



A Quasi-experimental Study on the Impact of Blended Learning on EFL Students' Language Proficiency

Yassine BENHADJ

ENSAM Meknes, Moulay Ismail University

Yassine150@gmail.com

<https://orcid.org/0000-0001-8685-2463>

DOI: <http://doi.org/10.36892/ijlls.v3i3.668>

Received:

09/08/2021

Accepted:

19/09/2021

Keywords:

Blended learning,
Face-to-face
learning, EFL
Language
proficiency, Google
classroom, Quasi-
experimental design

Abstract

The study aimed at examining the effect of adopting blended learning on Moroccan high school students' English language proficiency. This has been essentially achieved through relying both on face-to-face classroom interactions and using "Google classroom", which is a free online learning platform. The researcher opted for a quasi-experimental design to gauge the impact of implementing a blended learning model on the research sample. This study enlisted the participation of 79 Moroccan first-year Baccalaureate students who were divided into two separate but homogenous groups. The experimental group was taught using the blended learning model, and the control group was tutored in a traditional learning environment. The mean scores' differences of the pre-test and the post-test asserted that, in comparison to the face-to-face learning, the blended learning model adopted was significantly impactful in improving the language proficiency level of the treatment group. However, no significant gender differences were observed in this regard. In essence, this piece of research has placed much emphasis on the idea that the efficient incorporation of ICT, particularly blended learning, into the learning/teaching process can help satisfy students' needs, increase their motivation, and eventually enhance their language mastery.

1. INTRODUCTION

Recently, much has been written on the disconnect between what the traditional school provides and what millennials, also known as "Digital natives", demand. It has been reported that the educational systems of some, especially developing countries, are still devoted to an arsenal of outdated unappealing teaching techniques and strategies. As a by-product, many students have developed a sense of repulsion and discontent with the classroom atmosphere. Various are the voices [students, parents, teachers, administrative staff, supervisors] that loudly and incessantly voice out that such schools and classrooms do not live up to the expectations of the mainstakeholders, students. The proper integration of ICT, on the other hand, is said to aid in bridging the gap and bringing the two closer together. Several empirical studies have been undertaken internationally to explore how ICT can help EFL teachers improve their performance and link their teaching practices to the requirements and expectations of their students. The findings suggested that ICT-assisted education can make the teaching-learning environment exciting, inspiring, and entertaining. Still, its successful incorporation entails a lot of work, a positive mindset, and highly

motivated educators. Such an incorporation may positively change students' opinions of the classroom. That is, they will no longer view it as a place where they are obliged to learn things. It will rather be a context in which students are willing to engage in a variety of learning activities that are relevant to their everyday experiences and areas of interest.

The primary purpose of the study was to examine the impact of adopting blended learning, through using Google Classroom, on students' English language proficiency. The specific objectives included evaluating students' English language learning outcomes after adopting the intended learning model, and at the same time investigating the existence of any gender differences in this respect. As for the research hypotheses, they can be formulated as follows:

- H1: Students' language proficiency is more likely to significantly increase with blended learning than with face-to-face learning.
- H2: Blended learning is less likely to produce significant differences in language proficiency among students of different genders.

2. LITERATURE REVIEW

Undoubtedly, the use of ICT (Information Communication Technology) has proven its effectiveness in different fields and sectors. In education, it has turned into an essential pedagogical tool that helps improve the nature of education and learning and address the difficulties of 21 Century. In line with this, Craig R. Barrett stated that "with the help of technology, teachers will be leaders in the transformation of education around the world" (as cited in Ammanni & Aparanjani, 2016, p. 1)

Language learning and teaching, for instance, has become much easier, faster, and more enjoyable than ever before thanks to the enormously various ICT offered facilities that include E-books, audiobooks, videos, Webinars, IWB (Interactive Whiteboards) educational Apps, and MOOCS, to name but a few. This point was emphasized by Graham Davies stating that "ICT offers a wealth of learning opportunities for students of languages, and the discrete use of computers in the classroom can undoubtedly enhance a language teacher's performance" (2002, p. 3). Additionally, with reference to the Impact Report 2006, which included 17 studies across Europe that were concerned with the impact of ICT on the classroom environment, it was declared that most of the studies reviewed in the report confirmed: "wider positive benefits of ICT for learning and learners in areas, such as motivation and skills, concentration, cognitive processing, independent learning, critical thinking, teamwork, all important skills for the language learner" (as cited in AQSHA & PEI, 2009, p. 1454).

Interestingly, one of the ICT tools that have recently drawn the attention of many researchers and practitioners is "Google classroom". It is defined as "a free application designed to help students and teachers communicate, collaborate, organize and manage assignments, go paperless, and much more!" ("Google Classroom—Online Tools for Teaching & Learning", n.d.). The definition highlighted a set of advantages offered by the application's features, which are simple to have access to and manipulate. Not only this, but these features are also continuously and smartly updated to make of this application a successful and remarkable example in the field of educational technology. Talking about its features, here is a list of the most important ones: (Bell, 2016; Bielefeld, 2016; Cortez, 2017; Pappas, 2015)

- It allows teachers to easily create online classrooms and invite their students.
- It easily connects teachers with students.
- It allows teachers to design and mark assignments instantly and effectively.
- It allows teachers to add curricular and extra-curricular activities in different formats (videos, texts, pictures, etc.).

- It gives students access to activities, documents, assignments, and all teaching materials in one place and from all devices.
- It encourages communication, cooperation, sharing, and competition among students.
- It encourages parents' involvement in the learning process.
- All content is retrievable.
- No need for paper.

The above-mentioned advantages justify why in one year after its release in 2014, Google Classroom has been adopted by more than 10 million teachers and students around the world and has become an essential part of their day-to-day classroom practices (Cortez, 2017). The use of this application differs from one teacher to another, depending, of course, on the target students they teach, the pedagogical objectives they aspire for, and finally the curricular framework under which they operate.

The ultimate aim of English language teachers is to help their students achieve a high level of "Language Proficiency" which is defined, according to the American Council on the Teaching of Foreign Languages (ACTFL), as "The ability to use language in real-world situations in a spontaneous interaction and non-rehearsed context and in a manner acceptable and appropriate to native speakers of the language"(Berdan, 2019). The efficient marriage between ICT, via the use of Google Classroom, and face-to-face teaching creates a blended learning environment that can play a vital role in reaching out such agoal. "Blended Learning" is defined as "an innovative concept that embraces the advantages of both traditional teaching in the classroom and ICT supported learning including both offline learning and online learning"(Lalima & Lata Dangwal, 2017, p. 1). It is a new pedagogical concept that has started sparkling lately in the field of language teaching and learning, with its benefits have been lauded by both teachers and students. It is by no means about randomly incorporating ICT tools into the classroom context. Instead, it is a learning experience that thoughtfully integrates both face-to-face and online learning. More importantly, it is often a part of a formal, structured, and considerate learning program that is implemented under the supervision and guidance of a teacher to achieve great outcomes (Boitshwarelo, 2009; Gatens, 2015). The use of the word blended, or 'hybrid' implies that the online incorporated activities are as much important as the face-to-face activities. They work in tandem to serve the teacher's targeted pedagogical objectives.

Combining the two learning models has all the makings to constructively support and complement what EFL teachers exercise in class by providing them with practical possibilities to diversify teaching materials and design them in different formats so as to respond to students' expectations and learning styles (Carmichael, 2017). This gives the chance to students to benefit from a personalized learning experience in which they have the right to study materials of their own choice and at their own pace (Wichadee, 2017, p. 139). What is more, they constantly but privately receive feedback on their work. In a blended context, students themselves are responsible for and involved in the learning process by being allowed to suggest ideas, share content, and discuss not only language but also life-related issues. By so doing, the classroom turns out to be highly flexible, engaging, interactive and student-centered (Mondejar, 2013). Similarly, students become motivated, self-confident, high achievers, critical thinkers, and media literate as well (Kawasaki, 2020; Shaharane et al., 2016).

Being in an era in which millennials show a high readiness to adopt and adapt to the unstoppable advancement of the information technology industry encouraged scholars and academicians to call for the adoption of blended learning as a way towards restructuring, modernizing, and reviving the traditional classroom. To clarify, it is assumed that if it is

well-exploited, blended learning can be a way out to bridge the gap between what teachers present and what students expect. This correspondingly creates a positive environment for the teaching /learning process to take place meaningfully and successfully. In line with this, recent studies involving blended learning as opposed to the conventional approach of EFL teaching have provided strong evidence that the former is more effective with regards to improving students' language achievement scores (Adas & Bakir, 2013; Aslani & Tabrizi, 2015; Ghazizadeh & Fatemipour, 2017; Hussein Al Noursi, 2020; Shih, 2010). Noticeably, most of the studies conducted focalized generally on investigating the effect of implementing blended learning on students' language proficiency. Nevertheless, little research has been conducted on the subject of investigating other stakeholders that may have a say in this regard or examining language proficiency differences, developed in this new learning environment, across variables such as social class, age, gender and more (Zhang et al., 2018).

3. METHODOLOGY

The study adopted a quasi-experimental design to compare the level of difference in terms of the English language proficiency development between students in a course that has been taught using a blended learning model (experimental group) and those that have been tutored in a face-to-face learning environment (control group). Either for practical or ethical reasons, it is often difficult, chiefly in studies that involve human beings, to arbitrarily assign participants to the experimental or control group. Quasi-experimental research design, however, suggests other flexible ways to deal with the issue of randomness, which is a key requirement of true experimental studies. In so doing, assigning participants to groups becomes possible, but the quality of causal inferences may relatively decrease ("Quasi-Experimental Research Designs," 2018). This research targeted students who belonged to already formed classrooms. Therefore, the quasi-experimental design was a convenient option to consider.

A total of 79 Moroccan first-year Baccalaureate students were conveniently selected to partake in this investigation. Their ages ranged from 16 to 18 years old. They all attended the same public high school and belonged to the scientific stream. The participants were divided into two sections. The sample size of the first section was 40 students. It was randomly chosen to represent the experimental group, whereas the second section included 39 students, representing the control group. Remarkably, participants, in both groups, shared relatively the same characteristics. This significantly contributed to the internal validity of the experiment.

In the literature, the efficiency of using tests in the process of measuring students' language proficiency is highly recognized (Beinborn et al., 2014). Hence, in this study, a pre-test was used to collect information, analyze, and compare the language proficiency of both selected groups (the control and experimental group) before the study. The test used is 'The Straightforward Quick Placement & Diagnostic Test'. It was designed and validated by the Macmillan publisher (Placement Tests, 2012). Cronbach's alpha was employed to measure the internal consistency of the pre-test. With a reported total alpha loading of 0.78, it was assumed to be significantly reliable.

At the beginning of this academic year (2019-2020), both groups sat for the pre-test at the same time and in the same location. Following that, and exactly as of the first week of October 2019, students in the experimental group were given personal codes and invited to have access to the Google Classroom platform. This latter was used to back up and enrich their face-to-face learning. On the other hand, students in the control group were confined only to what they regularly received in their conventional classroom context.

During the last week of January 2020, which marked the end of this experimental study, both groups sat again for a post-test. It took place under conditions that were

somehow the same as the pre-test but included some slight changes at the level of the format and order of questions.

The tests were carefully collected and put into Statistical Package for Social Science 23.0 (SPSS 23.0). Then, numerous statistical analyses were processed to generate descriptive and inferential statistics so as to compare the language proficiency development of both the control and experimental groups, following the treatment received.

4. RESULTS AND DISCUSSION

Research Question 1: Does the use of blended learning impact the language proficiency of students more than the face-to-face learning model?

As shown in table 1, the mean score of the control group pre-test was 20.51 out of 50 points. After the study, the score moved to 28.17. To ascertain if this increase in the control group scores was statistically significant, a paired samples t-test was run and the results revealed that the post-test mean score was significantly higher than the pre-test mean score of the control group $M = -7.66$, 95% CI[-9.40,-5.92], $T(38) = -8.92$, $p = 0.00$.

Table 1: The comparison of the control group's pre-test and post-test mean scores

	N	Mean	Std. Deviation	T	Sig. (2-tailed)
Control group (pre-test)	39	20.51	8.45	-8.92	0.00
Control group(post-test)	39	28.17	8.72	0.02	0.98

As noted in table 2, the mean score of the experimental group pre-test was 20.51 out of 50 points. Following the study, the score increased to 28.17. To cross-check if this improvement of the experimental group's scores was statistically significant, a paired samples T-test was performed, and the findings indicated that the post-test mean score was significantly higher than the pre-test mean score of the experimental group $M = -12.67$, 95% CI[-14.22,-11.12], $T(39) = -16.49$, $p = 0.00$.

Table 2: The comparison of the experimental group's pre-test and post-test mean scores

	N	Mean	Std. Deviation	t	Sig. (2-tailed)
Experimental group(pre-test)	40	26.82	8.35	-16.49	0.00
Experimental group(post-test)	40	39.50	7.51	0.024	0.98

An independent-samples T-test was run to determine if there was a significant difference between the post-test scores of both the control group and experimental group. After the study, the result reported a statistically significant difference between the control group ($M = 28.17$, $SD = 8.72$) and the experimental group ($M = 39.50$, $SD = 7.51$) at the level of the English language proficiency development, $M = -11.32$, 95% CI[-14.96, -7.67], $T(77) = -6.18$, $p = 0.00$. (Table 3)

Table 3: The comparison of the control and experimental groups post-test mean scores

	N	Mean	Std. Deviation	T	Sig. (2-tailed)
Control group (post-test)	39	28.17	8.72	-6.18	0.00
Experimental group (post-test)	40	39.50	7.51	0.02	0.98

To make sure that this result was not impacted by the initial inequality of the samples assigned to each group. An independent T-test was run to see if the difference in the mean scores of the pre-test was not statistically significant. The result showed that $M = -6.31$, 95% CI [-10.07, -2.54], $T(77) = -3.33$, $p = 0.00$. This confirmed that the English language proficiency of both groups was significantly different at the beginning of the study. This, automatically, made it obligatory to re-compare the post-test mean scores of the experimental and the control group using the ANCOVA test in which the pre-test was used as a covariate. The results revealed that, after the study, the English language proficiency of the experimental group was significantly higher than that of the control group. Meanwhile, the difference in initial pre-test mean scores of both groups had no significant effect on their English language proficiency post-test mean scores. Therefore, the first and major hypothesis of the study was accepted. That is, students in the experimental group, who were taught through blended learning, developed a higher level of English language proficiency than those who were taught using only face-to-face learning. (Table 4)

Table 4: The results of ANCOVA test

Source	Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	5867.63	2	2933.81	126.77	0.00
Intercept	2021.30	1	2021.30	87.34	0.00
Pre-test scores	3336.99	1	3336.99	144.20	0/00
Teaching model	700.98	1	700.98	30.29	0.00
Error	1758.74	76	23.14		
Total	98475.00	79			
Corrected Total	7626.38	78			

$a.R$ Squared= ,769(AdjustedR Squared=,763)

Research Question 2: Does the gender of students in the experimental group reflect any significant difference in terms of the language proficiency developed through blended learning?

An independent-samples T-test was employed to determine if there was a significant difference between male and female students in the level of the English language proficiency developed after the study. The results displayed no significant difference between males ($M = 39.86$, $SD = 8.11$) and females ($M = 39.05$, $SD = 6.92$) in terms of their English language

proficiency, $M = 0.80$, 95% CI[-4.08, 5.70], $T(38) = 0.33$, $p = 0.74$. Accordingly, the second hypothesis, which assumed that the gender of students in the experimental group would not reflect any significant difference in terms of language proficiency developed through blended learning, was confirmed. (Table 5)

Table 5: The comparison of the post-test mean scores based on gender

	Gender	N	Mean	Std. Deviation	T	Sig. (2-tailed)
Experimental group (post-test)	Male	22	39.86	8.11	0.33	0.00
Experimental group (post-test)	Female	18	39.05	6.92	0.02	0.98

The findings of the study revealed that the adoption of the blended and the face-to-face learning models in the process of teaching the English language to high school Moroccan students both succeeded in improving their language proficiency. Still, The second model has proven, by excellence, its efficiency in comparison to the first. Regarding their English language proficiency, students who were taught using blended learning scored far better than those who were taught in a face-to-face learning environment. Globally, a number of similar studies were conducted, with approximately the same results being reported (Akut & Abejuela, 2020; Bader Al Bataineh et al., 2019; Hussein Al Noursi, 2020; Jee & O'Connor, 2014; Nancy-Combes & McAllister, 2011; Saritepeci & Cakir, 2015). This may be attributed to the fact that students in the experimental group were exposed to a variety of educational activities that increased their interest and motivation to learn the language (Hubackova et al., 2011, p. 285). They were able to communicate with the teacher and ask for assistance when needed through using the Google Classroom technology. They were supplied with various interactive instructional resources to help them better understand what they had learned in class. In addition, they were able to contribute content and ask questions as well as discuss and debate topics related to their centers of interest. As evidenced by their post-test results, feeling they had a say in their learning experience increased their dedication and engagement (Utami, 2018). Furthermore, the study revealed no significant difference between males and females in the level of the English language proficiency developed, following the treatment. This goes hand in hand with the results of related studies (Ciuclea & Ternauciu, 2019; Shantakumari & Sajith, 2015) This indicates that there are no gender differences associated with the integration of new technology, namely the blended learning model in the language classroom context. The fact that they are surrounded by a variety of technological gadgets all day long may explain the positive inclination shown by students, irrespective of their gender, towards blended learning.

5. CONCLUSION

Blended learning is a real opportunity to motivate students of any gender to learn and improve their English language proficiency. It is also a promising way to modernize the language classroom and help students reconcile with and trust again the school environment that represents for many nothing but a place where they are coercively bombarded with outdated, meaningless, and boring content. In addition to the language learning setting, blended learning can be applied to other academic disciplines such as math and science. Since millennials spend a lot of time online, it is important to encourage them to utilize ICT

educational tools to their advantage. Otherwise, they will become lost in the shoreless ocean of the web, especially at the age of adolescence, which is a vital moment in everyone's life.

The present study has a few limitations that are to be noted. To start with, the over-generalization of the findings might be debatable, especially that they are not generated from a purely randomized field experiment. Besides, the study span was short-termed and directed towards only one school subject, which is the English language. Therefore, further research is to be conducted to comprehensively examine the impact of adopting blended learning on students' motivation, engagement, and learning productivity. Essentially, future studies are to enlarge their research scale in terms of the timespan, participating students, and last but not least, school subjects involved.

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AUTHOR'S BIO

Dr. Yassine BENHADJ is an Assistant Professor of professional communication and soft skills at ENSAM Meknes, Moulay Ismail University, Morocco. His main research interests revolve around new media literacies, educational technology, soft skills and ESP. He has participated in several international and national conferences and published numerous articles in this regard.
