

A COMPARATIVE STUDY OF BLENDED AND TRADITIONAL LEARNING ON READING COMPREHENSION AT THE SECONDARY LEVEL

Muhammad Shoaib Mehmood

*PhD Scholar, Department of English, Lahore Leads University Lahore, Punjab,
Pakistan. Email: shoaib4739@gmail.com*

Rubina Shaheen

*Assistant Professor, Institute of English Language and Literature, Shah Abdul
Latif University, Khairpur, Sindh, Pakistan. Email: drowsylaked_eye@yahoo.com*

Sonal Khan Maitlo

*MPhil. English (Linguistics), Lahore Leads University, Lahore, Pakistan.
Email: sonalkhan3634@gmail.com*

Azhar Ahmad

*Research Scholar of English (Literature and Linguistics) Lahore Leads University,
Lahore, Punjab, Pakistan, Email: azharscholar313@gmail.com*

Corresponding: Email: azharscholar313@gmail.com

Abstract

The present research aim is not merely to investigate the effects of blended learning on students' reading comprehension but also to identify students' attitude towards blended learning in reading comprehension. This quasi-experimental research was done to observe the effects of blended learning (BL) on reading comprehension. The participants of the study were sixty Pakistani students of secondary level who were divided into two groups i.e. control group and experimental group. The control group was taught in traditional method only for two months whereas the experimental students were given the treatment of BL in the form of a mobile phone application; Reading Comprehension along with conventional mode of instruction. The research instruments used in the study were Reading Comprehension Test (pretest and posttest) and a Students Attitude Assessment Questionnaire. Quantitative data were analyzed with independent t-test and DESCRIPTIVES techniques using SPSS software. The findings of the posttest showed that BL had a significant positive effect on reading comprehension. Furthermore, the responses of experimental students in questionnaire showed that the school boys had positive attitudes towards BL.

Key Words:

Blended Learning, , Reading Comprehension, Comparative study, experimental research.j

Introduction

Language is a system of sounds, symbols and words which is used by the humans for the purpose of communication in a specific area or country (Hornby & Cowie, 1995). Every standard language spoken by people has four main skills i.e. speaking, listening, reading and writing. The function of all these skills is to help the humans to understand the real meaning of the speaker or the text in any form or any context. It has been approved that reading comprehension is responsible for the development of language proficiency not only in the context of the concerned language learning and teaching but also in developing and fostering the knowledge of other sciences and subjects as well (Neufeld, 2005; Ansari et al., 2025). Neufeld (2005) describes the meaning of reading comprehension as the capacity to understand the text. To have expertise in reading and

comprehension skill not only in mother language but also in second language as well is the fundamental aim of education (Sanford, 2015). Israel and Duffy (2014) writes in the book *Hand Book of Research on Reading Comprehension* that for a man, to have the ability of reading and comprehension is not only essential for practical or lawful motives (i.e. forms and contracts) and personal necessities of life in a society having a literate culture in order to maintain his or her successful status but also for social perspectives. Logan, Medford, and Hughes (2011) argue that it is only writing which enables the nations to use and gain power and help them to witness the fact that how the advanced nations transformed their destiny with the help of writings. Therefore, the available literature on language learning and teaching has given a very important place to reading comprehension.

BL is neither itself a separate method of learning nor it opposes other mediums of instruction rather it is the mixture of traditional and e-learning or m-Learning to yield better results (Chomchaiya, 2014). BL yields better and satisfactory results because the learner can have review of the same lecture or lesson as many times as he wants at any time. In this way, the learning contents which were not clear or understood by the learner in the classroom can be clarified by himself (Chantem, 2010). Chantem (2010) further discusses that BL enhances the proficiency of reading comprehension of the learners. Therefore, instead of applying only traditional classroom teaching method to learn reading skill, BL should also be incorporated to get better results. In modern age, the process of language teaching is changing and new resources like different applications of mobile phones, laptops and computers are used for it (Wang & Hefferman, 2009). In this modern era, there are a lot of mobile applications like Busuu, Babbel, Duolingo, FluentU, Memrise which help the students in learning (Nushi & Jenabzadeh, 2016). *Reading Comprehension* is also a mobile phone application prepared by Take Your way. This application is very helpful for improving English reading comprehension. This is the technology which has been used by the researcher for this research project.

Problem Statement

In the current age, integration of technology with the traditional mode of learning is crucial to meet the academic requirements and expectations. But it is very difficult for a developing country like Pakistan to provide all the students with technology on such a large scale due the lack of financial resources (Rachid et al., 2018; Ahmad, Cheema & Farhat, 2023). According to Thorne (2003), reading comprehension is the most crucial instrument in order to learn a language and BL is a very helpful methodology to get proficiency in English reading comprehension. Qureshi et al. (2012) argue that, in spite of much struggle to promote the proficiency in English reading comprehension skill, Pakistan is still far behind the other advanced nations of the world. Hussain et al. (2010) opine that, in countries like Pakistan the teachers cannot develop the reading comprehension skill in all the students to the satisfactory level through traditional method only. Therefore, to meet the needs of the modern era, it is BL mode of instruction which should be opted because it gives the learners an opportunity to go through the contents of English reading course again and again until they have the grasp over them. This research would help the teachers and students for choosing the methodology for reading comprehension up to the standard level by giving them the results of the two modes of instruction which have been used in the research.

Research Objectives

This study aims

- To investigate the effects of blended learning on students' reading comprehension.

- To identify students' attitude towards blended learning in reading comprehension.

Research Questions

The research was conducted to find out the answers of the following research questions that express the objectives of the study:

- 1- Is there any significant difference between the mean scores of the experimental group and that of the control group on the reading comprehension post-test?
- 2- What is learners' attitude towards blended learning in reading comprehension?

Research Significance

From the available literature, this is clear that there are many gaps for new researches in respect of MALL. Kim (2007) argues that BL must be opted in every educational institution for language learning. From the previous studies, it is clear that, in Pakistan, many researchers have examined reading comprehension in relation to e-learning. However, there is not a single research which had been conducted on the impacts of BL on reading comprehension in Kasur. Therefore, the significance of this research is that it has filled the gap and has tried to present a new road map to cover and compensate the problem of reading comprehension using MALL. This research will help teachers to opt the better methodology to overcome the problem of reading comprehension at secondary level by giving them the results of the experiment as evidence.

Literature Review

Literature review is a written overview of major writings and other sources on a selected topic (Ahmad et al., 2023; Shaheen et al., 2026). Review of the literature summarize and evaluate the text of writing of the definite theme, and provide frame work to think about the possible consequence of innovative study (Ahmad et al., 2021). Literature reviews summarizes and assesses the text of writing of the definite theme and provides a basis to think about the possible importance of innovative study (Maitlo et al, 2022). From these statements we can guess the importance of literature review. Following is the literature review related to the present research work.

The available literature on this research has been presented in four portions :(1) Reading comprehension (2) Blended learning (3) Previous researches conducted on this topic.

1. Reading comprehension

Before discussing reading comprehension, it is more appropriate to point out as to what 'reading' is. Reading is an activity of producing meaning from the texts (Anderson et al., 1985). The fundamental purpose of all the skills of a language is to extract the intended meaning of the speaker or the text as per the context. Reading comprehension is a very important skill and it is an acknowledged fact that it is the source of advancement of language proficiency not only in relation to learning and teaching but also in developing the knowledge of all subjects (Neufeld, 2005). Chomchaiya (2014) opines that it is the skill of the reader to extract real meaning of words of the author that may or may not be clear in its written form. Comprehension is an act of building the desired meaning with an active interface among (a) background knowledge of the reader (b) intended meaning which is possessed by the words (c) and the setting (Shehata, 2019). Whereas, English reading comprehension, according to Chomchaiya (2014) is to have the skills and knowledge that help the readers to recognize the real meaning of English reading material. The present study is an effort to examine development in reading comprehension in the context of BL mode of instruction which uses the two mediums learning.

2. Blended Learning

In simple words, the idea of Blended learning deals with mixing of information and communication technology ICTs by employing the mixture of various teaching techniques to the existing traditional methods (George-Walker & Keeffe, 2010). BL shows a very necessary change in teaching and learning techniques (Watson, 2008). In F2F learning environment, the teacher and the learner have interaction in the same classroom at the same time in synchronous way. Whereas, in e-learning format, the learning process is learner centered and based on self-accessed knowledge in asynchronous way (Mehmood et al., 2024). Advancement in technology combined the two mediums and the concept of BL came into existence to introduce such a mode of instruction as is the blend of both modes i.e. e-learning and traditional (Ahmad Iqbal & Rao, 2023). BL is such a term which does not have a unified, single or fixed definition. Different critics and researchers have defined it differently (Banditvilai, 2016). Blended Learning is a process of learning and teaching that employs technology with traditional methods. A class of blended learning consists of technology based environment for learning and the contents of online learning are additionally added to the F2F course.

Previous Researches Conducted on BL

Ghazizadeh and Fatemipour (2017) investigated the effect of blended learning on the reading proficiency of EFL learners in Iran. As the study was quasi-experimental; Sixty Iranian EFL learners were divided in to two groups; one was control group that received conventional classroom instruction in General English and, experimental group that received classroom instructions as well as blended instruction in reading skill. The reading skills of both groups were examined before and after the experiment through the reading segment of the Preliminary English Test (PET); a test was taken to compare their scores. The results showed that the Iranian EFL learners have been positively affected by blended learning in reading skill and it was observed that blended learning can help in learning process particularly in reading

Like the other researches, Kheirzadeh and Birgani (2018) exposed the usefulness of the blended learning in reading comprehension skill with the help of this study which was conducted on sixty EFL students of a university of Iran who were 19 to 25 years old belonging to both of the sexes. Both of the groups of learners were given pretest and then the subjects of experimental group were given the treatment of ten ninety minutes sessions of the particular reading books and the second thing was that they used website nicenet.com at home. The control group was taught the particular books in traditional face to face strategy only in the classrooms. The results of the posttest indicated that the blended learning had positive effects on reading comprehension skills.

Kazakoff, Macaruso, and Hook (2018) examined the efficacy of a blended learning approach to elementary school reading instruction for students who are English Learners in comparison to Non-English Learners. The study researched whether modified and adaptive blended learning method can help to improve the reading progress in English Learners and Non-English Learners in order to do analysis 442 participants of English Learners and 442 Non-English Learners matched on grade level. Consequently, there are no differences on aimsweb between two groups, both groups revealed same changes but positive. There was observed a great extent of decline in reading deficiency between two groups.

Similarly, Harpiansi and Suryani (2019) described the effect of blended learning on English academic reading by using experimental method with pretest-posttest control design. Thirty two students were selected for the study and data was collected through multiple choice tests and

examined through sample T test. Accordingly findings have major differences between experimental and control group participants' performance. The data results have showed in the form of statistical tables' blended learning have noteworthy impact on students' achievement of mastery in reading.

Research Methodology

A methodology details a researcher's approach to the research to ensure reliable, valid results that address their aims and objectives (Ahmad et al., 2023). It encompasses what data they're going to collect and where from, as well as how it's being collected and analyzed (Ahmad et al., 2022; Maitlo et al., 2023). This quasi-experimental research was done to observe the effects of blended learning (BL) on reading comprehension. The participants of the study were sixty Pakistani students of secondary level who were divided into two groups i.e. control group and experimental group. The control group was taught in traditional method only for two months whereas the experimental students were given the treatment of BL in the form of a mobile phone application; Reading Comprehension along with conventional mode of instruction. The research instruments used in the stud were Reading Comprehension Test (pretest and posttest) and a Students Attitude Assessment Questionnaire. Quantitative data were analyzed with independent t-test and descriptive techniques using SPSS software.

Results and Findings

To answer the research questions, the researcher piloted an experiment and collected the data with the help of research instruments i.e. a test (RCT) (appendix A) in the form of pretest and posttest from the subjects of the two groups of the study and SAAQ (appendix C) but it was given to the participants of the experimental group only.

1. Pre-test Results

An independent samples t-test was conducted to compare the scores of the control group and experimental group on the pre-test. Following are the statistical data of the pretest:

Table.1: Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
Pretest	Experimental Group	30	19.63	3.917	.715
	Control Group	30	17.20	3.010	.550

On the basis of findings of posttest which have been presented in table 1, it can be concluded that there was no significant difference in the mean scores of the experimental group (M=19.63, SD=3.917) and the control group (M=17.20, SD=3.010) on the pre-test; $t(58)=2.69, p = 0.004$

Table .2: Independent Samples Test

Levene's Test for Equality of Variances						t-test for Equality of Means	
						95% Confidence Interval of the Difference	
						Sig.	
F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower Upper

Pretest Equal variances assumed	2.352	.131	2.698	58	.009	2.433	.902	.628	4.239
Pretest Equal variances not assumed			2.698	54.396	.009	2.433	.902	.625	4.241

The statistical data of table 1 and p value of Independent Samples Test in table 2 indicate that there was no difference in the mean scores of the students of the two groups. Therefore, it can be concluded that, before the treatment of mode of instruction, the reading proficiency of all the students was almost same and there was no significant difference in it.

2. Post-test Results

To address the first research question of the study pretest and posttest were given to the subjects and collected the statistical data which were analyzed with t-test technique with the help of SPSS.

Table.3: Group statistics for difference between the two groups on the post-test

Group	N	Mean	Std. Deviation	Std. Error Mean
Post-test Experimental Group	30	26.17	2.730	.498
Control Group	30	20.10	1.729	.316

On the basis of findings of posttest which have been presented in table .3, it can be concluded that there was a significant difference in the scores of the experimental group (M=26.17, SD=2.73) and the control group (M=20.10, SD=1.72) on the post-test; $t(58)=10.28, p = 0.000$

Table.4: Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means		Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
	F	Sig.	t	Df				Lower	Upper
Posttest Equal variances assumed	9.386	.003	10.282	58	.000	6.067	.590	4.886	7.248
Posttest Equal variances not assumed			10.282	49.039	.000	6.067	.590	4.881	7.252

The results suggest that blended learning really does have an effect on reading comprehension. Specifically, the findings in the present study indicate that blended learning aided instructions significantly enhanced learners' reading comprehension at secondary level.

Attitude of the Learners towards BL

The second part of SAAQ contained fifteen items responded by participants of the experimental group on a 5-point Likert scale. The analysis of findings shows the attitude of students towards BL in reading comprehension.

Table.5: Descriptive Statistics of students' attitude towards BL in reading comprehension

Items	Mean	Std. Deviation
1. Applying mobile phone application in learning improved my reading comprehension skill.	3.77	.774
2. The technique of BL encouraged me to learn English reading comprehension.	3.70	.837
3. I am in favour of using smartphones applications for development of English reading comprehension.	3.93	1.081
4. Applying BL in English reading comprehension made me like English and more interested in English	3.83	1.053
5. I found the syllabus of English easier when applying BL in learning the skill of reading comprehension	3.97	1.129
6. Applying Mobile phone application for English reading comprehension was more enjoyable than conventional methodology.	4.50	1.075
7. I want to take part in such BL process again for English reading comprehension.	3.60	.932
8. The use of mobile phone application for reading comprehension saved my time.	2.63	1.159
9. All lectures of English reading comprehension should be supported by BL	3.47	.730
10. BL material of reading comprehension is more engaging than F2F.	4.77	.504
11. I prefer mobile devices to be used for development of reading comprehension skill.	3.57	1.104
12. The use of mobile devices can increase flexibility of access to resources for reading comprehension.	4.80	.610
13. With mobile devices for reading comprehension I need less guidance from teachers	2.47	1.008
14. Use of BL in English reading comprehension motivates me.	3.50	.777
15. Every student can use the mobile phone application easily for the purpose of English reading comprehension.	2.33	.959
Valid N (listwise)	30	

Overall Means and Standard Deviation of Students' Attitude to BL in reading

Table 5 describes the overall analysis of students' attitude to integration of BL in reading comprehension. The overall minimum and maximum value of students' attitudes toward the use of BL in reading comprehension was 2.13 and 4.53 respectively. The overall mean was 3.65 and the standard deviation was 0.57. The mean value indicates a positive attitude towards BL in reading comprehension from the thirty (30) participants of the experimental group surveyed in the study.

Table .6: Overall Means and Standard Deviation of Students' Attitude to BL in reading

	N	Minimum	Maximum	Mean	Std. Deviation
Overall Mean	30	2.13	4.53	3.6556	.57538
Valid N (listwise)	30				

Discussion and Conclusion

Discussion on Effects of BL on Reading Comprehension

The results of the pretest of the two groups showed no significant difference in the reading comprehension skill of the learners. But the findings of the post-test indicated that BL has significant positive impacts on the scores of the subjects taught in BL. The t-test showed that the BL group achieved better score in the reading comprehension post-test. The subjects who taught with BL technique showed enhanced performance in the post-test score as compared those who were taught in conventional style with no blended learning. Overall, the key finding is that the results of the current study agree with other studies of different researchers. There are many aspects which are common in these studies and the present study and there also some elements in which it differs from them. The findings of all these studies which have been discussed with the current study indicate that BL has positive effect on reading comprehension of the learners of all grades irrespective of location of subjects. Only one study (Khechine et al., 2014) stands in contrast which indicates factors like age, gender etc. which might affect the performance of the learner.

Discussion on Students' Attitudes to BL in Reading

Overall, the crux of the whole discussion on students' attitude to BL in reading is that students showed positive attitudes to BL in the form of mobile phone application for reading comprehension. Over all, the learners indicated that BL approach and BL material is more appealing than the F2F mode of instruction and traditional course contents. They can improve their reading skill with BL. There were fifteen questions but five gave the maximum mean of either positive or negative. Question no 6, 10 and 12 of SAAQ showed the maximum strongly agree. From the response of learners to these items, it can be concluded that applying the mobile phone application for reading comprehension makes the learning process enjoyable and BL material is more engaging than the traditional one. Furthermore, MALL provides the learner with the easy and flexible access to the source of knowledge. On the contrary, question no 8 and 13 of SAAQ got the maximum strongly disagree. With these findings, it can be said that learning through BL consumes more time as compared to F2F instruction. Moreover, proper guidance and directions of the teacher are necessary for the better performance of learners. Al Zumor et al. (2013) argue that most of the students perform better and feel more relaxed when they are guided by their instructor.

Recommendations for Future Researches

It was a pioneered research in district Kasur of Pakistan which was conducted in view of enhancing students' reading comprehension skill using BL mode of instruction via mobile phone application at secondary level. Mobile phone application could also be used in language class to improve other aspects. Furthermore, the researcher employed an offline mobile phone application for enhancing reading comprehension skill i.e. understanding the meaning of words as per their contextual use, inferring, skimming, drawing the conclusion, scanning and finding the main idea. A large amount of MALL material and many more mobile phone applications are available for learners to improve their reading skills i.e. of drawing conclusions, finding the main idea, important facts, comparison, contrast, and logical reasoning, inferring, skimming, understanding the meaning of words as per their contextual use and relating background knowledge which could

be employed to have better results. The current study was a quasi-experimental research. Other researchers can conduct qualitative researches to find the solution to other. The current study only studied the effects of BL and students' attitude towards BL in reading comprehension. On the other hand, there are many issues and hurdles in reading comprehension via technology in Pakistan. Therefore, other researches should point out and address these issues and problems. Bax (2003) is of the opinion that in near future, the education setting especially in context of language learning would be done via normalization of technology.

Conclusion

The current study was an effort to study effects of BL on learners' reading comprehension and to examine their attitude towards BL. Reading comprehension is very important skill of language. Therefore, it must be given more importance. The use of technology with the traditional methods of instruction improves reading proficiency of learners and gives better results as compared to F2F methodology only. BL learning makes the process of language learning more enjoyable and easy for the learners. Pakistani students face many problems in the field of reading comprehension. This problem can be settled with help of BL. The findings of the pretest and posttest indicated that, after the treatment of BL and traditional teaching methodology to experimental and control group respectively, the students who were taught with BL secured better scores than the control group. Moreover, the findings of the SAAQ indicated that the students of experimental showed positive attitudes towards BL. English language learners can enhance their proficiency in reading comprehension using BL. The learners can also learn and improve their skill of reading at a place and time of their ease and choice with BL mode. BL provides both the students and teachers with easy access to the material and prompt feedback. In BL mode of instruction, the learners enjoy the facility of e-learning as well as F2F mode of learning. The crux of the whole discussion of the study is that the positive effects of MALL on reading skill and positive attitudes of learners towards its use are in favour of employing BL mode of instruction for reading comprehension at secondary level.

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