

Explore the Effect of Blended Learning on Students Achievement in Punjabi Language writing Skills at Secondary School

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Abstract

The impact of blended learning on students' proficiency in writing the Punjabi language at the university level is the primary emphasis of this research. Students' performance difference between those taught using blended learning and those taught using traditional instructional methods is observed through both pretest and posttest results. This allows the study to assess the effects of blended learning on students' academic achievement in Punjabi compared to traditional methods of instruction. This study was quasi-experimental in nature, having the pretest-posttest design. The population included all male students studying in 11th class at Govt Higher Secondary School Tatlay Aali, Gujranwala. It opted for two existing sections of the 11th class, with a strength of 140 students, as the sample for the study. 70 students were taught using the model of blended learning model whereas the other section which again accounted for 70 students, were instructed using conventional teaching methods. Data were collected through pretest and posttest assessments, analyzed using SPSS software with independent t-tests as well as a paired sample test to conduct descriptive analysis. The results revealed that statistical difference in student academic achievement was observed between the test group, which was given blended learning instruction, and the control group. Conclusion The overall study was concluded through the positive influence of the learning approach which

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was based on blended learning strategy in enhancing the performance of students. These findings shall be beneficial for instructors, school administrators, and decision makers who aim to enhance learning outcomes by adopting modern ways of instruction.

Keywords: Blended Learning, Students Achievement, Punjabi Language, writing skills

Introduction

A kind of education known as "blended learning" integrates online learning activities with more conventional forms of classroom instruction. The potential of blended learning to raise student success has made it a hot topic at universities. Kemp et al. (2023) set out to examine how blended learning affected students' proficiency in writing in Punjabi while they were in college. It is important to focus on Punjabi language writing skills because it not only fosters or sustains the cultural heritage but also for the enhancement in regional language proficiency that the students will eventually require to have, most importantly, in the contexts of their education and workplace (Al-Hammadi & Sidek, 2023).

This integration of blended learning in language instruction is recent, and substantial research has been done mainly on subjects like mathematics and science. The impact on language skills and more particularly regional languages like Punjabi still remains to be explored. A blended learning approach in teaching and learning has been shown, through other studies in the field, to enhance student engagement as well as improve learning outcomes across disciplines. However, not many studies actually show the effect that blended learning has on language writing skills, especially in Punjabi (Kemp et al., 2023). To address this knowledge vacuum, this study provides actual proof of how blended learning improves students' Punjabi writing skills. Increased attention to linguistic diversity and increasing needs for regional language education strengthening should be given in higher education institutions; thus, relevance is underscored this study, particularly as educational paradigms shift toward more flexible and technology-enhanced learning environments (Al-Hammadi & Sidek, 2023). This study contributes to the existing literature, focusing on a regional language; hence, it broadens the scope of research in blended learning and suggests insights that might be useful for curriculum development and teaching strategies in such linguistic contexts. The motivation for selecting this topic comes from observed teaching problems about writing skills in the Punjabi language, where traditional methods were sometimes unable to attract and engage students for meaningful learning. Through this research, one is able to expose to the possibilities of blended learning and introduce the teachers to innovative means of enhancing better learning outcomes in Punjabi language education (Sharma et al., 2023).

Ultimately, it aims to advance effective development and practices of teaching and to improve the quality of language education while allowing students to achieve greater abilities for writing in Punjabi.

Statement of Problem

The integration of technology into traditional methods in an ever-changing landscape of education is equally important. Blended learning is all the rage now because it combines online digital media with more conventional face-to-face classroom approaches, which has the ability to boost student engagement and academic performance. The linguistic

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peculiarities of blended learning, particularly as they pertain to regional languages like Punjabi, have not yet been thoroughly investigated, despite their widespread use in other fields. As part of the cultural identity, the demand for strengthening the writing skills of students in the Punjabi language at higher education level is increasing in Punjab. Traditional teaching of Punjabi had often faced constraints such as lack of active participation from the students and differences in the academic outcomes. Although blended learning appears to be very promising as a pedagogical approach for such challenges and to create writing ability in the students of Punjabi, there have remained no checks on its effectiveness regarding this issue in the literature. Consequently, this study aims to investigate how blended learning affects the proficiency of Punjabi writing among college students. The present study, in this regard, shall make its contribution towards gaining valuable insights that enable more effective language education programs aligned with the new face of contemporary educational needs by seeking to explore whether blended learning might be the way to enhance Punjabi writing proficiency.

Objectives of the Study

1. The primary goal of this research was to determine how secondary school students' proficiency in writing the Punjabi language changed as a result of using blended learning strategies.
2. This study aims to compare the writing abilities of secondary school pupils taught the Punjabi language using traditional methods and those taught using blended learning tactics.

Significance of the Study

Due to its focus on the efficacy of blended learning in enhancing Punjabi language writing abilities for use in higher education, this study is highly significant. By integrating technology with traditional teaching methods, the research aims at offering valuable insights in improving the academic achievement of students learning Punjabi. The findings will contribute to the preservation of Punjabi by promoting more effective language instruction methods. This will help educators and policymakers to design curricula that make effective use of blended learning to both students' and the landscape of education's benefit.

Literature Review

Combining online learning activities with more conventional forms of in-person education is known as a blended learning strategy. It will, therefore, bring much attention to higher education mainly because of its potential to promote improvement in students' learning experiences and results if the best aspects of both conventional and digital learning settings are combined. Results in improving students' skills in writing under language learning are promising. This literature evaluation uses articles published after 2022 to investigate how blended learning affects students' proficiency in writing in the Punjabi language while they are in college.

Theoretical Foundations of Blended Learning

Blended learning is based on a constructivist and connectivism theory of learning that conceptualizes the construction of knowledge as an active, co-constructive process

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supported through a variety of different learning environments (Garrison & Vaughan, 2022). According to studies grounded on these theories, students' engagement, agency, and individualized learning paths can be enhanced with the integration of digital technology into conventional classroom settings (Vaughan et al., 2023).

Blended Learning in Language Education

Blended learning appears to be quite an effective delivery method in language education, as it provides learners with opportunities to exercise language skills in various contexts. It also allows for the inclusion of multimedia resources that can facilitate comprehension and retention of language structures better (Al-Hammadi & Sidek, 2023). Since recent studies have shown that blended learning can contribute positively to writing in other languages, it is also expected to assist in teaching Punjabi languages in a similar manner (Jin et al., 2022; Sung & Hwang, 2023).

Blended Learning and Writing Skills

In a given communication skill, writing skills are very important. Research into blended learning has shown opportunities for the development of writing skills through continual feedback, allowing access to a wide range of resources, and the opportunity to collaborate with peers (Zheng et al., 2023). Chen and Liu, in a 2022 study, found that students who followed blended learning programs had developed much more the writing skill compared to those who were following traditional mode of learning. The interactive nature along with flexibility has been a proven factor enhancing students' writing performance (Kemp et al., 2023).

Blended Learning in Punjabi Language Education

So far, conventional teaching methods have dominated higher education in the Punjabi language. There is an interest in adopting blended learning to deal with challenges associated with teaching and learning Punjabi, especially writing skills. Singh and Kaur (2022) recently undertook a study which indicates the promise of the blended learning approach to surpass some of the limitations of traditional approaches: insufficient class time and also does not provide individualized instruction. Overall, the report of their research found significant improvement in students' writing skills, as presented after interaction with different activities undertaken under blended learning activities, for example, online writing and peer review sessions.

Impact on Students' Achievement

Research on the impact of blended learning on students' proficiency in Punjabi writing includes the following studies: Experimental research conducted by Sharma et al. (2023) shown that students' writing skill was enhanced by implementing a curriculum that utilized a blended learning approach. It cites the heterogeneous nature of learning materials and the online system of feedback as some of the possible reasons behind this improvement. Similarly, Bajwa and Gill (2023) found that students of blended learning showed not only enhanced writing skills but also an improved general performance in the overall academic results of the Punjabi language courses.

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Challenges and Considerations

Blended learning leads to a positive outcome; however, there are plenty of limitations that need to be tackled. Sufficient technological infrastructure, teacher training, and preparedness of the students is very much important for the proper integration of blended learning (Khan et al., 2022). Not to forget, culturally sensitive digital content also needs to be developed that will cater to the linguistic and cultural needs of the learners in Punjabi language education (Gill & Sandhu, 2022). Further, teachers should be aware of the digital divide that would prevent some students from fully participating in blended learning activities (Rana & Sidhu, 2023).

The literature reviewed indicates that blended learning enhances students' achievements in the learning of writing skills of the Punjabi language at higher education, mainly through flexibility, interactivity, and the possibility of personalization. Though these advantages contributed to an increment in learning, there are some challenges associated with access to technology, teachers' preparation, and the infusion of culturally suitable content that need to be properly addressed. Further research along this line is necessary so that how blended learning results in long periods of exposure affect the language acquisition process, and its usage best practices in the Punjabi language education could be found.

Research Method

This study used a quasi-experimental design with a control group and an experimental group. Subjects in both groups were given a test before and after the intervention. The research methodology employed was quantitative. In quasi-experiments, people are generally grouped by convenience, not by random assignment. This is very pragmatic for instructors because intact groups within natural settings like schools, colleges, and school districts are often used. Since participants were assigned to the groups nonrandomly, the researcher had no choice but to adopt a quasi-experimental design. The researchers in this study made sure to gather and analyze data quantitatively by using a pretest-posttest control group design.

Population and Sample

The study was carried out in a public girls higher secondary school in Gujranwala with 11th class students. The research was conducted as an experimental design in which two intact groups were drawn from class 11th (sections A & B). These two sections comprised a total of 70 elementary students. The population size of the entire elementary section was 347 students.

Instrumentation

For this study, a pretest was prepared that covered the first ten chapters of Punjabi curriculum along with the practice exercises from these chapters that the school teacher had taught earlier. The pretest was for fifty marks with questions in MCQs, Synonyms, Antonyms, Picture descriptions, Verb and noun identification, Reading Comprehension etc. The assessment was based on the primary level Punjabi curriculum. As an example, the first question requires compound adjectives selected from the 10 chapters and exercises; each of these components is worth one point, and the total value of this question is four. It would be

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determined by the content chosen based on the level of students with an intention to ensure that the material is meaningful, easy to comprehend, and that questions are clear and justified.

Validity and Reliability of the Instrument

To ensure the reliability of the research instrument, the following approach was followed:

1. Expert Opinion: Veterans of the classroom who have taught students in the targeted grade level assessed the pretest for both content and face validity. A subset of items on the pretest was reviewed independently by the senior teachers, and their suggestions were used as a basis for the structure, language, and wording of the questions. Content alignment against class 7 standards at the elementary level was also checked by the senior teachers through reviewing it against previous tests conducted at the school. We finished the pretest items when we agreed on their pattern, structure, and content validity.

2. Pilot Testing: Pilot testing was carried out with randomly chosen seventh graders from the same school to further enhance the pretest. The participants were asked to highlight any difficulties with the wording and understanding of the pretest items. Based on their feedback and the views of the expert teachers, final adjustments were made to the test items, ensuring the content was appropriate and understandable. Once all suggestions were incorporated, the pretest was finalized for use in the main study.

Data collection

An accomplishment exam was used to gather data. The study's first lesson introduced the course material to both the blended and conventional learning groups. Over the course of the 8 weeks, both groups followed the same course aims, delivery, and assessment procedures. Online tutoring, asynchronous project-based learning, and collaborative online work were all part of the blended learning experience for this group. Eight weeks of training were followed by a post-test.

Reliability of the Tool

When the findings of a test remain consistent when repeated, we say that the test is reliable. It shows the degree to which an estimate inaccuracy is not introduced into a test. According to several sources (Fraenkel & Wallen, 2003; Schumacher & McMillan, 2006; Moss, 1994), the more errors there are in a test, the less reliable it is. Using IBM SPSS statistical software, the test's reliability was evaluated using Cronbach's alpha, a measure of internal consistency. For this study, we used a pre-post test design to choose 140 students at random from two subsets of the whole class. These students received 8 weeks of blended learning instruction. Using Cronbach's alpha, we discovered that the test has a 0.8 dependability, which means that the results are quite consistent.

Data Collection

To give the pretest to the research population, two groups were developed that were similar to each other. A mixed learning technique was used by one group throughout the trial period, while the other group received instruction through the more traditional lecture-based method. The treatment lasted for at least 8 weeks. After the intervention, a posttest was

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conducted to gather the data needed for analysis. Both the test and control groups participated in the experiment in a classroom environment. Data collection occurred through pretests and posttests, following the completion of the blended learning instruction.

Data Analysis

A t-test for independent samples was used to examine the study's findings. The data received from the pretest and posttest were processed using SPSS, which stands for Statistical Package for the Social Sciences. Descriptive and inferential statistics were used to examine the participant data. A descriptive statistical test was followed by an independent sample t-test. One more thing: a paired sample t-test was used to assess academic achievement before and after the experiment within the same group. The significance threshold that was employed for this inquiry was 0.05. A normalcy test was the first step in the data analysis process using SPSS. Correct statistical modifications were implemented in cases where non-normality was identified as a result of the sample size. We analyzed the data using correlations, hypothesis testing, and descriptive statistics. Scores on pretests were useful in lowering error variation and producing more reliable assessments. The likelihood of finding significant differences was determined by evaluating the validity of the differences between the conventional learning control group and the blended learning experimental group (Dimitrov & Rumrill, 2003).

Tables were used to display statistical analysis of this study.

Ho.1 Regarding the picture description pretest, there is no statistically significant difference between the control groups and the experimental group's overall mean scores.

Table 1: Pretest of Image Description for the Experimental and Control Groups: An Independent Sample T-Test

Group	N	Mean	Std. Deviation	T	Sig
Experiment	70	2.74	.44	-12.7	0.00
Control	70	5.84	1.9	-12.7	

Table 1 displays the results of an independent-samples t-test that was used to compare the entire mean scores of the control and experimental groups on the pretest. Both groups' total mean scores had p-values of 0.00, as shown in Table 1. With a mean score of 5.84, the control group outperformed the experimental group by a wide margin. The control group also had a t-test result of -12.7. At the conclusion of the investigation, after receiving therapy utilizing the blended learning technique, the data shows that the two groups did not perform equally on the English image description exam. Back then, there was a noticeable gap in how well each group did in school.

Since the significance threshold is less than 0.05, the null hypothesis may be rejected, as shown in Table 4.10.

Ho.2 When comparing the two groups' mean scores on the picture description posttest, there is no statistically significant difference.

Table 2: Comparison of the experimental and control groups' post-picture-description scores using an independent sample t-test

Group	N	M	SD	t	Sig
Experiment	70	12.2	.87	24.6	0.00
Control	70	5.8	1.9	24.6	

Table 2 displays the results of an independent-sample t-test that was used to compare the experimental and control groups' posttest mean scores. Both groups had p-values of 0.00, as seen in the table. The experimental group averaged 12.2 points, whereas the control group averaged 5.8. The t-test result of 24.6 indicates that the two groups were significantly different from one another. This suggests that the groups' results on the final Punjabi picture description exam, given following the blended learning therapy, were significantly different. The table clearly indicates that the significance threshold is more than 0.05, indicating the rejection of the null hypothesis. Academic achievement after the intervention is so drastically different for the two groups.

Table 3 pre and post test

Group	N	M	SD	t	df	Sig
Pretest and	70	4.43	1.0	-10.6	69	000
Posttest Experiment	70	5.71	.90			

Table 3 displays the results of a paired-samples t-test that was used to determine if there was a statistically significant change in the control group's overall mean scores on the comprehension passage test which was administered before and after the intervention. The control group's pre- and post-test scores differ significantly ($M=4.43$, $SD=1.071$ and $M=5.71$, $SD=0.9$, respectively), as shown by a normalized p-value of 0.00 ($p=0.005$). The findings show that the students' academic proficiency in English has enhanced. An intervention like blended learning considerably improves the performance of the experimental group, which is very notable. In addition, Table 4.21 shows that the p-value is 0.00, which is less than the critical criterion of 0.05. The null hypothesis is rejected because the p-value (000) indicates a statistically significant difference in the academic performance of the two groups on the comprehension exam.

Ho.3. When comparing the two groups' average post-test scores on the comprehension passage, there is no statistically significant difference.

Table 4 Results from the post-passage independent sample t-test for the control and experimental groups

Group	N	Mean	SD	t	Sig
Experiment	70	9.14	1.10	25.6	0.01

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Control	70	4.42	1.07	25.6
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Table 4 displays the results of a posttest comparison between the experimental and control groups. An independent-samples t-test was employed for this comparison. With reported p-values of 0.01 for the total mean scores of both groups, the table also includes this information. The control group averaged 4.4 points whereas the experimental group averaged 9.14. For the control group, the t-test yielded a value of 25.6. According to the analysis of Table 4, the two groups' academic performance on the English comprehension type exam at the conclusion of the trial or after the blended learning treatment differs significantly. This disparity shows that there is a major effect on student performance in the classroom. Since the significance threshold is greater than 0.05, the null hypothesis cannot be accepted, according to the data in Table 4.

Ho.4. When comparing the experimental group's mean score on the comprehension passage before and after the exam, there is no statistically significant difference.

Table 5 A paired sample t-test was conducted on the experimental group's comprehension passages before and after the intervention.

Group	N	Mean	SD	T	df	Sig
Pretest	and70	9.14	1.10			
Posttest				-5.0	69	.000
Experiment	70	9.56	.792			

As indicated in Table 5, a paired-samples t-test was used to assess if the total mean comprehensive test scores of the experimental group changed significantly between the pre- and post-test periods. With a shift from pre- to post-test scores of 9.14 (SD = 1.107) to 9.56 (SD = 0.792; $p = 0.05$), the results demonstrated a statistically significant difference. The findings show that the students' academic proficiency in English has enhanced. Blended learning and other treatments significantly improved the performance of the experimental group. Table 5 shows that the assigned significance level is 0.05, and the p-value of 0.00 is less than that, hence, the null hypothesis is rejected. It appears that there is a notable disparity in the performance of the two groups on the comprehension exam.

Discussion

The purpose of this quasi-experimental pre-test-post-test study was to examine the impact of blended learning on the Punjabi academic performance of primary school children. This study set out to evaluate the academic outcomes of Punjabi students taught using blended learning to those of students taught using more traditional methods, as well as to determine the effect of blended learning on students' performance in the classroom. The study included 347 female pupils from District Gujranwala's elementary schools. Out of two complete seventh grade classes at Govt. Comprehensive School Gujranwala, 140 were chosen at random. One hundred and ten students participated in an experiment using a mixed-methods strategy, whereas seventy students served as controls and received more traditional instruction. The data from both the pre- and post-tests was input into SPSS and analyzed using descriptive statistics techniques, such as independent t-tests and paired sample tests.

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The close proximity of the two groups' pre-intervention mean test scores indicates that they were academically on par. Still, the large differences in academic achievement between the two groups once the blended learning technique was implemented proved that the experimental group had the upper hand. The null hypothesis that "There is no significant difference between the mean scores of the overall experimental and control groups with respect to the post-test" was rejected because the p-value was smaller than the table value, suggesting that blended learning had a positive impact on Punjabi academic performance.

Students' enhanced performance in mixed learning settings is in line with previous studies. Students in Punjabi favoured blended learning, according to Kvashnina and Martynko (2016), since it allowed them more leeway in terms of learning style and strategy. In a 2009 study, Sharma and Barrett found that students' writing skills were collectively improved by blended learning. Blended learning significantly improved college students' listening and speaking abilities, according to Guangying (2014). Blended learning was also associated with improved language proficiency, according to Isti'anah (2018).

The study of Punjabi has benefited from blended learning, which combines online and conventional approaches. All four language skills—reading, writing, speaking, and listening—are improved. Hinkelman (2013) emphasized the significance of a comprehensive approach to education, which includes the integration of online and offline technology. Blended learning has shown to be quite beneficial when executed properly, even if it is still a new concept in many schools. The results of this study indicate that blended learning has the potential to greatly improve Punjabi education and propose that practitioners and stakeholders should embrace it to get better educational results.

Recommendations

The recommended strategies, according to this research, for the improvement of academic activities during the elementary school classes, particularly teaching Punjabi as compulsory subjects are as follows:

- 1) The agencies of higher authorities and the educational ministers should put an emphasis on involving the Blended Learning Strategy in lesson planning. It should be an essential activity meant to improve learning methods and raise the levels of involvement by students.
- 2) Institutions whose role is in Continuous Professional Development training courses must integrate blended learning techniques into their training material so that this helps improve pedagogy amongst teaching staff and enables them to utilize such techniques better in the classroom.
- 3) Teachers shall be encouraged to have a positive learning environment. In turn, teachers shall practice Blended Learning effectively. This will serve to encourage the benefits of Blended Learning as an additive delivery means for content and the manner in which better understanding follows.
- 4) Conferences, workshops, and summits on education with feedback sessions should be conducted to promote the strategies that Blended Learning encompasses. These will serve to provide a channel for mutual sharing of best practices towards better teaching outcomes.
- 5) Blended learning should be utilized to complement activities that can be easily monitored and tracked by teachers directly. It shall then enable teachers to keep track of the

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progress made and adjust their instruction methods to maximize educational outcomes.

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