills in a foreign language*. London: Heinemann Educational.

[19]: Park, A (2017) 'A comparison of the impact of extensive and intensive reading approaches on the Korean efl learners'. *International Journal of Applied Linguistics & English Literature*, 6, 3, pp.131- 42.

[20]: Quinones, W (2006) 'I like to read again! using acereader to improve the skills of intermediate adult readers'. Community Learning Centre, Cambridge, MA, USA. Available at: https://www.acereader.com/white-papers.

[21]: Richard, W (1982) 'Improving reading speed in readers of english as a second language". *JALT Journal, 4*, pp. 89-95.

[22]: Snead, B (2005) 'Research results for acereader study at cfs elementary School'. National Association of Street Schools, Denver, Co, USA. Available at: https://www.acereader.com/white-papers.

[23]: Tashakkori, A, & Creswell, J (2007) 'The new era of mixed methods'. *Journal of Mixed Methods Research*, 1, 1, pp. 3-7.

[24]: Tashakkori, A, & Teddlie, C (1998) *Mixed methodology: Combining qualitative and quantitative approaches.* Thousand Oaks, CA: Sage.

[25]: Uden, J, Schmitt, D, & Schmitt, N (2014) 'Jumping from the highest graded readers to ungraded novels: four case studies'. *Reading in a Foreign Language*, 26, 1, pp: 1-28.

[26]: Waddell, J (2005) 'Acereader pro: using technology to improve silent reading performance'. Program Support Teacher CESA 5, Baraboo, WI, USA. Available at: https://www.acereader.com/white-papers.

[27]: Williams, E (1984*) Reading in the language classroom*. London: Macmillan.

[28]: Willingham, M (2017) Improving reading fluency - 15 minutes per day. A case study using acereader to improve students silent reading skills, University North Carolina, Chapel Hill, NC. Available at: https://www.acereader.com/white-papers.

[29]: www.acereader.com/why-acereader

Appendix 1: AceReader
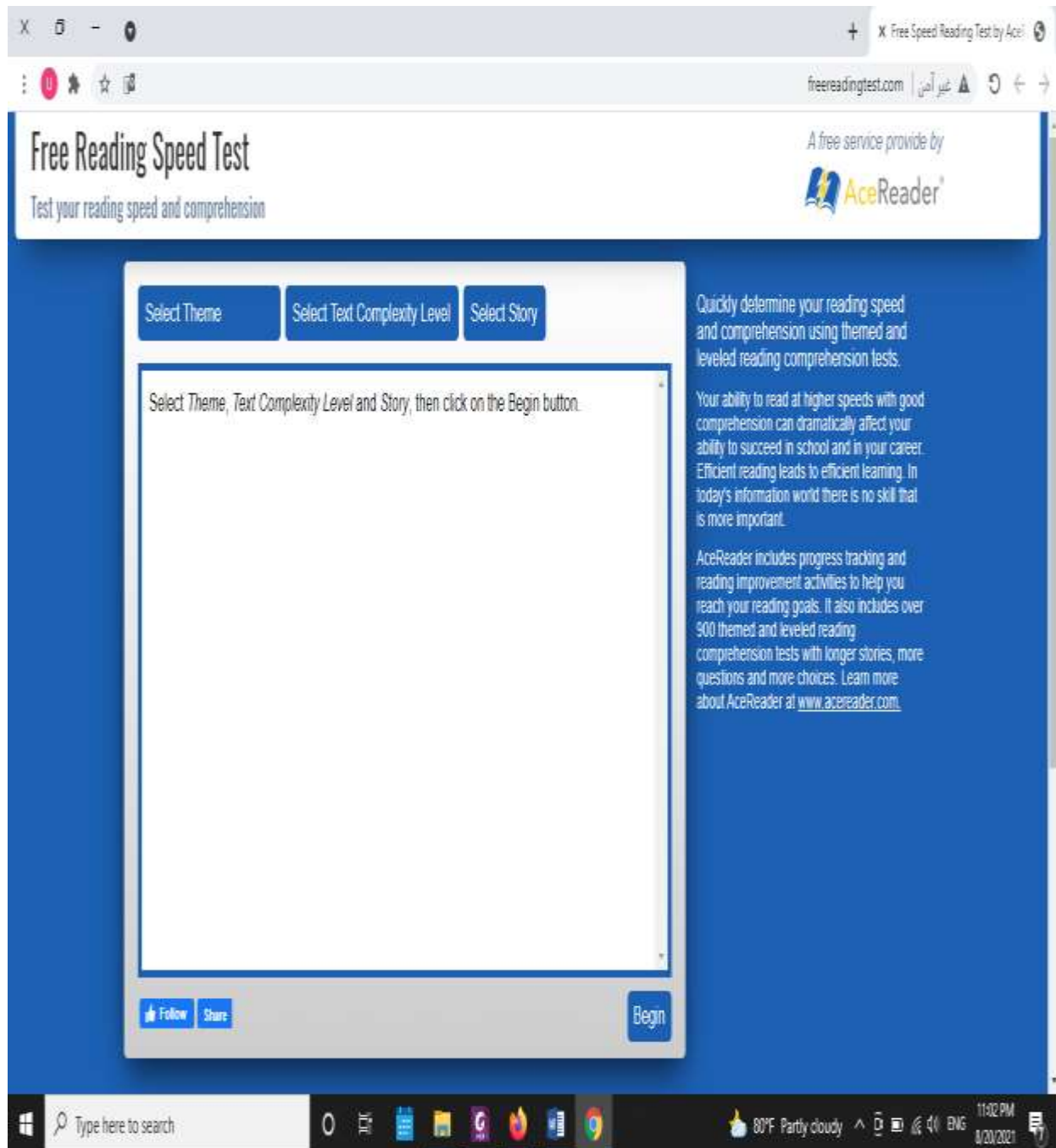
Appendix 2: Graded Readers used in this study
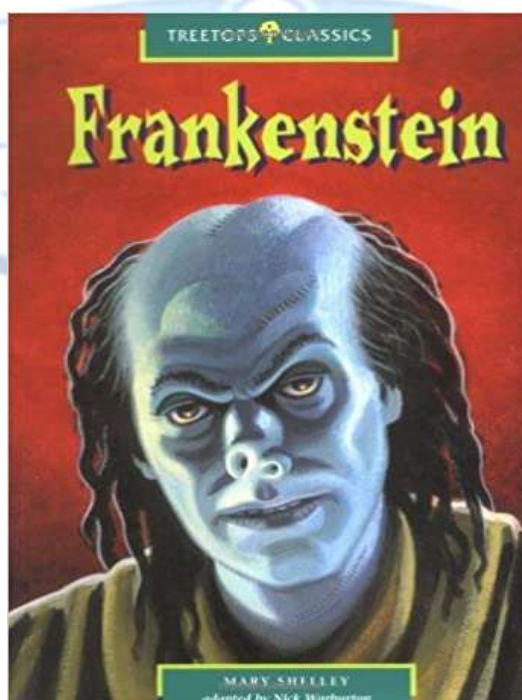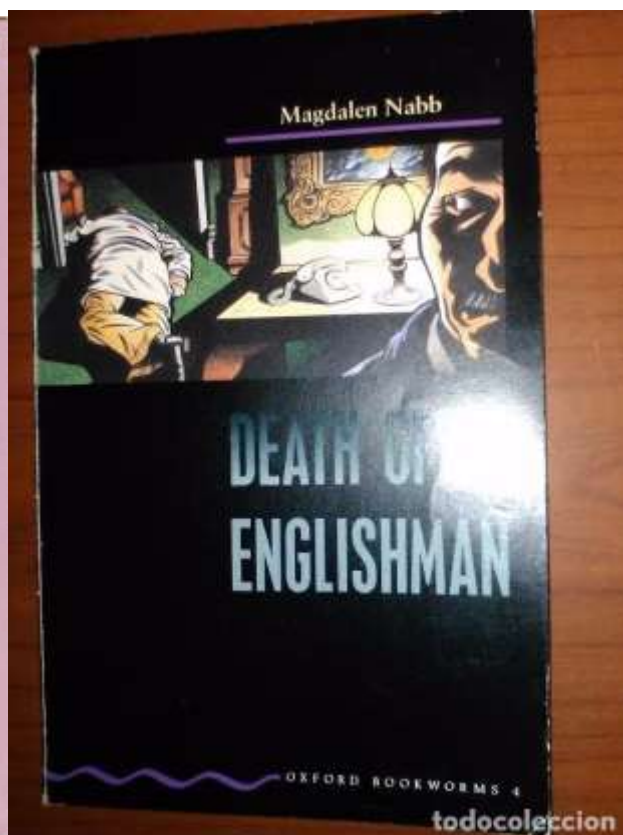
Appendix 3: Questionnaire on AceReader (Control and Experimental Groups)

Dear Student:

Please answer the following questionnaire after you have finished AceReader.

1. To what extent do you think that online reading comprehension tools should be used as a means of assessing reading comprehension at the Department of English? (Please tick [√] only one answer) إلى أي مدى تعتقد أن أدوات القراءة و الاستيعاب في شبكة الإنترنت ينبغي استخدامها كوسيلة لتقييم مادة القراءة و الاستيعاب في قسم اللغة الإنجليزية؟

من فضلك ضع علامة (√) لإجابة واحدة فقط.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
معارض بقوة	معارض	محايد	موافق	موافق بقوة

If you have any extra comments, please write below: إذا كان لديك أي تعليق، من فظلك اكتبه في الأسفل

....

....

....

....

Good Luck for All

Appendix 4: Questionnaire on Extensive Reading Material (Experimental Group)

Dear Student:

Please answer the following questionnaire after you have finished AceReader.

1. To what extent do you think that extensive reading materials should be used as a teaching and learning materials at the Department of English? (Please tick [√] only one answer) إلى أي مدى تعتقد أن مواد القراءة العامة ينبغي استخدامها كمواد للتعليم و التعلم في قسم اللغة الإنجليزية

من فضلك ضع علامة (√) لإجابة واحدة فقط.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
معارض بقوة	معارض	محايد	موافق	موافق بقوة

If you have any extra comments, please write below: إذا كان لديك أي تعليق، من فظلك أكتبه في الأسفل

....
....
....
....
....

Good Luck for All