The Effect of Using Textual Glosses Through a Virtual Learning Environment on the Reading Comprehension of the Iranian Upper-Intermediate EFL MA Candidates

Seyed Ali Hashemi Shileh Sar

MA holder, Faculty of Humanities, University of Guilan, Rasht, Iran

Date: 2022

Table of Contents

Abstract	3
Introduction	4
Statement of the problem	6
Review of Literature	7
Significance of the Study	9
Objectives of the Study	
Research Question:	
Research Hypothesis	11
Methodology	11
Research Procedure	13
Data Analysis	14
Time Table for research	15
Results:	15
Discussion:	
Conclusion	
Limitations and Delimitations	
Suggestions for further research	
References	
Appendix A	
Appendix B	
Appendix C	35

Abstract

Due to the COVID-19 pandemic, the incorporation of Virtual Learning Environment (VLE) into educational settings has become a universal trend. This study shed light on the new urge to focus on E-learning which serves a fundamental role in language teaching and learning not only in Iran but also in all countries. To help readers surmise the meanings of the key terms, the experimental group of the study received treatment on one advanced reading comprehension passage through textual glosses where the definition of the keywords was available in the margins of the text, followed by the administration of the five multiple-choice tests. The control group received the same passage and tests, albeit without glosses. The results of the experiment revealed that the experimental group of the study outperformed the control group. More specifically, this study explored the positive relationship between the utilization of textual glosses through a VLE on the reading comprehension of the Iranian upper-intermediate EFL MA candidates. The findings of the present study might be used in any educational setting to improve learners' reading comprehension abilities.

Keywords: Virtual learning environment, E-learning, Margin, Textual glosses, Reading comprehension

Introduction

Straightforwardly, people know that the procedure of learning a foreign language (FL) or second language (SL) is a complicated process, but it does not necessarily mean that it cannot be satisfying and successful. The brain needs to construct new cognitive frameworks. On the other hand, the language learning process requires untiring perseverance, consistent practice, and a sustainable effort. Generally, grown-ups perceive the process of foreign or second language learning to be more demanding than children (Ganschow et al., 1998). As people who do not live in an English-speaking country, myriads of Iranian EFL learners are encountering a new dimension of language learning, which is called E-learning.

According to Lee et al. (2009), the notion of E-learning refers to a series of activities such as communication, multimedia, collaboration, knowledge transfer, and training that are all conducted through the Internet and web-based materials. We need to accept the undeniable fact that with a variety of devices and technologies such as smartphones, laptops, etc. E-learning has expanded rapidly (Al-Fraihat et al., 2020; Kumar Basak et al., 2018).

Moreover, the term 'gloss' which is utilized in the current study refers to a brief notation, (especially a marginal one) of the meaning of a word (key term/technical term) in a text. Currently, a gloss is commonly found in a text as an appendix of particular terms (i.e., key terms or technical terms) that the reader of that text may discover new. Also, as far as the complexity and thoroughness of the glosses are concerned, they vary from simple marginal notations in a text that might seem unfamiliar or technical, to interlinear translations of a text such as the Bible or Holy Quran with cross-references to relevant passages that help readers work out the meanings of the original text easily (Shiki, 2008).

Furthermore, the Virtual Learning Environment (VLE) is a branch of E-learning that utilizes networked computers/devices to provide some functions and opportunities to professors, lecturers, instructors, learners, students, etc. (Dayag, 2018).

Until a few years ago, the education system in Iran favored traditional methods and approaches to language teaching and learning, that is, students, teachers, and professors had to attend the classrooms at school or college to have face-to-face and physical interaction (Minou, 2010). Nowadays, whether you like it or not, during the COVID-19 quarantine, the utilization of technology-based materials is widely discussed in the academic community due to the fact that they can provide us with several opportunities or flexibilities such as more accessibility to materials and educational courses for the students/learners, allowing them to study and work simultaneously (i.e., establish a balance between education, work, and routine activities), etc.

Considering the fact that by using some techniques such as capitalizing, italicizing, underlining, etc., which are generally referred to as input enhancement techniques we can draw the readers' attention to the key/main elements of the text (Smith, 1981); thus, the goal of this study is to explore the potential effect of using textual glosses through a VLE on the reading comprehension of the Iranian upper-intermediate EFL MA candidates. As the majority of people find dictionaries indispensable resources to look up the unfamiliar words that they might encounter while reading a passage, text, report, etc. providing them with the textual glosses of the key terms might relieve them from this burden. Accordingly, using glosses (e.g., textual, pictorial, and pictotextual) is deemed to be important and needs to be utilized properly (Park et al., 2012; Shalmani & Sabet, 2010).

Statement of the problem

As one of the core areas of communication, reading is considered to be one of the four macro skills that many students find to be highly problematic due to the unfamiliar vocabulary, and the great desideratum to consult their dictionaries all the time may impair their ability to think and concentrate (Chen, 2012). The significance of using glosses in enhancing learners' reading comprehension has already been acknowledged as it can assist the students while reading (Alharbi, 2018). Therefore, the absence of a glossed text and/or glossary (the collection of glosses) at the end of a book, an academic paper, or an article may also aggravate the situation. Regrettably, this problem may impact all readers of authentic or non-authentic texts (non-authentic texts are those that have been simplified and designed for language students based on their current level); regarding this, their inability to comprehend the whole text and to answer the pertinent questions of the text that are closely intertwined might undermine their confidence and lead to frustration, anger, or even aggression.

Taking into account the above-mentioned facts about the significance of the glosses, and taking into consideration that the findings are contradictory with respect to the usefulness of using textual glosses as far as reading comprehension and/or vocabulary acquisition are concerned, therefore, in the present study, the researcher aims to investigate the probable relationship between utilizing textual glosses through a VLE on the reading comprehension of the Iranian upper-intermediate EFL MA candidates.

Review of Literature

The literature review of the current study seeks to explore some of the main factors that can affect the process of reading comprehension by people, learners, and students. As a result, this section of the present study aims to provide a review of studies carried out in the realm of the Internet, technology, distance learning, and reading comprehension.

To be more specific, first, it begins with theoretical and general studies, next, it provides some empirical studies exploring what other scholars have done in action with respect to these factors.

The Internet and Technology. As a two-edged sword, the Internet is regarded as a language learning and communication tool that has an undeniable effect on many aspects of our lives and societies. Moreover, technology and education are closely connected to each other. In other words, the mainstream belief is that as technology advances, we must alter our teaching and/or learning styles in order to take the foremost advantage of the given opportunity. Knowing the fact that education can vastly enrich our lives and in order to make educational outcomes even more fruitful, almost all people from families to school members and policymakers are spending a considerable amount of money/time on the use of technology (Bulman & Fairlie, 2016). However, according to Linn et al. (2004), new technological devices, despite all their improvement and advantages, might also bring about new concerns, and challenges, and/or create anxiety for people of the world by introducing and/or establishing new rules for our social relationships.

More specifically, E-learning, distance learning, online learning, and virtual learning are closely related/equivalent to each other. Concerning this, several studies (Bates & Poole, 2003; Daoud et al., 2020; Kim et al., 2022; Ulum, 2022) have already confirmed the positive relationship

between using technology and the academic success of the students. However, various sources (Arkorful & Abaidoo, 2015; Chu, 2014) have suggested that the utilization of technology may also present challenges and concerns for students and educators.

Virtual Learning Environments and Education. There is a general consensus that VLEs are consolidated within educational settings. Therefore, questioning their acceptance is a futile attempt as they have become inseparable parts of the teaching and learning process (Alves et al., 2017).

Also, VLEs have advanced from simple computer labs to complex environments with respect to the rapid development of information and communications technologies known as ICT (Ozerbas & Erdogan, 2016). Regarding this, while the students' positive perception may lead to their academic advancement, negative perception may lead to unfavorable outcomes (Kauffman, 2015). Several studies (Akbulut, 2008; Al Seghayer, 2001; Chen, 2016; Khezrlou et al., 2017; Shalmani & Sabet, 2010; Türk & Erçetin, 2014; Zarei & Mahmoodzadeh, 2014) have confirmed the inevitable effects of using multimedia glosses on reading comprehension and language acquisition.

Zarei and Mahmoodzadeh (2014), for instance, conducted a study to investigate the probable effect of different multimedia glosses on the reading comprehension and vocabulary production of the students. Using 65 female students of a high school in Qazvin, Iran for the treatment, they divided the students into 4 groups; three of which were regarded as the multimedia gloss groups, and one group was the control group of the study. They gathered the data; the data were analyzed, and the results revealed that for reading comprehension no significant differences were found among the groups. However, regarding vocabulary production, the experimental groups of the study outperformed the control group.

Likewise, Chen (2016) carried out a study to investigate the potential effect(s) of three different gloss modes on elementary college students' reading comprehension and vocabulary acquisition. They were divided into three groups of Mandarin-speaking college freshmen; they were given an English passage each with different gloss formats; the data was obtained and analyzed afterward. The results indicated that the marginal gloss mode resulted in the highest scores on the multiple-choice (MC) test.

Similarly, according to the study of Khezrlou et al. (2017), 99 university EFL learners participated in the research the aim of which was to investigate the fruitfulness of explicit, incidental, and intentional learning conditions on reading comprehension and vocabulary acquisition of the students in a multimedia context. In the second condition (incidental condition) participants received multimedia glosses while reading the texts. Results revealed that the participants of the second group received high scores on the reading comprehension test.

By examining the previous literature, we can come up with the idea that although there are several studies on the importance of using input enhancement techniques, few studies considered the potential effect of glossed texts on the reading comprehension of the learners in this catastrophic pandemic; therefore, this study tries to address the issue.

Significance of the Study

Knowing the fact that being able to read the target language is one of the most important ways of enhancing our knowledge of that language, and by considering the probable challenges that learners might face in this way, providing them with some aids to overcome these challenges and to boost their reading comprehension ability is a must. As a result, the findings of this study might contribute to the field of technology and language teaching/learning (especially, reading comprehension) by encouraging teachers, professors, and course designers to pay due attention to the use of textual glosses in our resources, especially for the students below the advanced level of English. In this way, the teachers/professors will become more aware of the importance of maintaining the process of reading of the students by having glossed text materials pertinent to the student's current level of proficiency. Likewise, students will understand that there is no need to check every single word that they might find complicated or unfamiliar by using dictionaries; therefore, these glosses might expedite the reading comprehension speed of the students as well.

Objectives of the Study

We might already have heard that different techniques have been used over all these years to improve the reading comprehension ability of the learners, namely, taking advantage of input enhancement techniques such as using bold-type/underlined vocabulary to emphasize the key terms of the text, color coding, italicizing, etc. (Park et al., 2012; Smith, 1981). The objective of the present study was to determine whether using textual glosses (also called glossed text or annotated text) contributes to the improvement of the reading comprehension of the Iranian upper-intermediate EFL MA candidates. It would distinguish the significance of using textual glosses within a passage and observe the impact on the Iranian upper-intermediate EFL MA candidates' reading comprehension ability.

Research Question:

The study intends to answer the following question:

Q: Does using textual glosses through a VLE have any statistically significant effect on the reading comprehension of the Iranian upper-intermediate EFL MA candidates?

Research Hypothesis (Null Hypothesis):

In line with the above-mentioned question, the following null hypothesis will be tested:

H₀: Using textual glosses through a VLE has no statistically significant effect on the reading comprehension of the Iranian upper-intermediate EFL MA candidates.

Methodology

Research Design

In this study, the quantitative methods for assessing outcomes and comparing the results of the two groups (i.e., the experimental group and control group) were used. Furthermore, experimental analysis was employed to specify the direction of the relationship (i.e., to determine which one was the causal factor, and which one was the effect) between utilizing textual glosses through a VLE on the reading comprehension of the Iranian upper-intermediate EFL MA candidates.

Participants

Using simple random sampling to ensure both internal and external validity, a total number of 20 senior students who were majoring in English Translation at the Islamic Azad University-Rasht Branch, Iran (both female and male learners) took part in the study (their ages ranged between 21 and 25). Therefore, the population of this study was all the senior English Translation students of IAU Rasht. They were divided into two equal groups. In addition, they were upperintermediate MA candidates, namely, they were willing to take their academic careers to the next level, which was the Master's degree. Also, Persian (Farsi) was their mother tongue, and the English proficiency level of the participants was upper-intermediate according to their scores on the placement test.

Table 1

Demographic characteristics of the participants

💰 ID	💰 Group	\delta Gender	Age 22	
1	The control group	Female		
2	The control group	Male	21	
3	The control group	Male	24	
4	The control group	Female	21	
5	The control group	Male	21	
6	The control group	Male	25	
7	The control group	Female	23	
8	The control group	Female	23	
9	The control group	Male	22	
10	The control group	Female	21	
11	The experimental group	Female	22	
12	The experimental group	Female	21	
13	The experimental group	Female	24	
14	The experimental group	Male	25	
15	The experimental group	Male	21	
16	The experimental group	Female	22	
17	The experimental group	Male	23	
18	The experimental group	Male	21	
19	The experimental group	Male	21	
20	The experimental group	Female	23	

Instruments

Placement test:

To identify the proficiency level of the participants, an Oxford Quick Placement Test (OQPT) (Syndicate, 2001) was administered to classify them based on their scores. OQPT consisted of 60 multiple-choice items; also, it was divided into two main parts. Then, only upper-intermediate students were allowed to take part in the study because as far as the scoring of OQPT was concerned, those students who could successfully answer 37-47 items were recognized as upper-intermediate ones.

A reading comprehension passage and five multiple-choice (MC) questions were distributed among the participants. It must be noted that the validity and reliability of the passage had already been confirmed as they were part of the high-stake MA English Language University Entrance Exam (Konkour) administered in 2019-2020.

(Retrieved from http://www.sanjesh.org/group.aspx?gid=2)

Research Procedure

It is worth noting that before conducting the study, participants were fully informed that the anonymity of the respondents and the confidentiality of their responses would be guaranteed so that their responses would not be influenced by such thought-provoking distractors. Also, informed consent was obtained from the participants to make sure that all of them were enthusiastic about doing the tests. To have qualified and homogeneous groups, first, a language proficiency test was administered among almost all of the senior English Translation students at Islamic Azad University, Rasht Branch, Iran. Some students were distinguished as upper-intermediate students. Since the total number of the groups needed to be the same, and due to the ease of gathering and calculating the data, 20 students were cherry-picked (considering the number of male and female students). In order to have an equal probability of being chosen, simple random sampling was used. More specifically, the names of all participants, the researcher drew the names one by one from a hat. The simplicity and lack of bias were the reasons behind preferring to use a simple random sampling. For the first group, which consisted of 10 students, an advanced reading comprehension passage and its five multiple-choice questions were disseminated via WhatsApp Messenger and/or Telegram Messenger incorporating the textual glosses into the passage. For the control group, however, the same passage and the same questions were distributed, albeit this time without the application of textual glosses. Using any kind of dictionary was prohibited, and they were obliged to submit their answers within 30 minutes.

Data Analysis

The participants were given the OQPT. Once it was finished, they were divided into several groups according to the results. The upper-intermediate group was allowed to proceed further. After the administration of the multiple-choice tests, each item that was correctly answered received a score of 4 marks. Also, the total score was 20. Once the students submitted their answers within 30 minutes, their answers were scored and analyzed using the IBM SPSS (version 26) right after a five-minute break. Moreover, both descriptive statistics (i.e., mode, mean, median, etc.) and inferential statistics (i.e., independent sample t-test) were included in the study.

Time Table for research

	Introduction	Review of Literature	Data Collection	Analysis and Interpretation	Results and Conclusion
Bahman 1400					
Esfand 1400					
Farvardin 1401					
Ordibehesht 1401					
Khordad 1401					

Results:

The results concerning the scores of the two groups are as follows:

Table 2

Scores of the students on the data view window

🗞 ID	💰 Group	Correct_answers	Wrong_answers	Total_score
1	The control group	.00	5.00	.00
2	The control group	1.00	4.00	4.00
3	The control group	2.00	3.00	8.00
4	The control group	3.00	2.00	12.00
5	The control group	1.00	4.00	4.00
6	The control group	1.00	4.00	4.00
7	The control group	1.00	4.00	4.00
8	The control group	2.00	3.00	8.00
9	The control group	2.00	3.00	8.00
10	The control group	.00	5.00	.00
11	The experimental group	1.00	4.00	4.00
12	The experimental group	4.00	1.00	16.00
13	The experimental group	3.00	2.00	12.00
14	The experimental group	3.00	2.00	12.00
15	The experimental group	3.00	2.00	12.00
16	The experimental group	.00	5.00	.00
17	The experimental group	3.00	2.00	12.00
18	The experimental group	1.00	4.00	4.00
19	The experimental group	4.00	1.00	16.00
20	The experimental group	1.00	4.00	4.00

Sample characteristics

A visual inspection of the histograms of the data, normal Q-Q plots, and box plots indicated that the results were approximately normally distributed for both groups of the study in terms of skewness and kurtosis (Appendix D).

Table 3 reports the mean, median, mode, standard deviation, variance, range, minimum, and maximum of the information regarding the total number of correct and wrong answers, and the total score of the students out of 20.

Table 3

Descriptive statistics

		The total number of correct answers	The total number of wrong answers	The total score out of 20
Ν	Valid	20	20	20
	Missing	0	0	0
Mean	1	1.8000	3.2000	7.2000
Media	an	1.5000	3.5000	6.0000
Mode		1.00	4.00	4.00
Std. D	Deviation	1.28145	1.28145	5.12579
Varia	nce	1.642	1.642	26.274
Rang	е	4.00	4.00	16.00
Minim	num	.00	1.00	.00
Maxin	num	4.00	5.00	16.00
Sum	m 36.0		64.00	144.00

Furthermore, with respect to the frequency, percent, and cumulative percent of the variables, the results are shown in greater detail in Tables 4 to 9.

The nature of the groups

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	The control group	10	50.0	50.0	50.0
	The experimental group	10	50.0	50.0	100.0
	Total	20	100.0	100.0	

Table 5

Age of the students

		Frequency	Percent	Valid Percent	Cumulative Percent
2	21	8	40.0	40.0	40.0
	22	4	20.0	20.0	60.0
	23	4	20.0	20.0	80.0
	24	2	10.0	10.0	90.0
	25	2	10.0	10.0	100.0
	Total	20	100.0	100.0	

Table 6

Sex of the students

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	10	50.0	50.0	50.0
	Male	10	50.0	50.0	100.0
	Total	20	100.0	100.0	

Table 7

Total number of wrong answers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	2	10.0	10.0	10.0
2.00 3.00 4.00	2.00	5	25.0	25.0	35.0
	3.00	3	15.0	15.0	50.0
	7	35.0	35.0	85.0	
	5.00	3	15.0	15.0	100.0
	Total	20	100.0	100.0	

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid .00 1.00 2.00 3.00 4.00 Total	.00	3	15.0	15.0	15.0
	1.00	7	35.0	35.0	50.0
	2.00	3	15.0	15.0	65.0
	3.00	5	25.0	25.0	90.0
	4.00	2	10.0	10.0	100.0
	Total	20	100.0	100.0	

Total number of correct answers

Table 9

Total score out of 20

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	3	15.0	15.0	15.0
	4.00	7	35.0	35.0	50.0
	8.00	3	15.0	15.0	65.0
12.00	12.00	5	25.0	25.0	90.0
	16.00	2	10.0	10.0	100.0
	Total	20	100.0	100.0	

Furthermore, as the scores are normally distributed, by using a parametric method, the results concerning the Independent Samples t-Test are reported in Tables 10-11.

Table 10

Group statistics

	The nature of the group	N	Mean	Std. Deviation	Std. Error Mean
The total score out of 20	The control group	10	5.2000	3.79473	1.20000
	The experimental group	10	9.2000	5.67255	1.79382

Independent samples test

		Levene's Test f Varian					Hest for Equality	of Means		
							Mean	Std. Error	95% Confidence Differe	
		F	Sig.	1	df	Sig. (2-tailed)	Difference	Difference	Lower	Upper
The total score out of 20	Equal variances assumed	4.108	.058	-1.853	18	.080	-4.00000	2.15819	-8.53419	.53419
	Equal variances not assumed			-1.853	15.711	.083	-4.00000	2.15819	-8.58200	.58200

Considering Levene's Test for Equality of Variances, the F-value is 4.108. Also, we can come up with the idea that the P-value (sig.) 0.058 is slightly bigger than 0.05. Therefore, we have equality of variances (t (18) = -1.853, and the p-value is less than 0.05).

As shown in the abovementioned tables, the results of the second group that received treatment through textual glosses were meaningfully higher than the first group. That is, the textual glosses were effective enough to improve the student's reading comprehension ability because according to Table 10, the mean of the control group in this study was 5.2000 and the mean of the experimental group was 9.2000.

Accordingly, the current research sought to find an answer to the following question:

Q: Does using textual glosses through a VLE have any statistically significant effect on the reading comprehension of the Iranian upper-intermediate EFL MA candidates?

The answer to the question is yes according to the results earlier reported. Also, the null hypothesis is rejected.

Discussion:

The present study sought to find a satisfactory answer to the following question:

Q: Does using textual glosses through a VLE have any statistically significant effect on the reading comprehension of the Iranian upper-intermediate EFL MA candidates? By rejecting the prior null hypothesis, the answer to this question is "yes". The experiment revealed that the experimental group of the current study outperformed the control group. As a result, there is a positive relationship between the utilization of textual glosses through a VLE on the reading comprehension of the Iranian upper-intermediate EFL MA candidates.

Moreover, to contextualize the findings of the present study within the previous research, it needs to be mentioned that the results of the study are in line with several studies addressed in the literature review section (Akbulut, 2008; Chen, 2016; Khezrlou et al., 2017; Shalmani & Sabet, 2010; Türk & Erçetin, 2014; Zarei & Mahmoodzadeh, 2014).

Conclusion

In the past, accessibility to learning materials had been restricted to a few people. Thanks to our cutting-edge technologies, nowadays, traditional boundaries of education are removed. As a direct result of the integration of technology and language learning and/or teaching, E-learning plays a fundamental role in education. In conclusion, as noted in the current study, the significance of reading comprehension ability is unavoidable, therefore, by developing effective pedagogical strategies and techniques we will be able to help those who find reading comprehension an agonizing and difficult skill to cope with. The present study disclosed that by using textual glosses we can alleviate the potential problems of reading comprehension. In this way, the student's overall understanding of reading passages improves dramatically. Consequently, teachers, instructors, lecturers, tutors, and professors need to pay due attention to the desired impact of using multimedia glosses.

Limitations and Delimitations

The present study, like all studies, might suffer from some limitations. It needs to be mentioned that due to the total number of participants (20 students) the expected outcomes of this study might not be regarded as generalizable evidence to substantiate the claim that using textual glosses will certainly alleviate the potential problems the readers are confronted with while reading a text since due to the nature of academic research, the number of participants in the current study was not adequate enough to make an unquestionable decision regarding the results that was obtained from the study. Also, the participants were told not to use any dictionaries in the process of reading the passage and answering the multiple-choice questions, however, due to the Covid-19 quarantine, there was no face-to-face interaction to determine and/or monitor whether they used dictionaries or not. Furthermore, the current study targeted only Guilanian upper-intermediate MA candidates from IAU Rasht, therefore, it is probable that students from different places might perform differently. Finally, due to the shortage of time, the researcher could not pilot the instruments to justify why he selected those instruments.

Suggestions for further research

Another area to examine may be other types of factors whose effects on reading comprehension can be investigated. Thus, one may replicate this study to explore the probable effects of using different types of glosses on different aspects of L2 learning using a greater number of participants since more attention needs to be paid to the use of glosses for pedagogical practices.

References

- Akbulut, Y. (2008). Predictors of foreign language reading comprehension in a hypermedia reading environment. *Journal of Educational Computing Research*, 39(1), 37-50. https://doi.org/10.2190/EC.39.1.c
- Al-Fraihat, D., Joy, M., & Sinclair, J. (2020). Evaluating E-learning systems success: An empirical study. *Computers in Human Behavior*, 102, 67-86. https://doi.org/10.1016/j.chb.2019.08.004
- Al Seghayer, K. (2001). The effect of multimedia annotation modes on L2 vocabulary acquisition: A comparative study. *Language Learning & Technology*, *5*(1), 202-232.
- Alharbi, B. (2018). The Impact of Glossed Texts on Reading Comprehension among Tertiary Saudi Students. *English Language Teaching*, *11*(3), 153-161. http://doi.org/10.5539/elt.v11n3p153
- Alves, P., Miranda, L., & Morais, C. (2017). The influence of virtual learning environments in students' performance. Universal Journal of Educational Research, 5(3), 517-527. http://doi.org/10.13189/ujer.2017.050325
- Arkorful, V., & Abaidoo, N. (2015). The role of e-learning, advantages and disadvantages of its adoption in higher education. *International Journal of Instructional Technology and Distance Learning*, 12(1), 29-42.
- Bates, T., & Poole, G. (2003). *Effective teaching with technology in higher education*: Foundations for Success.
- Bulman, G., & Fairlie, R. W. (2016). *Technology and education: computers, software, and the internet*: Elsevier. https://doi.org/10.1016/B978-0-444-63459-7.00005-1

- Chen, I.-J. (2016). Hypertext glosses for foreign language reading comprehension and vocabulary acquisition: Effects of assessment methods. *Computer Assisted Language Learning*, 29(2), 413-426. https://doi.org/10.1080/09588221.2014.983935
- Chen, Y. (2012). Dictionary use and vocabulary learning in the context of reading. *International Journal of Lexicography*, 25(2), 216-247. https://doi.org/10.1093/ijl/ecr031
- Chu, H.-C. (2014). Potential negative effects of mobile learning on students' learning achievement and cognitive load—A format assessment perspective. *Journal of Educational Technology* & *Society*, *17*(1), 332-344.

Cramer, D. (1998). Fundamental statistics for social research: Routledge.

Crammer, D., & Howitt, D. (2004). The SAGE dictionary of statistics: SAGE.

- Daoud, R., Starkey, L., Eppel, E., Vo, T. D., & Sylvester, A. (2020). The educational value of internet use in the home for school children: A systematic review of literature. *Journal of Research on Technology in Education*, 53(4), 353-374. https://doi.org/10.1080/15391523.2020.1783402
- Dayag, J. D. (2018). EFL Virtual learning environments: perception, concerns and challenges. *Teaching English with Technology*, *16*(4), 20-33.
- Doane, D. P., & Seward, L. E. (2011). Measuring Skewness. *Journal of Statistics Education*, 19(2), 1-18.
- Ganschow, L., Sparks, R. L., & Javorsky, J. (1998). Foreign language learning difficulties: An historical perspective. *Journal of Learning Disabilities*, 31(3), 248-258. https://doi.org/10.1177/002221949803100304

- Kauffman, H. (2015). A review of predictive factors of student success in and satisfaction with online learning. *Research in Learning Technology*, 23, 1-13. https://doi.org/10.3402/rlt.v23.26507
- Khezrlou, S., Ellis, R., & Sadeghi, K. (2017). Effects of computer-assisted glosses on EFL learners' vocabulary acquisition and reading comprehension in three learning conditions. *System*, 65, 104-116. https://doi.org/10.1016/j.system.2017.01.009
- Kim, S., Jeong, S. H., Kim, H. S., & Jeong, Y. J. (2022). Academic Success of Online Learning in Undergraduate Nursing Education Programs in the COVID-19 Pandemic Era. *Journal of Professional Nursing*, 38, 6-16. https://doi.org/10.1016/j.profnurs.2021.10.005
- Kumar Basak, S., Wotto, M., & Belanger, P. (2018). E-learning, M-learning and D-learning: Conceptual definition and comparative analysis. *E-learning and Digital Media*, 15(4), 191-216. https://doi.org/10.1177/2042753018785180
- Lee, B.-C., Yoon, J.-O., & Lee, I. (2009). Learners' acceptance of e-learning in South Korea: Theories and results. *Computers & Education*, 53(4), 1320-1329. https://doi.org/10.1016/j.compedu.2009.06.014
- Linn, M. C., Davis, E. A., & Bell, P. E. (2004). *Internet environments for science education*: Lawrence Erlbaum Associates Publishers.
- Minou, T. (2010). Evolution of distance education in Iran. *Procedia-Social and Behavioral Sciences*, 2(2), 1043-1047. https://doi.org/10.1016/j.sbspro.2010.03.147
- Ozerbas, M. A., & Erdogan, B. H. (2016). The effect of the digital classroom on academic success and online technologies self-efficacy. *Journal of Educational Technology & Society*, *19*(4), 203-212.

- Park, H., Choi, S., & Lee, M. (2012). Visual input enhancement, attention, grammar learning, & reading comprehension: An eye movement study. *English Teaching*, 67(4), 241-265. https://doi.org/10.15858/engtea.67.4.201212.241
- Shalmani, H. B., & Sabet, M. K. (2010). Pictorial, Textual, and Picto-Textual Glosses in E-Reading: A Comparative Study. *English Language Teaching*, 3(4), 195-203.
- Shiki, O. (2008). Effects of glosses on incidental vocabulary learning: Which gloss-type works better, L1, L2, single choice, or multiple choices for Japanese university students? *Journal* of Inquiry and Research, 87, 39-56. http://doi.org/10.18956/00006209
- Smith, M. S. (1981). Consciousness-raising and the second language Learner1. Applied Linguistics, 2(2), 159-168.
- Syndicate, U. (2001). Quick placement test: Oxford University Press.
- Türk, E., & Erçetin, G. (2014). Effects of interactive versus simultaneous display of multimedia glosses on L2 reading comprehension and incidental vocabulary learning. *Computer Assisted Language Learning*, 27(1), 1-25. https://doi.org/10.1080/09588221.2012.692384
- Ulum, H. (2022). The effects of online education on academic success: A meta-analysis study. *Education and Information Technologies*, 27(1), 429-450.
- Zarei, A. A., & Mahmoodzadeh, P. (2014). The Effect of multimedia glosses on L2 reading comprehension and vocabulary production. *Journal of English Language and Literature*, *1*(1), 1-7.

Appendix A

The reading comprehension passage and its five pertinent questions are listed below. (Retrieved from http://www.sanjesh.org/group.aspx?gid=2)

Passage:

Immigration by people from Ukrainian Eastern Europe into Canada began as a trickle in 1891 when the first arrivals settled in Alberta; the movement gained momentum in 1896 when more than twelve thousand came to settle in Manitoba and other parts of the prairie region of Canada. Over the next two decades, many more came, most of them moving to lands along the woodland margin of the prairies. Settling as individual farmers, claiming their land, they frequently found themselves sharing a district with people from widely scattered parts of Europe-from Scandinavia, Great Britain, and non-Ukrainian parts of Eastern Europe.

The folk building traditions of the Ukraine relied strongly on log construction techniques, and these newcomers were able to use their traditional techniques immediately without having to adopt log building methods from established groups. Little stood in the way of their building, except for the need to secure adequate supplies of logs. Those with access to trees were quick to exploit these opportunities, pine always being preferred for its superior quality. The only other materials needed to replicate the traditional Ukrainian dwelling were clay for plaster and a supply of thatching material for the roof-rye straw was the material of choice, though marsh grass often had to be substituted in Canada. Most needed materials could be found readily.

Almost all pioneers have had the difficulty of constructing a "quick house in which to survive the first winter. On the Canadian prairies, such shelters were often dug into hillsides and had exposed walls of sod. Details of these expedient, usually temporary, shelters have been the subject of a good deal of folklore, and a common theme is surviving the hardship imposed by often cramped

quarters and remarkably crude construction. Ukrainians, among others on the prairies, also faced these difficulties, but as with most pioneers they moved quickly to fashion more substantial housing, using the methods and traditions brought with them from their former homelands. The typical Ukrainian dwelling consisted of a rectangular structure encompassing a large and a small room. Ukrainian custom dictated that dwellings face south with the only door and most of the windows located so as to receive the winter sun.

Questions:

A- According to the passage, which of the following is true of Ukrainian immigration to Canada?

- 1) It reached its greatest level in the early 1800's.
- 2) It was greater in 1891 than in 1896.
- 3) It increased in the early 1900's.
- 4) It began with a single large group of immigrants.
- B- According to the passage, all of the following were true of Ukrainian immigrants in Canada EXCEPT many......
- 1) were farmers who worked their own land.
- 2) lived in Alberta before moving to Manitoba and other regions.
- 3) lived in areas with immigrants from other ethnic groups.
- 4) settled in prairie areas.

C- Which of the following is mentioned as a reason why Ukrainian immigrants in Canada were well qualified to build homes?

- 1) They did not need to learn new building methods.
- 2) They were helped by already established settlers.
- 3) Traditional Ukrainian buildings required little effort to construct.

4) They brought many of their building materials with them to Canada.

D- The passage suggests that Ukrainian immigrants sometimes had difficulty obtaining which of the following materials in Canada?

1) Clay

- 2) Pinewood
- 3) Rye straw
- 4) Marsh grass
- E- The word "them" in paragraph 3 refers to.....
- 1) prairies
- 2) Ukrainians
- 3) Difficulties
- 4) methods

Quick Placement Test

Part 1

Question 1 – 5

Where can you see these notices?
For questions 1 to 5, mark one letter A,B or C on your Answer Sheet.

1. YOU CAN LOOP	K, BUT DON'T TOUCH	H THE PICTURES	^	в	С			
A► in an office	B► in a cinema	C► in a museum						
2. PLEASE GIVE 1	PLEASE GIVE THE RIGHT MONEY TO THE DRIVER							
A► in a bank	B► on a bus	C► in a cinema						
3. NO PARKING P	^	в	С					
A► in a street	B► on a book	C► on a table						
4. CROSS BRIDGE	E FOR TRAINS TO EL	DINBURGH	^	в	С			
A► in a bank	B► in a garage	C► in a station						
5. KEEP IN A COL	DPLACE	·	^	в	С			
A► on clothes	B► on furniture	C► on food						

Question 6 –10

- In this section you must choose the word which best fits each space in the text below.
- For questions 6 to 10, mark one letter A, B, or C on your Answer Sheet ٠

THE STARS

There are millions of stars in the sky. If you look (6).....the sky on a clear night, it is possible to se about 3000 stars. They look small, but they are really (7).....big hot balls of burning gas. Some of them are huge, but others are much smaller, like our planet Earth. The biggest stars are very bright, but they only live for a short time. Every day new stars (8)......born and old stars die. All the stars are very far away. The light from the nearest star takes more (9).....four years to reach Earth. Hundreds of years ago, people (10).....stars, like the North Star, to know which direction to travel in. Today you can still see that star.

6.			AB	С
A► at	B► up	C► on		
7.	-		A B	С
A► very	B► too	C much		
8.	•		A B	С
A► is	B► be	C► are		
9.			AB	С
A► that	B► of	C► than		
10.		·	AB	С
A► use	B► used	C► using		

Question 11 - 15

- In this section you must choose the word which best fits each
- space in the texts.
 For questions 11 to 20, mark one letter A, B, C or D on your Answer Sheet.

	Good sm	nilies ahead	for young t	eeth			
British youngs best. Almost 8 to a World Hea	ters (11)m 0% of Britons ove alth Organisation s	urope when it come ore to smile about r 65 have lost all o survey. Eating too Is have on average	because (12) re some (13) (14)sugar i	teet their is part o	h are teeth f the p	accord	ding
11.				A	в	С	D
A► getting	B► got	C► have	D having				
12.				^	в	С	D
A► their	B► his	C► them	D► theirs				
13.				A	в	с	D
A► from	B► of	C► among	D between				
14.				A	в	С	D
A► much	B► lot	C► many	D►deal				
15.		-		^	в	с	D
A► person	B► people	C► children	D Family				

Question 16 - 20

Christopher Columbus and the New World

On August 3, 1492, Christopher Columbus set sail from Spain to find a new route to India, China and Japan. At this time most people thought you would fall off the edge of the world if you sailed too far. Yet sailors such as Columbus had seen how a ship appeared to get lower and lower on the horizon as it sailed away. For Columbus this (16)......that the world was round. He (17)to his men about the distance travelled each day. He did not want them to think that he did not (18)exactly where they were going. (19) on October 12, 1492, Columbus and his men landed on a small island he named San Salvador.

Columbus believed he was in Asia, (20).....he was actually in the Caribbean.

16.				^	В	с	D
A► made	B► pointed	C► was	D> proved				
17.				^	в	С	D
A► lied	B► told	C► cheated	D asked				
18.				^	в	с	D
A► find	B> know	C► think	D ▶expect				
19.	·			^	в	с	D
A► Next	B Secoundly	C► Finally	D Once				
20.		-	-	^	в	С	D
A► as	B► but	C because	D▶if				

Question 21 - 30

- In this section you must choose the word or phrase which best completes each sentence.
- For questions 21 to 40, mark one letter A, B, C or D on your Answer Sheet.

21. The childrer bedroom.	n won 't go to sleep	owe leave a lig	pht on outside their	Α	В	С	D
A► except	B▶ otherwise	C unless	D> but				
22. I'll give you	my spare keys in o	ase youhon	e before me.	Α	В	С	D
A► would get	B▶ got	C► will get	D► get				
23. My holiday i accent.	n Paris gave me a	greatto imp	rove my French	Α	В	С	D
A► occasion	B▶ chance	C hope	D► possibility				
24. The singer e	ended the concert	her most po	pular song.	Α	В	С	D
A► by	B▶ with	C► in	DÞ as				
25. Because it h water.	ad not rained for s	everal months, th	ere was aof	Α	в	С	D
A▶ shortage	B▶ drop	C scare	D> waste				
26. I 've always	you as my	best friend.	•	Α	В	С	D
A▶ regarded	B▶ thought	C► meant	D> supposed				
27. She came to	live hera n	onth ago.	•	Α	В	С	D
A► quite	B beyond	C already	D► almost				
28. Don't make teeth.	such a! The o	dentist is only goi	ng to look at your	Α	В	С	D
A▶ fuss	B▶ trouble	C► worry	D reaction				
29. He spent a l	ong time looking fo	or a tie which	with his new shirt.	Α	в	С	D
A► fixed	B▶ made	C► went	D> wore				
30. Fortunately, injuries from he		on the head, she	suffered no serious	Α	В	С	D
A▶ other	B▶ except	C► besides	D► apart				

Question 31 – 40

	anged so much tha	tanyone recog	nised her.	A	в	С	D
A► almost	B hardly	C not	D nearly				
32teachi	ing English, she als	o writes children's	books.	Α	В	С	D
A► Moreover	B► As well as	C In addition	D Apart				
33. It was clear restaurant.	that the young cou	ple wereof tal	ing charge of the	A	В	С	D
A▶ responsible	B► reliable	C capable	D▶able				
34. The book	of ten chapters,	each one covering	a different topic.	Α	В	С	D
A► comprises	B▶ includes	C► consists	D ► contains				
35. Mary was di quickly.	isappointed with he	r new shirt as the o	olourvery	A	В	С	D
A► bleached	B► died	C vanished	D▶faded				
	ders from all over t	the world are experi	te d a attand		•	<u> </u>	_
themeeting.		ne wond are expec	ted o attend	A	в	С	D
themeeting. A▶ peak		C top	D apex		•		
A► peak 37. Jane remair	B► summit	C► top won the lottery and	D► apex	A A	B	C C	
A▶ peak 37. Jane remair business as if r	B> summit	C► top won the lottery and	D► apex				
A▶ peak 37. Jane remair business as if r A▶ came	B► summit ned calm when she nothing had happer B► brought	C top won the lottery and red.	D apex Iabout her D moved				
A▶ peak 37. Jane remair business as if r A▶ came 38. I suggest w	B► summit ned calm when she nothing had happer B► brought	C► top won the lottery and red.	D apex Iabout her D moved	A	B	C	
A▶ peak 37. Jane remain business as if r A▶ came 38. I suggest w A▶ meeting	B▶ summit ned calm when she nothing had happer B▶ brought eoutside the s B▶ meet	C top won the lottery and red. C went	D► apex Iabout her D►moved t 8.30. D►will meet	A	B	C	
A▶ peak 37. Jane remain business as if r A▶ came 38. I suggest w A▶ meeting	B▶ summit ned calm when she nothing had happer B▶ brought eoutside the s B▶ meet	C► top won the lottery and ned. C► went tadium tomorrow a	D► apex Iabout her D►moved t 8.30. D►will meet	A	B	C	
A▶ peak 37. Jane remain business as if r A▶ came 38. I suggest w A▶ meeting 39. My remarks A▶ pretended	B► summit ned calm when she nothing had happer B► brought eoutside the s B► meet wereas a jok B► thought	C ► top won the lottery and red. C ► went stadium tomorrow a C ► met e, but she was offe	D ► apex about her D ► moved t 8.30. D ► will meet nded by them. D ► supposed	A	B	C	

Part 2

Do not start this part unless told to do so by your test supervisor

Questions 41 – 45

- In this section you must choose the word which best fits each space in the texts.
 For questions 41 to 45, mark one letter A, B, C or D on your Answer Sheet.

CLOCKS

The clock was the first complex mechanical machinery to enter the home, (41)......it was too expensive for the (42)......person until the 19th century, when (43)......production techniques lowered the price. Watches were also developed, but they (44).....luxury items until 1868, When the first cheap pocket watch was designed in Switzerland. Watches later became (45).....available, and Switzerland became the world's leading watch manufacturing centre for the next 100 years.

41.				^	в	С	D
A► despite	B Although	C► otherwise	D► average				
42.				^	в	С	D
A► average	B► medium	C► general	D common				
43.		•		^	в	с	D
A► vast	B► large	C► wide	DÞ mass				
44.				^	в	С	D
A► lasted	B endured	C kept	D remained				
45.				^	в	с	D
A► mostly	B► chiefly	C greatly	D widely				

Questions 46 - 50

Whether you ch 1000 years ago Century Walk, o The Literary Wa Dublin City Wall 2.30 p.m. at the	of getting to know oose the Medieval find out about the r meet the ghosts ik, we know you w ks (48)twice Tourist Information cial (50)are	Walk, which will (more (47)	y walking around i 46)you to th history of the city of writers on ience. guide at 10.30 a.m. ce (49)is	ne on the . or	Eight	teenth	
46.				A	в	С	D
A► introduce	B► present	C► move	D show				
47.				A	в	С	D
A► near	B► late	C► recent	D► close				
48.				A	в	С	D
A► take place	B► occur	C work	D function				
49.	•			A	в	С	D
A► paying	B► reserving	C► warning	D booking				
50.	•			4	в	С	D
A► funds	B► costs	C► fees	D► rates				

Question 51-60

- In this section you must choose the word or phrase which best completes each sentence.
- For questions 51 to 60, mark one letter A, B, C or D on your Answer Sheet.

51. If you're no	t too tired we could	have aof ten	nis after lunch.	Α	в	С	D
-		_					
A► match	B► play	C► game	D► party				
52. Don't you g	get tiredwatchi	ng TV every nigh	?	Α	в	С	D
A► with	B► by	C► of	D► at				
53. Go on, finis fresh until.	sh the dessert. It nee	dsup becau	ise it won't stay	Α	в	С	D
A► eat	B► eating	C► to eat	D eaten				
54. We're not u	ised toinvited	to very formal oc	casions.	Α	в	С	D
A► be	B► have	C► being	D► having				
55. I'd rather w	emeet this ev	ening, because l'	m very tired.	Α	в	С	D
A► wouldn't	B► shouldn't	C► hadn't	D►didn't				
56. She obviou point.	sly didn't want to di	scuss the matter s	so I didn'tthe	A	в	С	D
A► maintain	B► chase	C► follow	D> pursue				
57. Anyone interval.	after the start of t	he play is not allo	wed in until the	Α	В	С	D
A► arrives	B► has arrived	C► arriving	D► arrived				
58. This new m information.	agazine isw	ith interesting sto	ories and useful	Α	В	С	D
A▶ full	B► packed	C► thick	D► compiled				
59. The restaur	rant was far too nois	y to beto re	laxed conversation.	Α	в	С	D
	B suitable	C practical	D fruitful				
A► conducive	Dir Suitable						
	ch of medicine, it is	vital toop	en to new ideas.	A	в	c	D

The test ranking is as follows:

1-17 Beginner

18-27 Elementary

28-36 Lower-intermediate

37-47 Upper-intermediate

48-55 Advanced

56-60 Very advanced

Appendix C

The supplementary information of the data using SPSS:

Table 12

Case processing summary

			Ca	ses		
	Va	lid	Mis	sing	То	tal
	Ν	Percent	Ν	Percent	И	Percent
The total number of correct answers	20	100.0%	0	0.0%	20	100.0%
The total number of wrong answers	20	100.0%	0	0.0%	20	100.0%

Table 13

Percentiles

					Percentiles			
		5	10	25	50	75	90	95
Weighted Average (Definition 1)	The total number of correct answers	.0000	.0000	1.0000	1.5000	3.0000	3.9000	4.0000
(Jennuon 1)	The total number of wrong answers	1.0000	1.1000	2.0000	3.5000	4.0000	5.0000	5.0000
Tukey's Hinges	The total number of correct answers			1.0000	1.5000	3.0000		
	The total number of wrong answers			2.0000	3.5000	4.0000		

Descriptives

	The nature of the group			Statistic	Std. Error
The total score out of 20	The control group	Mean		5.2000	1.20000
		95% Confidence Interval for Mean	Lower Bound	2.4854	
			Upper Bound	7.9146	
		5% Trimmed Mean		5.1111	
		Median		4.0000	
		Variance		14.400	
		Std. Deviation		3.79473	
		Minimum		.00	
		Maximum		12.00	
		Range		12.00	
		Interquartile Range		5.00	
		Skewness		.234	.687
		Kurtosis		347	1.334
	The experimental group	Mean		9.2000	1.79382
		95% Confidence Interval for Mean	Lower Bound	5.1421	
			Upper Bound	13.2579	
		5% Trimmed Mean		9.3333	
		Median		12.0000	
		Variance		32.178	
		Std. Deviation		5.67255	
		Minimum		.00	
		Maximum		16.00	
		Range		16.00	
		Interquartile Range		9.00	
		Skewness		368	.687
		Kurtosis		-1.414	1.334

As far as the normality of the scores is concerned, by looking at the above table, we can come up with the idea that it is correct with skewness of 0.234 (SE = 0.687) and kurtosis of -0.347 (SE = 1.334) for the control group of the study and skewness of -0.368 (SE = 0.687) and kurtosis

of -1.414 (SE = 1.334) for the experimental group of the study; that is, all four z-values are within +/- 1.96 (Cramer, 1998; Cramer & Howitt, 2004; Doane & Seward, 2011).

Table 15

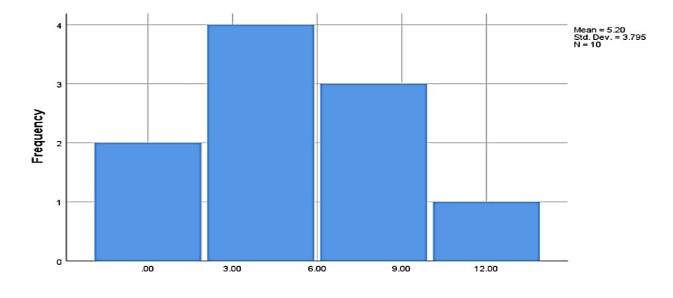
Extreme values

			Case Number	Value
The total number of correct answers	Highest	1	12	4.00
		2	19	4.00
		3	4	3.00
		4	13	3.00
		5	14	3.00 ^a
	Lowest	1	16	.00
		2	10	.00
		3	1	.00
		4	20	1.00
		5	18	1.00 ^b
The total number of wrong answers	Highest	1	1	5.00
		2	10	5.00
		3	16	5.00
		4	2	4.00
		5	5	4.00°
	Lowest	1	19	1.00
		2	12	1.00
		3	17	2.00
		4	15	2.00
		5	14	2.00 ^d

a. Only a partial list of cases with the value 3.00 are shown in the table of upper extremes.

- b. Only a partial list of cases with the value 1.00 are shown in the table of lower extremes.
- c. Only a partial list of cases with the value 4.00 are shown in the table of upper extremes.
- d. Only a partial list of cases with the value 2.00 are shown in the table of lower extremes.

Figure 1



The total score of the control group out of 20 (Histogram)



The total score of the experimental group out of 20 (Histogram)

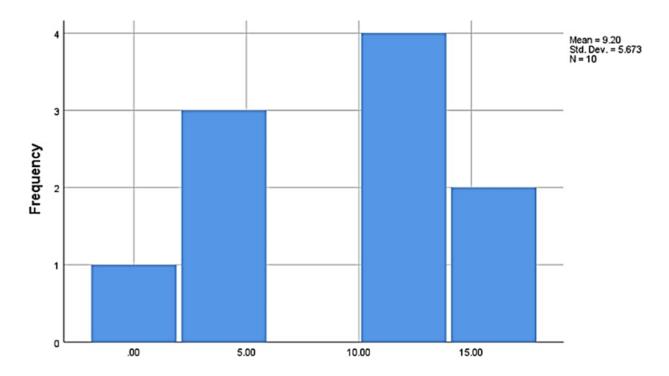
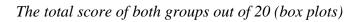


Figure 3



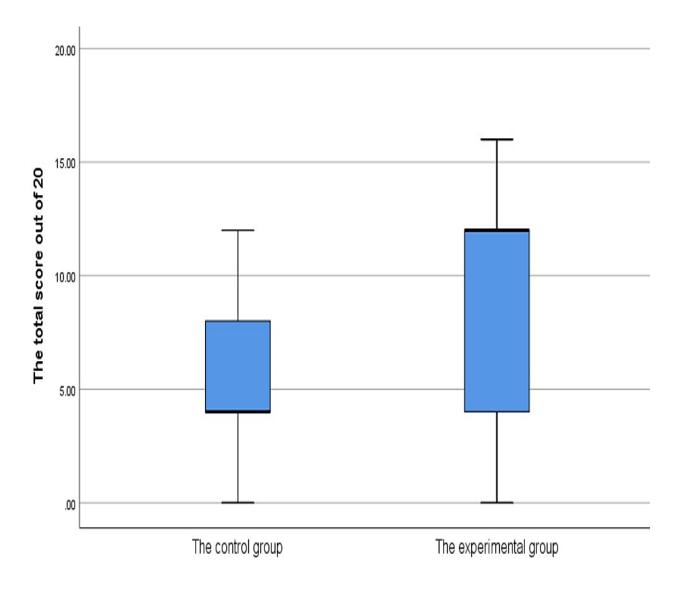
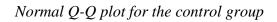
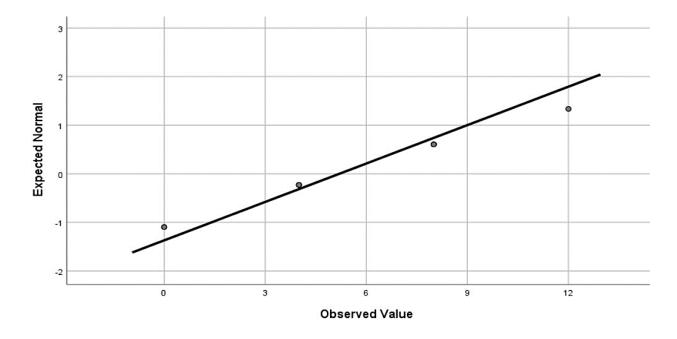


Figure 4







Normal Q-Q plot for the experimental group

