



## **The Effect of Blended Learning on the Primary Stage EFL Students' Reading Comprehension Achievement in Libya**

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The purpose of this study was to look at the impact of blended learning methodologies on the reading comprehension achievement of Libyan EFL primary school pupils. To achieve this purpose, a quasi-experimental two-way between-group factorial design was used. A total of 120 Libyan EFL respondents from four different schools were randomly assigned to one of the two groups. The experimental group (N=60) consisted of 30 males and 30 females who were given reading comprehension education in general English understanding as well as blended learning materials created by the researchers. However, 30 males and 30 females in the control group (N=60) acknowledged typical classroom training grade 9 textbooks. Both groups were assessed in their reading comprehension EFL achievement before and after the intervention using an achievement English test, and their scores were compared using inferential statistics of the independent sample t-test, paired sample t-test, and the factorial between two groups ANCOVA, all of which were performed in SPSS V.27. According to the finding, blended learning has a statistically significant positive effect on improving reading comprehension in EFL students, with a considerable effect size between groups. Furthermore, in the case of blended learning, no statistically significant interaction impact between teaching modality and gender was discovered. In Libyan EFL schools, blended learning can be used to improve reading comprehension.

**Keywords:** blended learning, flipped classrooms, EFL learners, primary Libyan students, reading comprehension

### **INTRODUCTION**

Blended learning is a learning environment that combines technology and face-to-face training (Ghazizadeh & Fatemipour, 2017). To put it another way, blended learning

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combines face-to-face training in a traditional classroom with online instruction to better accomplish course objectives (Akkoyunlu & Yilmaz Soylo, 2006). Bersin (2003) describes blended learning as the development of an optimal training programme for a specific audience using a variety of training media (technology, activities, and types of events). Blended learning is the most logical and natural evolution of the learning agenda (Finlay et al., 2022). Blended Learning presents a graceful solution to the challenges of tailoring learning and development to individual needs (Shohel et al., 2022). Blended Learning signifies an opportunity to integrate the innovative and technological achievements of online learning with the greatest elements of traditional learning, such as engagement and involvement (Islam et al., 2022).

Reading comprehension has always been seen as one of the most important sources of understandable input, and as a result, reading has always been an important part of language learning. Reading comprehension involves the reader, the text, and the relationship between the reader and the text (Lustyantie & Kasan, 2021). Meaningfulness is highly vital in this interactive reading process for greater comprehension of the content. Unfortunately, many EFL learners do not understand how to read and consequently have difficulty comprehending texts, which leads to a lack of interest in reading and thus produces a significant challenge for the educational system. As a result, language teachers and educational planners must develop appropriate assignments to help language learners strengthen this competence both inside and outside of the language learning classroom (Asadipiran et al., 2022).

The use of blended learning to improve EFL reading comprehension achievement would be extremely beneficial to Libyan students (Belazi & Ganpathy, 2021). Face-to-face teaching is one of the most critical instruments for obtaining foreign language input, and using blended learning to improve EFL achievement would be extremely beneficial to Libyan students (Apsari & Parmawati, 2022). unluckily, old methods of teaching English to EFL students are still in use in the Libyan educational system, and many Libyan teachers are ignorant of this relatively recent trend in language teaching (Belazi & Ganpathy, 2021). Despite the wealth of research on the subject, there have been few studies on the use of blended learning with Libyan EFL students (Othman et al., 2013). Blended learning is thought to help both EFL teachers and learners improve their overall EFL competency by boosting learning practises and harnessing technology to create new learning experiences (Al Bataineh et al., 2019).

Many benefits of blended learning were revealed by research (Poon, 2012) include encouraging dynamic, simultaneous, free, joint, and substantial learning experiences, assisting students in achieving effective satisfaction and achievement, improving content, objectives, materials, procedures, and evaluation to improve learning and outcomes, dealing more effectively with individual differences, and managing and administering the class more easily (Elshawish & Belshaikh, 2021). On the other hand, if done incorrectly, blended learning can be challenging to implement. Students and teachers, for example, should feel safe and supported because they are the most crucial members of a long-term blended learning implementation (Magableh & Abdullah, 2020). Potential barriers to blended learning a rose (Graham et al., 2005; Milheim, 2006), such as technology and internet accessibility, the need for an e-learning

programme that meets all of the learners' and teachers' requirements, coping skills, and attitudes in the face of new technology, real-time and simple interaction with learners to answer their questions, cultural adaptation to maintain one's identity and values while balancing modernization, and class management to analyse and restructure the classroom (Shana & Alwaely, 2021).

In today's age of technological innovation and globalisation, Sharma and Sharma (2020) claim that blended learning appeals to educators all around the world. There is a rising need and demand to meet the demands of a diverse variety of students and to create engaging and relevant learning experiences for EFL students (Miraei Mohammadi et al., 2022). Blended learning also refers to the use of a learning management system to combine e-learning with face-to-face training (Mohamed, 2022). It should also be noted that just providing learners with learning information causes them to become inactive and indifferent, resulting in minimal learning (Fovet, 2022). When learners are active and motivated, when they are involved and engaged, and when they interact with the learning content, learning outcomes are significantly improved (Apsari & Parmawati, 2022). According to research, using a blended learning technique alongside or in addition to traditional classroom training can improve students' information retention (Zulhamdi et al., 2022)

Given the aforementioned concerns, as well as the novelty of blended learning in the Libyan educational system, it is worthwhile to put the new concept to the test in terms of its efficacy in improving Libyan EFL students' overall English success. As a result, the purpose of this research is to see how blended learning influences Libyan EFL students' reading comprehension accomplishment.

### **Context and Review Literature**

Many experts from various fields have recently looked into how to use technology to empower future generations by teaching English as a Foreign Language utilising a blended learning strategy. Soltani et al. (2012) investigated how a combination of online and face-to-face training improved Iranian EFL students' vocabulary achievement. The independent sample t-test results demonstrated a statistically significant difference in vocabulary knowledge between the experimental and control groups between the pre-test and post-test. By a significant margin, the experimental group outperformed the control group. Similarly, Kazu and Demirkol (2014) investigated the impact of a blended learning environment on the academic achievement of high school students. At the end of the trial, they found that students who studied in a blended learning environment were more academically successful than those who studied in a traditional learning setting.

Ceylan and Kesici (2017) looked into the effects of blended learning on middle school student's academic achievement and product evaluation scores. Respondents in the experimental and control groups in 6th-grade classes in Turkey made up the sample (N= 53). The experimental group was taught in a hybrid learning environment that comprised web-based enrichment technologies (such as video-conference, Learning Management systems, Discussion blogs, etc.). On the other hand, the control group had access to all of the enriched content that was only presented in the classroom using existing teaching

methods. The research employs a quantitative approach that includes a product rating scale and an academic achievement test. The discrepancies were discovered using independent t-tests, frequency tests, and ANOVA testing. The results demonstrated that the experimental group's academic performance differed significantly from the control group.

Al Bataineh et al. (2019) explored how the blended learning technique affects the grammatical performance of EFL students. The study also wanted to see what EFL students thought about blended learning. To achieve its objectives, the study used a quasi-experimental approach (pre and post-tests) followed by qualitative interviews. The experimental blended learning group (n=13) received instruction via Moodle, whereas the control group (n=15) received instruction via traditional methods. All 13 members of the experimental group were interviewed. Respondents in the experimental group surpassed those in the control group statistically significantly. In addition, the qualitative study found that blended learning enhanced learners' English grammar competency and that they were extremely satisfied and motivated to learn English in the future utilising similar ways.

Through a quasi-experimental methodology, Ghazizadeh and Fatemipour (2017) studied the influence of blended learning on the reading comprehension skills of Iranian EFL students. The sample included 60 Iranian EFL students who were separated into two groups at random. In the reading skill, the experimental group received integrated education, whereas the control group received regular classroom training. A pre-and post-test was administered at the start and end of the trial, revealing that blended learning outperformed the control group statistically.

Oweis (2018) compared the achievement of EFL learners in post-secondary education using blended learning and traditional methods. The experimental group received English teaching using a computerised programme in conjunction with traditional methods, while the control group solely received traditional methods. The analysis of covariance (ANCOVA) revealed statistically significant differences in accomplishment between the two groups, demonstrating that the experimental group outperformed the control group.

Hijazi and AlNatour (2020) investigated the impact of a blended learning technique on ninth-grade students' English achievement and motivation to study the language. A total of 100 female students were included in the study, who were randomly assigned to one of two groups: experimental or control. The experimental group learned English using computerised software, while the control group merely employed the usual method. The results revealed statistically significant differences in achievement and motivation to learn English between the two groups, favouring the experimental group.

After examining various studies on blended learning to address the issues experienced in traditional classroom teaching, Sharma and Sharma (2020) investigated the impact of blended learning on nine-grade students' self-efficacy in English. The current study used a factorial design with a pre-test and post-test. A 2x3 analysis of variance was used to analyse the data for the two independent variables, instructional treatment, and self-

efficacy. There were statistically significant changes in the experimental group, but no interaction effect between blended learning and efficacy effects was discovered.

Apsari and Parmawati (2022) used the Collaborative Classroom Action Research approach to investigate how blended learning might assist students to improve their writing skills. Second-year IKIP Siliwangi students enrolled in the English for Academic Writing class participated in the study. The data for the study was gathered through observation and testing. The finding revealed that students' writing scores improved after integrating blended learning in each cycle.

Fardin et al. (2022) investigated the effectiveness of flipped education (blended learning) in terms of reading comprehension and grammar learning for intermediate EFL students. Convenient sampling was used to choose (N=60) Iranian intermediate EFL students. The two groups then went through 14 treatment sessions, with the flipping group receiving explicit flipped teaching and the control group receiving non-flipped mainstream training from the institute. The findings demonstrated that there were substantial differences between the two groups, with the experimental group outperforming the control group in both reading comprehension and grammar.

Miraei Mohammadi et al. (2022) investigated the impact of flipped learning on students' English-speaking abilities. The purpose of this study was to evaluate how face-to-face versus online flip learning affected lower-intermediate Iranian EFL students' speaking skills. The Oxford Placement Test was used to establish homogeneity in terms of lower-intermediate language ability among 32 people (18 females and 14 males) in this quasi-experimental investigation. After that, the participants were randomly assigned to one of two experimental groups, each of which had a spoken pre-and post-test. The first group participated in a face-to-face FLIP classroom, whereas the second used Adobe Connect to participate in an online FLIP environment. The results showed that FLIP learning significantly improved both groups' speaking abilities, as both groups performed better on the post-test than on the pre-test. Mohamed (2022) looked at how effective blended learning is for improving EFL learning. The sample included (n=38) pre-service teachers who performed reflection essays and (n=110) pre-service teachers who completed a closed-ended five-scales Google form questionnaire. The survey's findings revealed that undergraduates are enthusiastic about integrating online and face-to-face instruction.

Libyan EFL students are not unfamiliar with blended learning. Most private schools combine face-to-face instruction with the use of technology; however, due to the lack of adequate classroom equipment in public schools (Belazi & Ganapathy, 2021), it is difficult to implement blended learning in all public schools, as most classrooms lack computers, data displays, or even e-learning programmes. The conventional face-to-face method of lecturing students is used in the majority of public-school classes. If teachers want to use blended learning, they must take their students to the computer lab, which is always full of students taking computer lessons. Blended learning is critical for EFL students in Libyan public schools so that educational programmes can help Libyan students in the same way that they benefit other students in similar EFL situations.

Traditional or face-to-face learning environments have been chastised for promoting passive learning, failing to address higher-order thinking skills, and failing to account for individual differences and needs (Sharma & Sharma, 2020, Magableh & Abdullah, 2021). Face-to-face instruction and feedback are combined with online instructions and feedback in blended learning. Its appeal stems from the fact that it combines the benefits of both face-to-face and online learning (social connection and inspiration) (flexibility of access). Blended learning, according to another proponent, improves teaching (Shohel et al., 2022).

The current study could be the first of its kind in Libyan primary schools according to literature revised, as most blended learning studies have focused on university students. It will also be one of the few studies that look into how gender characteristics interact with blended learning. Blended learning must be implemented in Libyan EFL classrooms as soon as possible to cope with technology in the classroom and to take full use of technology in the educational sphere (Belazi & Ganapathy, 2021). This research will contribute to the current literature by conducting an experimental study to see if blended learning, as opposed to traditional learning, improves overall reading comprehension scores in Libyan EFL classes, and if gender moderates the relationship between blended learning implementation and reading comprehension scores. Two questions were developed to accomplish the study's goal:

1/ Is there a statistically significant difference in the post-test mean scores between the experimental group which is taught using blended learning and the control group which is taught following the traditional face-to-face teaching?

2/ Is there a statistically significant interaction effect between the two-teaching methods (blended learning and traditional way) and gender?

Two null hypotheses were used to gauge the two questions of the study.

1/ There is no statistically significant difference in the post-test mean scores between the experimental group which is taught using blended learning and traditional face-to-face teaching.

2/ There is no statistically significant interaction effect on the post-test mean scores between the two methods (blended learning and traditional way) and gender.

## **METHOD**

### **Design**

The researchers used a quasi-experimental two-way between-group factorial design 2x2, in which two intact groups were chosen to receive treatment. An achievement pre-test/post-test at the start and conclusion of the study is required for this quantitative approach. When two intact groups were randomly selected but could not be randomly distributed into the research group, especially in schools, a quasi-experimental design is used, and they are taken as they are to participate in the study (Creswell, 2012). The researchers will explore the impacts on the groups, gender, and the interaction effect between group and gender using a factorial two-group design.

### Participants

The participants were the nine-grade male and female learners in the Darnah district in Libya. Four classes of (N=120), 60 males and 60 females were selected following the simple random sampling technique to participate in the two groups of the study. All the primary schools in Darnah had the chance to be part of the study. In the experimental group (N=60), 30 males and 30 females were taught face-to-face following blended learning instruction, while the control group (N=60), 30 males and 30 females, were taught traditionally, face-to-face without blended learning. The participants, aged between 16 to 17 years, were taught English from grade one to grade nine by EFL Libyan teachers. Moreover, four experienced teachers having more than 12 years teaching experience, two males, and two females taught the two groups. The teachers were informed that they were going to participate in the treatment, and several meetings were conducted to acquaint them with the procedures of the study. The distribution of participants was shown in table 1.

Table 1  
Distribution of participants in the two groups

Group		Classes	Schools	Sample	Total
Sample	Experimental	males	1	1	30
		females	1	1	30
	control	males	1	1	30
		females	1	1	30
Total		4	4	120	120

### Instrument

At the start and end of the experiment, the instrument of an accomplishment pre-test/post-test was implemented. The purpose of the pre-test was to determine whether the groups were homogeneous at the beginning of the treatment and to establish a baseline for students' abilities. The post-test was conducted after three months of teaching, 24 periods, and two times per week. The purpose of the post-test was to compare the results to those of the pre-test and identify any discrepancies. The test comprised of 25 multiple-choice items that covered EFL reading comprehension proficiency. A student can receive a maximum of 25 points and a minimum of zero. The researchers went over the validity and reliability methods before running the pre-test.

To establish the test validity, the researchers presented it to a panel of three university instructors, two EFL supervisors, and two primary stage EFL teachers who were teaching the 9<sup>th</sup> grade. The panel was requested to comment on the tests in terms of grammatical errors, punctuation, complexity, relevance to grade nine, and the appropriateness of the time allotted to answer the questions. The researchers made the necessary changes. To establish reliability, the researchers tested the instrument on a group of 30 people who were not part of the study's sample but were from the same population. The test-retest reliability was tracked by the researchers, who separated the two occasions trials by two weeks. The Pearson correlation coefficient ( $r=.84$ ) was determined to be reliable. Pearson's correlation spans from 1 to -1, from 0-0.3, weak correlation, 0.4-0.6, substantial correlation, and above 0.7, strong correlation (Pallent, 2020).

### **Instructional Material**

The instructional material is English for Libya Nine for grade 9 published by Garnet Publishing Ltd. The UK, which is the grade 9 content in the public school. It consists of a student's book, workbook, teacher's handbook, audio CD, and wall charts. It is intended for grades 1 through grade12. For blended learning, a blended learning material was prepared by the investigators for the experimental group students.

### **Procedures**

The researchers began the pilot study after receiving official permission from the Libyan Ministry of Education, the Darnah district, the school administrations, and the teachers. Because the researchers were not instructing the groups, the researchers held many sessions with the four teachers to familiarise them with the study's methodology. The pre-test was done at the start of the trial. Over 12 weeks of the treatment, the experimental group was taught using a blended learning approach in addition to the standard grade nine textbook. Teachers in the experimental group employed a combination of four techniques to explain the content: flipped classrooms, Nearpod, and electronic classes, in addition to traditional textbooks. Furthermore, the experimental group had one class per week on the computer laboratory to have a computerised class. The traditional face-to-face method was employed for the control group, in which teachers customarily delivered the curriculum. The post-test was conducted once the treatment was completed. The difference between the two tests was utilised to examine if the mean scores of both groups differed statistically significantly.

### **Data Analysis**

Inferential statistics were used to assess the data. The data were generally distributed after a preliminary examination of the data. As a result, a parametric analysis was carried out. T-tests were performed to determine differences within groups, ANCOVA was used to determine differences between groups, and two-way factorial ANCOVA was used to determine the interaction effect between treatment groups and gender. The pre-test scores were adjusted, and the covariate impact was removed using ANCOVA. As a result, any variation in post-test scores were related to the treatment (Creswell, 2012, Pallent, 2020).

## **FINDINGS**

### **First Hypothesis**

There is no statistically significant difference in the post-test mean scores between the experimental group which is taught using blended learning and the control group of traditional face-to-face teaching. Descriptive statistics were utilised to compare mean scores and standard deviations. Table 2 shows the results.

Table 2  
Descriptive statistics based on groups

Test	group	N	Mean	Std. Deviation	Std. Error Mean
pre-test	experimental	60	14.90	2.796	.361
	control	60	14.72	2.923	.377
post-test	experimental	60	18.30	3.326	.429
	control	60	16.37	2.456	.317



In the pre-test and post-test, there were differences in the mean scores between the two groups, as shown in Table 2. The experimental group's mean in the pre-test was (M=14.90, SD, 2.796), while the control group's mean was (M=14.72, SD=2.923). In the post-test, the experimental group had a mean score of (M=18.30, SD=3.326), while the control group had a mean score of (M=16.37). There are disparities between each group's pre-test and post-test, pre-test was (M=14.90, SD, 2.790) became (M=18.30, SD=3.326) in the post-test for the experimental group. On the pre-test, the control group had (M=14.72, SD=2.923) and (M=16.37, SD=2.456) on the post-test. To indicate whether the two treatment groups are homogeneous at the beginning of the study, the independent sample t-test was conducted. Table 3 shows the results.

Table 3  
Independent sample t-test between groups on the pre-test

Test	group	mean	T	df	sig	Effect size Cohen's d
pre-test	Experimental	14.90	.351	118	.726	0.064
	control	14.72				

Table 3 reveals that there is no statistically significant difference in the pre-test mean score between the experimental and control groups, with  $t(118) = .351$ ,  $p = .726$ , and an effect size of 0.064, which is very modest. This indicated that the two groups are homogeneous at the beginning of the treatment. The variance between the experimental group pre-test/post-test and the control group pre-test/post-test was calculated using a paired sample t-test to indicate the difference within the groups. The results are shown in Table 4.

Table 4  
Paired sample t-test within groups

pairs	M	SD	SM	T	DF	Sig	Effect size
Pair1EX post-test-pre	3.400	2.241	.28936	11.75	59	.000	1.517
Pair2 Con post-test-pretetst	2.683	3.202	.41340	6.491	59	.000	.838

The t-value for the experimental group pre-test/post-test was significant, as shown in Table 4. There is a statistically significant difference between the pre-test and post-test of the experimental group with a huge effect size of  $t(59) = 11.75$ ,  $p = 0.001$ , effect size 1.517. Cohen (1988) defined a minor effect size as one between 0.1 and 0.3, a medium effect size as one between 0.4 and 0.6, and a massive effect size as one above 0.7. Furthermore, the control group's pre-test and post-test results differed, and the t-value was shown to be statistically significant. The effect size is 0.838 and the  $t(59) = 6.491$ ,  $p = 0.001$ . The experimental group's effect size, which is the amount of variance explained by the independent variable in the dependent variable, is substantially larger than the control group. The between two groups t-test was used to demonstrate the statistical difference between the groups. The results are shown in Table 5.

Table 5  
Between group t-test

Test	group	mean	t	df	sig	Effect size Cohen's d
post-test	Experimental	18.30	3.622	118	.000	.661
	control	16.37				

Table 5 reveals that after the post-test, statistically significant differences between the experimental and control groups were identified, favouring the experimental group. We rejected the null hypothesis that there is no statistically significant difference in the post-test mean score between the experimental and control groups due to blended learning, and we accepted the alternative hypothesis that there is a substantial significant difference in the post-test mean scores between the two groups, with  $t(118) = 3.622$ ,  $p = 0.001$ , effect size = .661.

### Second Hypothesis

There is no interaction effect between male and female EFL learners when comparing traditional and blended learning

Table 6  
Descriptive statistics for group and gender

Dependent Variable: post-test				
group	gender	Mean	Std. Deviation	N
experimental	male	18.20	3.284	30
	female	18.40	3.420	30
	Total	18.30	3.326	60
control	male	16.40	2.608	30
	female	16.33	2.339	30
	Total	16.37	2.456	60
Total	male	17.30	3.077	60
	female	17.37	3.086	60
	Total	17.33	3.069	120

Table 6 demonstrates that there are disparities in the gender variable's post-tests. Males' mean scores in the experimental group are 18.20 and 18.40 for females. The males' mean score in the control group was 16.40, while the females' mean score was 16.33. A factorial two-way between-group ANCOVA was used to highlight the differences between the treatment groups and gender. The results are shown in Table 6.

Table 7  
ANCOVA results between group and gender: Test of between subject effect

	Sum of Squares	DF	Mean Square	F	Sig	Partial Eta Squared	Nonce. Parameter	Observed Power <sup>b</sup>
Corrected Model	563.818	4	140.95	29.110	.000	.503	116.440	1.000
Intercept	219.294	1	219.294	45.289	.000	.283	45.289	1.000
pre-test	451.018	1	451.018	93.144	.000	.447	93.144	1.000
group	97.945	1	97.945	20.228	.000	.150	20.228	.994
gender	.305	1	.305	.063	.802	.001	.063	.057
group * gender	.208	1	.208	.043	.836	.000	.043	.055
Error	556.848	115	4.842					
Total	37174.0	120						
Corrected Total	1120.66	119						

a. R Squared = .503 (Adjusted R Squared = .486)

b. Computed using alpha = .05

Table 7 shows that there is no interaction effect between group and gender ( $F(1, 115) = 0.043$ ,  $p = .836$ , partial Eta Squared = 0.001). This difference is inconsequential since  $p$  is less than the 0.05 significance level. The effect size across genders is very tiny,

implying that only 0.1 percent of the gender difference may be explained in the post-test. As a result, the null hypothesis, that there is no statistically significant difference in mean scores across groups and gender, is not rejected. We are now looking for the main effect between genders and groups because there is no interaction effect. With  $F(1,115) = 20.228$ ,  $p = 0.001$ , Partial Eta Squared = .150, the main effect is the difference between the groups. There is a significant difference between groups with substantial effect sizes (.01, small, .08, medium, and .14 are large) according to Cohen's (1988) criteria. On the post-test, there is no statistically significant difference between genders, indicating that gender has no main effect. The treatment has the same effect on both males and females. The interaction effect was minor. According to the computed marginal means plot Figure 1, the two gender lines do not cross, indicating that they do not interact differently with the therapy and that the only difference between males and females is whether they are in the experimental or control group. The Estimated Marginal Means Plot is explained in Figure 1.

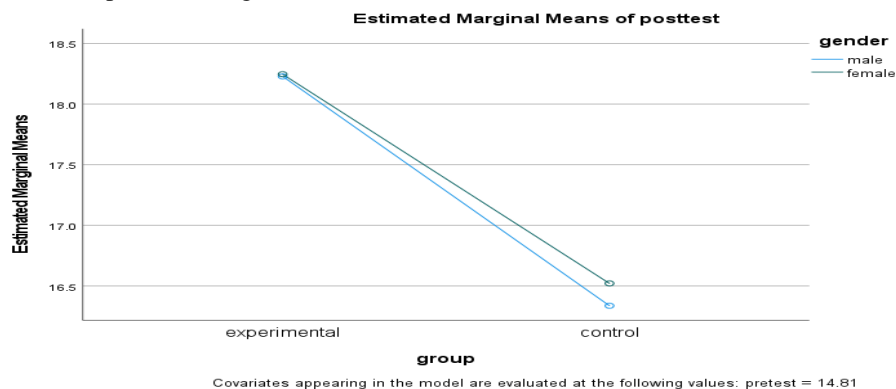


Figure 1  
Estimated marginal means plot

## DISCUSSION

The goal of this study was to see how blended learning compared to traditional face-to-face reading instruction in the Libyan EFL context. Various blended learning methodologies were employed (flipped classrooms, computerised classes, and Nearpod). In this study, two intact grade nine Libyan groups of both genders were chosen, and a t-test was used to show the differences between the groups, as well as a factorial two-way ANCOVA to expose the differences between the groups and gender. There were statistically significant differences between the groups, with the blended learning group outperforming the other. There was no significant interaction effect between the treatment groups and gender. Between genders, there were no statistically significant differences. It might be argued that because blended learning promotes higher-order cognitive functions like critical thinking, problem-solving, and decision-making, EFL students become more motivated to study more reflective about their learning (Bishop & Verleger, 2013). This may lead to enhance student engagement and participation, which may lead to improved English proficiency in the long run (Lai & Hwang, 2016).

Another aspect in favour of blended learning's efficacy in enhancing EFL learners' overall accomplishment is that, rather than allocating a substantial percentage of class time to instructor lectures, much time is spent on communicative language use, debate, and negotiation in blended learning (Davies et al., 2013). This trend increases student agency in the classroom, which has been shown to play a significant role in English learning in the literature (Luo, 2019). Another reason for the findings is that blended learning allows EFL students to collaborate and cooperate while also supporting them in becoming self-directed learners with a high level of autonomy and independence (Khadjieva & Khadjikhanova, 2019). Blended learning, according to Jan et al. (2017), can improve EFL learners' self-esteem, which is vital in language learning. Finally, the researchers believe that as reading comprehension achievement grows as a result of blended learning, the overall English achievement of EFL students may improve as well (Fardin et al, 2022).

Because of the gender similarity of the gender characteristic between the two groups, the interaction effect between gender and group is minor. Both sexes live in the same city and are taught the same curriculum by non-native English speakers (Magableh & Abdullah, 2021). Furthermore, the blended learning material supplied to each gender was identical; it was not differentiated to match gender interests because of genders do not interact differently when using blended learning.

Soltani et al. (2012), Demirkol (2014), Ceylan and Kesici (2017), and Al Bataineh et al. (2019) all confirmed that blended learning is superior to traditional learning. Similarly, Ghazizadeh and Fatemipour (2017), Oweis (2018), Hijazi and AlNatour (2020), Sharma and Sharma (2020) confirmed the current results. Recent studies from 2022, such as Apsari and Parmawati (2022), Fardin et al. (2022), Mohamed (2022), and Miraei Mohammadi et al. (2022), all validated the findings where statistically significant differences existed favouring blended learning over traditional face-to-face learning. The study findings were different from the other studies in that gender do not interact differently toward blended learning strategies.

## **CONCLUSION**

The study investigated the effect of blended learning on EFL classrooms. Blended learning has a positive relationship with the enhancement of reading comprehension scores of EFL learners. Libyan EFL students can improve their English abilities through blended learning, as evidenced in this study, and they can also benefit from English language training at their leisure process, while still studying in a classroom setting. In English language schools, blended learning can be employed to assist students to learn more quickly, especially when it comes to overall achievement. Blended learning has the potential to assist students to learn to read in a second or foreign language both inside and outside of the classroom. By taking place at the learner's desired location and time, blended learning can maximise learning opportunities. This, in turn, may increase student autonomy by giving the learner greater responsibility, moving away from the traditional teacher-centred program. Another benefit of implementing blended learning in the English classroom is that it may increase the learner's motivation and enthusiasm

for the language learning process. Learners can enjoy using technology while learning English, making the two processes seem more positive and desirable.

Blended learning can be introduced to English teachers who desire to improve their teaching talents and careers while staying current with new technology and research findings. In Teacher Training or In-Service courses, teachers can learn about the benefits of blended learning and how to implement it in the ELT classroom. Because many teachers are hesitant to use technology in the classroom, the courses should include blended learning methods and ideas, as well as techniques and adequate training in the use of the internet, social media, and various types of software to familiarise teachers with the benefits of using a blended approach to learning English.

English Foreign Language schools and academic centres that specialise in EFL education can also provide lesson plans and policies that incorporate blended learning into their curricula, helping teachers to improve their English teaching skills among other ELT aspects. Universities can also offer and implement blended learning, which is especially useful for teaching English as a second or foreign language. The researchers proposed that, computerised education be used because of the positive results of the current study. The current research is limited to the implementation period. Longitudinal data will provide more dependable and valid information. The researchers recommend that Libyan public schools use blended learning in conjunction with comprehensive e-learning tools.

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#### **REFERENCES**

- Akkoyunlu B. & M. Yilmaz Soylo. (2006). A study on students' views about the blended learning environment. *Turkish Online Journal of Distance Education* 7(3), 43-56.
- Al Bataineh, K. B., Banikalef, A., & H Albashtawi, A. (2019). The effect of blended learning on EFL students' grammar performance and attitudes: an investigation of Moodle. *Arab World English Journal (AWEJ) Volume, 10*. <https://doi.org/10.24093/awej/vol10no1.27>
- Apsari, Y., & Parmawati, A. (2022). Improving students' writing skill through blended learning during the Covid-19 Pandemic. *Jurnal Pendidikan Edutama*, 9(1), 93-98.
- Asadipiran, N., Afraz, S., & Razmjoo, S. A. (2022). Applying scaffolding types in reading classes: Different Experimental Situations. *Journal of Language and Translation*, 12(1), 89-106.
- Ayasrah, S., Aljarrah, A., & Alnsaraween, M. (2022). Attitudes of teachers and outstanding students towards blended learning in light of the Covid-19 pandemic in

- Jordan. *Pegeem Journal of Education and Instruction*, 12(1), 249-255. <https://doi.org/10.47750/pegegog.12.01.26>
- Belazi, N., & Ganapathy, M. (2021). The Effects of the Station Rotation Model in promoting Libyan students' EFL writing: Blended Learning. *AJELP: Asian Journal of English Language and Pedagogy*, 9(1), 111-127.
- Bersin, J. (2003). *The Blended Learning Book: Best Practices, Proven Methodologies, and Lessons Learned*, New York: Jossey-Bass/Pfeiffer.
- Bishop, J., & Verleger, M. A. (2013, June). The flipped classroom: A survey of the research. In *2013 ASEE Annual Conference & Exposition* (pp. 23-1200). <https://doi.org/10.18260/1-2--22585>
- Ceylan, V. K., & Kesici, A. E. (2017). Effect of blended learning on academic achievement. *Journal of Human Sciences*, 14(1), 308-320. <https://doi.org/10.14687/jhs.v14i1.4141>
- Cohen, J. (1988). The effect size. *Statistical power analysis for the behavioral sciences*, 77-83.
- Creswell, J. W. (2012). *Educational research: planning, Conducting, and Evaluating Quantitative and Qualitative Research*, 4<sup>th</sup> edition, Pearson.
- Davies, R. S., Dean, D. L., & Ball, N. (2013). Flipping the classroom and instructional technology integration in a college-level information systems spreadsheet course. *Educational Technology Research and Development*, 61(4), 563-580. <https://doi.org/10.1007/s11423-013-9305-6>
- Elshawish, M. F., & Belshaikh, J. A. (2021). Online Learning in the Time of Crisis: A Study of EFL Students' Attitudes. *Journal of English as A Foreign Language Teaching and Research*, 1(2), 44-55. <https://doi.org/10.31098/jefltr.v1i2.650>
- Fardin, A., Fatehi Rad, N., & Tajaddini, M. (2022). Flipped Learning on Reading and Grammar Achievement at a Language Institute in Kerman-Iran. *Critical Literary Studies*, 4(1, Autumn and Winter 2021-2022), 183-199.
- Finlay, M. J., Tinnion, D. J., & Simpson, T. (2022). A virtual versus blended learning approach to higher education during the COVID-19 pandemic: The experiences of a sport and exercise science student cohort. *Journal of Hospitality, Leisure, Sport & Tourism Education*, 30, 100363. <https://doi.org/10.1016/j.jhlste.2021.100363>
- Fovet, F. (2022). Exploring Accessibility in Online and Blended Learning: Universal Design for Learning as a Lens on Equity in a Post-COVID K-12 Landscape. In *Designing Effective Distance and Blended Learning Environments in K-12* (pp. 1-20). IGI Global. <https://doi.org/10.4018/978-1-7998-6829-3.ch001>
- Ghazizadeh, T., & Fatemipour, H. (2017). The effect of blended learning on EFL learners' reading proficiency. *Journal of Language Teaching and Research*, 8(3), 606. <https://doi.org/10.17507/jltr.0803.21>

- Graham, C.R. et al. (2005). "Benefits and challenges of BL environments" In M. Khosrow-Pour (Ed.), *Encyclopedia of information science and technology*. Hershey, PA: Idea Group. (253–259).
- Hijazi, D. A., & AlNatour, A. S. (2020). The Effect of Using Blended Learning Method on Students' Achievement in English and Their Motivation Towards Learning It: Blended Learning, Achievement, and Motivation. *International Journal of Virtual and Personal Learning Environments (IJVPLE)*, 10(2), 83-96. <https://doi.org/10.4018/ijvple.2020070106>
- Islam, M. K., Sarker, M. F. H., & Islam, M. S. (2022). Promoting student-centered blended learning in higher education: A model. *E-Learning and Digital Media*, 19(1), 36-54.
- Jan, M., Soomro, S., & Ahmad, N. (2017). Impact of social media on self esteem. *European Scientific Journal*, 13(23),329-341. <https://doi.org/10.1177/20427530211027721>
- Kazu, I. Y., & Demirkol, M. (2014). Effect of Blended Learning Environment Model on High School Students' Academic Achievement. *Turkish Online Journal of Educational Technology-TOJET*, 13(1), 78-87.
- Khadjieva, I., & Khadjikhanova, S. (2019). Flipped Classroom Strategy Effects On Students' achievements And Motivation: Evidence From Cpfs Level 2 Students At Wiut. *European Journal of Research and Reflection in Educational Sciences Vol.*, 7(12).
- Lai, C. L., & Hwang, G. J. (2016). A self-regulated flipped-classroom approach to improving students' learning performance in a mathematics course. *Computers & Education*, 100, 126-140. <https://doi.org/10.1016/j.compedu.2016.05.006>
- Luo, H., Yang, T., Xue, J., & Zuo, M. (2019). Impact of student agency on learning performance and learning experience in a flipped classroom. *British Journal of Educational Technology*, 50(2), 819-831. <https://doi.org/10.1111/bjet.12604>
- Lustyantie, N., & Kasan, R. A. (2021). Improving Reading Comprehension in EFL situation: A Correlation Analysis. *Educational Sciences: Theory & Practice*, 21(1), 131-139.
- Milheim, W.D. (2006). Strategies for the design and delivery of blended learning courses. *Educational Technology*, 46 (6).
- Miraei Mohammadi, M., Alavi, S. M., & Khatib, M. (2022). The Effect of Face-to-Face Versus Online FLIP Learning on the Speaking Skill of Lower-Intermediate Iranian University EFL Learners. *Journal of English Language Pedagogy and Practice*, 200-220.
- Magableh, I. S. I., & Abdullah, A. (2020). On the Effectiveness of Differentiated Instruction in the Enhancement of Jordanian Students' Overall Achievement. *International Journal of Instruction*, 13(2), 533-548. <https://doi.org/10.29333/iji.2020.13237a>
- Magableh, I. S. I., & Abdullah, A. (2021). The Impact of Differentiated Instruction on Students' Reading Comprehension Attainment in Mixed-Ability Classrooms. *Interchange*, 52(2), 255-272. <https://doi.org/10.1007/s10780-021-09427-3>

- Mohamed, F. A. E. (2022). The Effectiveness of the Blended Learning in Enhancing EFL Learning and Collaboration. *World*, 12(1). <https://doi.org/10.5430/wjel.v12n1p92>
- Obiedat, R., Eddeen, L. N., Harfoushi, O., Montaha, A. H., Koury, A., & Alassaf, N. (2014). Effect of blended learning on academic achievement of students in the University of Jordan. *International Journal of Emerging Technologies in Learning (iJET)*, 9(2), 37-44. <https://doi.org/10.3991/ijet.v9i2.3220>
- Othman, A., Pislaru, C., & Impes, A. (2013). A framework for adopting blended learning in traditional school-based learning. *International Journal of Digital Information and Wireless Communications (IJDIWC)*, 3(3), 96-113.
- Oweis, T. I. (2018). Effects of using a blended learning method on students' achievement and motivation to learn English in Jordan: A pilot case study. *Education research international*, 2018.
- Pallant, J. (2020). *SPSS survival manual: A step-by-step guide to data analysis using IBM SPSS*. Routledge.
- Poon, J. (2013). Blended learning: An institutional approach for enhancing students' learning experiences. *Journal of Online Learning and Teaching*, 9, (2), 271-288. Retrieved from [http://jolt.merlot.org/vol9no2/poon\\_0613.htm](http://jolt.merlot.org/vol9no2/poon_0613.htm)
- Shana, Z., & Alwaely, S. (2021). Does the Flipped Classroom Boost Student Science Learning and Satisfaction? A Pilot Study from the UAE. *International Journal of Instruction*, 14(4), 607-626.
- Sharma, A., & Sharma, S. (2020). Effect of Blended Learning on Achievement in English of IX Graders in Relation to Self-Efficacy. *Int. J. Interdiscipl. Multidisciplinary Res*, 5(9), 467-476. <https://doi.org/10.21275/v4i12.nov151817>
- Shohel, M. M. C., Ashrafuzzaman, M., Azim, F., Naomee, I., Rahman, M. S., & Siddik, M. A. B. (2022). Blended Learning Space for Primary and Secondary Education: Challenges and Opportunities in Resource-Constrained Contexts. In *Designing Effective Distance and Blended Learning Environments in K-12* (pp. 187-222). IGI Global. <https://doi.org/10.4018/978-1-7998-6829-3.ch012>
- Soltani Tehrani, N., & Tabatabaei, O. (2012). The impact of blended online learning on Iranian EFL learners' vocabulary achievement. *International Electronic Journal for the Teachers of English*, 2(5), 73-88.
- Zeqiri, J., & Alserhan, B. A. (2021). University student satisfaction with blended learning: a cross-national study between North Macedonia and Jordan. *International Journal of Technology Enhanced Learning*, 13(3), 325-337. <https://doi.org/10.1504/ijtel.2021.115982>
- Zulhamdi, Z., Rahmatan, H., Artika, W., Pada, A. U. T., & Huda, I. (2022). The Effect of Applying Blended Learning Strategies Flipped Classroom Model on Students' Critical Thinking Skills. *Jurnal Penelitian Pendidikan IPA*, 8(1), 86-93. <https://doi.org/10.29303/jppipa.v8i1.1186>