Enhancing Academic Performance in English through Blended Learning: A Quasi-Experimental Study of Secondary School Students in Peshawar, Pakistan

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Abstract

This quasi-experimental study investigates the effect of a blended learning approach on the academic performance of students in the English subject of grade 9th at secondary school level compared to traditional teaching methods. This Quasi-experemental study was involved 100 male students from two secondary schools in District Peshawar, Pakistan, divided equally into an experimental group (blended learning) and a control group (traditional teaching). The information was gathered by using pre-tests, post-tests, and student perception surveys on the study participants. The research results indicated that blended learning model is a significant improvement on academic performance in English compared to the traditional method. The students had also positive impressions of blended learning and they were more engaged and flexible. The paper wraps up with the recommendations of how blended learning can be incorporated in secondary education as well as future research.

Keywords: Blended Learning, Academic Performance, Secondary School, English, Quasi-Experimental, Traditional Teaching

Introduction

Blended learning, which is a pedagogical model that involves face-to-face learning and online learning, has attracted significant research in the field of education as it offers the potential to increase student engagement, flexibility and academic performance. Blended learning is a good option in the context of secondary education, where students are becoming more independent learners. Nonetheless, its success especially in the subjects such as English is unexplored in developing countries such as Pakistan. Blended learning is a much research topic in the field of education, especially in the 21 st century, where the use of technology is becoming a must. According to Graham (2019), blended learning combines the benefits of face-to-face learning such as interaction between teachers and students with the opportunities of online learning and flexibility and access to resources. Such a hybrid model may also be particularly beneficial to those students attending secondary schools since such students must not only receive some kind

of organized assistance but they must be able to learn independently (Horn & Staker, 2017). In various studies the effectiveness of blended learning has been proved to have positive effects on academic performance. Taking an example, Dziuban et al. (2018) found out that students who were under blended learning outperformed their counterparts in traditional ones (particularly, in language-related subjects, like English), due to their greater access to multimedia resources and interactive activities. Similarly, Al-Huneidi and Schreurs (2020) in Jordan revealed that the English proficiency of secondary students was much higher in the blended learning environment compared to the face-to-face learning environment and the improvement was attributed to the higher level of motivation and engagement.The attitude of students regarding blended learning is quite critical in effective execution of the same. As noted by Rasheed et al. (2020), students like the flexibility and interactivity of blended learning, yet they experience challenges connected to self-regulation and technical problems. Khan and Markauskaite (2017) found that the students in a Pakistani context displayed a favorable attitude towards blended learning because it makes learning more interesting and relevant. Conventional methods of teaching marked by teacher-centered instructions and less application of technology is still common in most developing nations, Pakistan included. These methods offer well-organized learning, but they are usually criticized due to the lack of interactivity and the inability to accommodate various learning styles (Ahmed & Qazi, 2019). Traditional approaches used in teaching the English language can restrict practice and real life application especially in speaking and listening (Rahman et al., 2018).Comparative research has always demonstrated that blended learning is much more effective than traditional teaching in academic results and student satisfaction. As one example, a meta-analysis conducted by Means et al. (2017) revealed that blended learning caused moderate to large effect size in student achievement relative to more traditional approaches, especially in those areas where active learning is essential, like English. Nevertheless, the efficiency of blended learning can be relative to the contextual factors, including the teacher preparation, infrastructure, as well as student preparedness (Owston & York, 2018).

Research Gap
Although the literature available around the world proves the effectiveness of blended learning, not much is known about its use and effect in the Pakistani secondary education system, especially in the teaching of the English language. This research will address this gap since it will be the first study to give an empirical answer to the question of whether blended learning is superior to the traditional approach in District Peshawar. The study also examines how the students perceive blended learning and the effectiveness of the process as compared to the traditional teaching approaches. The research objectives that guide the study are the following.

Objectives of the Study
1. To explore how the blended learning approach influences the achievement of the secondary school learners in English.
2. To find out what is on the mind and in the heart of students regarding the use of blended learning approach.
3. To gauge the performance of students in English when they are being taught through the traditional methods of teaching.
4. To compare the performance of blended learning and traditional teaching on the performance of students at the secondary school level in English.

Null Hypotheses

H0$_1$: The academic performance of the students taught English using the blended learning approach does not significantly differ with the academic performance of the students taught using the traditional methods.

H0$_2$: learners fail to understand that the blended learning model is more interesting or efficient when compared to the traditional teaching method.
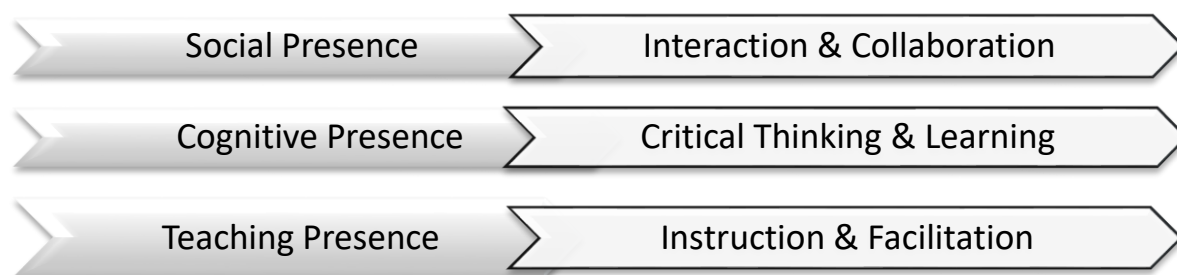
Significance of the Study

This research is important because it gives the empirical data regarding how effective the blended learning can be in enhancing the academic performance of the English subject among students of secondary level schools especially in a developing country context such as Pakistan. In comparing blended learning and the conventional teaching process, the study reports the increased necessity of new teaching strategies aimed at improving the engagement, flexibility, and learning achievements of students. The findings will be of assistance to teachers, policymakers and curriculum developers in the understanding of how to integrate technology-enhanced learning in secondary school systems especially in resource-strained settings. In addition, the study will also contribute to the current body of knowledge on blended learning as the study will demonstrate how the educational practice will bridge the education gap and increase proficiency levels of language which are key to academic and professional success.

Theoretical Framework

The study relies on the Community of Inquiry (CoI) model that dwells on the importance of social, cognitive, and teaching presence in the successful learning process (Garrison, 2017). Blended learning requires online discussions and group assignments to support social presence, problem-solving assignments and critical reasoning assignments to support cognitive presence and online and offline structured guidance by the instructors to support teaching presence. Figure 1 provides the Community of Inquiry (CoI) framework.

Theoretical Framework Diagram Figure 1

Social Presence	Interaction & Collaboration
Cognitive Presence	Critical Thinking & Learning
Teaching Presence	Instruction & Facilitation

Conceptual Framework

The conceptual framework shows the relation of the independent variable (blended learning approach), the dependent variable (academic performance in English), and the moderating variable (students perceptions). The framework posits that the blended learning approach, characterized by a combination of face-to-face and online instruction, influences students' academic performance, with students' perceptions acting as a moderating factor. The following figure 2 shows the conceptual framework of the study.

Conceptual Framework Diagram Figure 2

| Blended Learning Approach (Independent Varialble) | → | Students' Perceptions (Moderating Variable) | → | Academic Performance (Dependent Variable) |

Research Methodology

Research Design

This study employs a quasi-experimental design, as random assignment of participants to groups was not feasible due to logistical constraints in the school settings. The research design includes a pre-test, intervention, and post-test for both the experimental and control groups. The intervention is based on the 9th-grade English textbook prescribed by the Khyber Pakhtunkhwa Textbook Board.

Population and Sample

The population consists of 9th-grade male students from secondary schools in District Peshawar, Pakistan. A purposive sampling technique was used to select two schools with similar academic profiles and infrastructure. One hundred students were sampled where 50 will be in the experimental group (blended learning) and 50 in the control group (traditional teaching).

Sample Size Table 1

S. No.	Group	Number of Students	Teaching Method
1	Experimental Group	50	Blended Learning
2	Control Group	50	Traditional Teaching
3	Total Students	100	

Intervention

The experimental group was taught based on a blended learning model, which is a combination of face-to-face classroom learning and online classes, including video lectures, interactive quizzes, discussion forums, etc. presented by a Learning Management System (LMS). The control group received the instruction based on the traditional methods, i.e., lectures, textbook reading, and written tasks with no online elements. The intervention took 8 weeks, and units of the 9th-grade English textbook were selected.

Data Collection Tools

Pre-Test and Post-Test: Both groups were given a standardized English test, which was designed on the 9 th -grade curriculum, before and after the intervention to determine academic performance. The exam consisted of reading comprehension, grammar, vocabulary and writing skills.Student Perception Survey: Likert-scale questionnaire was also used to determine the thoughts and feelings of the group of students who took part in the experiment. The questionnaire had questions on engagement, flexibility, ease of use, and effectiveness.

Data Collection Process

The quasi-experimental study was conducted in such a way that the data collection process was laid out systematically to assess the effectiveness of a blended learning strategy on the academic performance of secondary school students in English, as opposed to conventional instructional

techniques. The research was conducted among 100 male students of two secondary schools in District Peshawar, Pakistan who were purposively sampled and randomly assigned into an experimental group (n=50) and a control group (n=50) who were given blended learning and traditional instructions, respectively. The collection of data was conducted with the help of various tools, such as pre-tests, post-tests to determine the academic performance in English before and after the intervention, baseline equivalence, and learning outcomes.

Data Analysis
Descriptive and inferential statistics were used in analyzing data. Paired-sample t-tests were used to compare pre-test and post-test scores within each group, while an independent-sample t-test was used to compare post-test scores between the experimental and control groups. Students' perceptions were analyzed using frequency distributions and mean scores. All analyses were conducted using SPSS version 25.

Findings
Objective 1 & 3: Academic Performance
The pre-test and post-test scores of both groups were compared to assess the impact of the teaching methods on academic performance.

Table 2: *Pre-Test and Post-Test Scores of Experimental and Control Groups*

Group	Pre-Test Mean (SD)	Post-Test Mean (SD)	Mean Difference	t-value	p-value
Experimental Group	52.3 (8.4)	78.6 (7.9)	26.3	12.45	<0.001
Control Group	51.8 (7.9)	60.4 (8.2)	8.6	4.32	<0.01

The results of Table 2 indicate significant improvements in both groups, but the experimental group showed a greater mean difference of 26.3 compared to the control group of 8.6. The t-values and p-values confirm that the improvements are statistically significant.

Objective 4: Comparison of Blended Learning vs. Traditional Teaching

Table 3: *Comparison of Post-Test Scores between Groups*

Group	Post-Test Mean (SD)	t-value	p-value
Experimental Group	78.6 (7.9)	8.76	<0.001
Control Group	60.4 (8.2)		

Table 3, the independent-sample t-test results show a significant difference in post-test scores between the experimental and control groups, with the experimental group outperforming the control group, $p < 0.001$. This leads to the rejection of $H0_1$.

Objective 2: Students' Perceptions of Blended Learning

Table 4: *Students' Perceptions of Blended Learning (Experimental Group)*

Statement	Mean Score (1-5)	Interpretation
Blended learning is engaging	4.3	Strongly Agree
Blended learning is flexible	4.1	Agree
Blended learning is easy to use	3.9	Agree
Blended learning improves learning	4.2	Strongly Agree

The survey results of Table 4 indicate that students in the experimental group had positive perceptions of blended learning, with mean scores above 3.9 on all items. This causes the rejection of $H0_2$.

Discussion

The results of this paper are consistent with the literature of blended learning. The substantial positive change in the academic achievement of the experimental group also confirms the results of Dziuban et al. (2018) and Al-Huneidi and Schreurs (2020) according to which blended learning positively affects student performance in language-based courses. The higher mean difference of the experimental group than the control group can be explained with the interactive and flexible character of blended learning, which gives students a chance to study at their own pace and revise the materials when necessary. The survey results that show positive attitudes of students to blended learning correspond to the results of Rasheed et al. (2020) and Khan and Markauskaite (2017), according to whom engagement and flexibility is the most important factors that can help to develop students attitude to blended learning. However, with a moderate score (3.9) in the ease of use, it is possible that there is a technical issue that some of the students had to experience, which is characteristic of developing countries with poorly developed digital infrastructure (Owston & York, 2018). The discussion of the comparison between blended learning and traditional teaching methods is consistent with the meta-analysis carried out by Means et al. (2017), which showed that blended learning has a significant moderate to large effect size on the performance of students. In the case of English language teaching, blended learning provided the students with certain opportunities to experience active learning due to online quizzes and multimedia resources, which are absent in the traditional approach (Rahman et al., 2018).

Conclusion

This study reveals that blended learning process is highly effective in improving the academic performance of students in English in secondary schools than the traditional method of teaching. The good attitudes towards blended learning were also among the students because they found it interesting and flexible. The findings suggest that blended learning has a potential and can be a successful pedagogical strategy in secondary education and in particular in those subjects where active learning and practice is required, e.g. English.

Recommendations

1. Teachers should be trained in the terms of designing and implementing the blended learning environment, which presupposes the combination of online and offline activities.
2. In order to support blended learning, schools especially in the developing regions like District Peshawar are expected to possess the necessary digital infrastructure like computers, internet connectivity and learning management systems.
3. Future research is to examine the long-term impacts of blended learning on students and involve female students to make the research gender inclusive. Also, the studies need to examine the contribution of teacher preparation and student preparedness to the effectiveness

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