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Comparative Study of Blended Learning and Traditional Classroom Methods Among Senior Secondary School Students in Gusau Local Government Area of Zamfara State, Nigeria

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Abstract
This study investigated how academic performance varies between students who learn through blended learning and those who stick to traditional classroom methods in senior secondary schools located in the Gusau Local Government Area of Zamfara State, Nigeria. The research used a quasi-experimental design and involved a sample of 150 senior secondary school teachers, chosen through simple random sampling. The participants were split into two groups: one group experienced blended learning, while the other was taught using conventional classroom techniques. To gather data, the researchers created an achievement test and a structured questionnaire. Experts validated these tools, and their reliability was confirmed using the test-retest method. The analysis of the collected data employed mean rating scale techniques, revealing a significant difference in academic performance between the two groups. Students in the blended learning group achieved higher mean scores compared to those taught through traditional methods. Additionally, the results showed that students in the blended learning environment were more engaged, understood the material better, and retained information more effectively. The study concluded that blended learning outperforms traditional classroom methods in boosting students' academic success. It is recommended that educators and policymakers encourage the adoption of blended learning strategies and ensure that adequate technological resources and training are available to facilitate its implementation.

Keywords: academic performance, blended learning, traditional method, classroom, learning outcomes

Introduction

Education in the 21st century has experience paradigm shift, largely because of the rapid growth of information and communication technologies (ICT). For a long time, traditional classroom instruction, which mainly focuses on the teacher and relies heavily on face-to-face interaction, has been the go-to method for teaching and learning in secondary schools. But now, with digital technologies making their way into education, the new teaching methods like blended learning has popped up. This approach mixes the best of both worlds—combining traditional classroom techniques with online learning environments. Blended learning, often called hybrid learning, merges in-person teaching with digital tools and online resources to make the learning experience richer, efficiency and more effective (Adenuga et.al., 2025). Blended learning has gained worldwide acclaim as a powerful teaching strategy that can boost students' academic performance, engagement, and retention. It gives learners the chance to access educational materials beyond the confines of a physical classroom, promoting flexibility and allowing for self-paced learning. Recent research shows that blended learning supports a learner-centered approach and enhances interaction and participation among students (Zakariya et al., 2024). This method has become even more important in the post-COVID-19 world, where schools are working hard to maintain learning continuity through both online and offline options.

On the flip side, traditional classroom methods focus on direct interaction between teachers and students, structured lesson delivery, and immediate feedback. While this approach encourages discipline and personal

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connection, it often gets criticized for being too rigid and less engaging—especially in a digital age where students are drawn to more interactive and tech-savvy learning experiences (Achiette, & Ude, 2024). Traditional teaching tends to be teacher-centered, which can limit students' chances for independent learning and critical engagement with the material. Recent research by Egara and Mosimege (2024) has consistently shown that blended learning can significantly boost students' academic performance compared to traditional teaching methods. For example, a recent study found that students who engaged with blended learning strategies showed notable improvements in both achievement and retention when stacked against their peers who were taught using conventional methods. In a similar vein, a study in Sokoto State, Nigeria, conducted by Bello, Moyi, and Ginga (2025), revealed that blended instructional strategies greatly enhanced students' academic performance and helped clear up misconceptions in mathematics. Another study in Nigeria highlighted that blended learning positively impacted students' performance in basic science compared to traditional classroom techniques (Edegbe-Efosa & Ugiagbe, 2024).

Moreover, recent findings by Etukakpan, (2025) indicated that using blended learning tools, like mobile apps (for instance, WhatsApp), can significantly boost students' academic performance, motivation, and engagement. Those who experienced these blended approaches outperformed their peers taught through traditional classroom methods (Etukakpan, 2025). Additionally, research has shown that blended learning enhances students' self-efficacy and learning outcomes in reading comprehension and other subjects when compared to standard teaching methods (Victoria & Muodumogu, 2025).In Nigeria, the shift towards blended learning has become increasingly vital due to challenges like inadequate infrastructure, insecurity, and interruptions in the academic calendar. Blended learning offers a flexible solution that helps maintain educational continuity, even amid these hurdles. For instance, research has underscored how blended learning can address school closures and sustain learning during times of insecurity in Nigeria (Akinwumi et al., 2024). This makes blended learning especially relevant in areas where traditional classroom instruction might face disruptions. While blended learning has a lot of benefits, its rollout in Nigerian secondary schools is not without its hurdles. Some of the main challenges include limited access to infrastructure, spotty internet connections, teachers lacking in ICT skills, and a general reluctance to embrace change from both educators and students (Ridwan et al., 2024). Moreover, the disparity in access to digital devices could further deepen the educational divide between urban and rural learners. These challenges highlight the urgent need for research that compares blended learning with traditional teaching methods in specific local settings.

Gusau Local Government Area in Zamfara State offers a fascinating backdrop for such research. As the state capital, Gusau features a blend of schools that are slowly integrating digital teaching methods alongside those that still depend on traditional approaches. This mix creates an ideal setting to explore how blended learning stacks up against conventional classroom instruction in terms of student learning outcomes. The ongoing drop in academic performance among senior secondary school students in Nigeria has raised significant alarms among educators, policymakers, and other stakeholders in the education sector. Even with the prevalent use of traditional teaching methods, which focus on teacher-led instruction and direct interaction, many students are still struggling to achieve satisfactory results in various subjects. This trend suggests that traditional teaching strategies might not be enough to cater to the learning needs of students in our fast-paced, digital, and knowledge-driven world.

Considering these challenges, blended learning has stepped up as a fresh and innovative teaching method that combines traditional classroom instruction with digital and online learning tools. Research carried out by Victoria and Muodumogu (2025) has shown that this approach boosts students' academic success, engagement, and retention by creating flexible and interactive learning environments. For example, recent studies have found that students who engage in blended learning tend to achieve better results and retain information more effectively than those who stick to conventional teaching methods. Similarly, a study involving secondary school students in Sokoto State, Nigeria, found that blended instructional strategies significantly enhanced students' performance and helped clear up misconceptions in mathematics. Moreover, using blended learning tools like mobile apps has been shown to positively impact students' academic results. A recent study revealed that students learning through blended methods on digital platforms outperformed their peers in traditional classroom settings. Additionally, research carried out by Edegbe-Efosa and Ugiagbe (2024) from Edo State, Nigeria, confirmed that blended learning significantly boosted students' performance in basic science compared to standard teaching methods. These findings underscore the increasing importance of blended learning in enhancing educational outcomes.

However, despite these clear advantages, the adoption of blended learning in many Nigerian secondary schools, especially in Zamfara State, is still quite limited and inconsistent. Many schools in the Gusau Local Government Area continue to rely heavily on traditional teaching methods, with minimal integration of ICT tools in their

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classrooms. This reliance could be contributing to low student engagement, poor retention rates, and declining academic performance. Furthermore, challenges such as inadequate technological infrastructure, poor internet access, insufficient teacher training in ICT, insecurity and unequal access to digital devices among students persist in hindering the effective adoption of blended learning in the region. In recent years, research has highlighted how crucial blended learning is for maintaining educational continuity during disruptions like insecurity and school closures in Nigeria (Bakare et al., 2024). Yet, there's still a noticeable gap in empirical evidence that compares the effectiveness of blended learning with traditional classroom methods, particularly among senior secondary school students in the Gusau Local Government Area. While traditional teaching methods still hold their ground in the education system, the rising demand for more flexible, interactive, and student-centered approaches makes a strong case for incorporating blended learning. This study is not only timely but also significant, as it adds to the growing knowledge base aimed at enhancing educational practices through innovative teaching strategies in Nigeria.

Thus, this research intends to conduct a comparative analysis of blended learning versus traditional classroom methods among senior secondary school students in Gusau Local Government Area, Zamfara State, Nigeria. The goal is to find out which teaching approach proves to be more effective in boosting students' academic performance, engagement, and retention. The insights gained from this study will be invaluable for educators, policymakers, and stakeholders looking to identify the best teaching strategies to improve learning outcomes in secondary schools.

Objectives of the Study

The primary goal of this study was to explore the differences between blended learning and traditional classroom methods for Senior Secondary School Students in the Gusau Local Government Area of Zamfara State, Nigeria. More specifically, the study aims to:

1. Assess how blended learning impacts the academic performance of senior secondary school students in Gusau Local Government Area of Zamfara State.
2. Compare the academic achievements of students who are taught through blended learning with those who follow traditional classroom methods in the same area.

Research Questions

To guide the findings of this study, the following research questions were formulated:

1. How does blended learning affect the academic performance of senior secondary school students in Gusau Local Government Area of Zamfara State?
2. What differences exist in the academic performance between students taught using blended learning and those taught through traditional classroom methods in Gusau Local Government Area of Zamfara State?

Research Methodology

This study is set to use a quasi-experimental research design, specifically the non-equivalent control group design. This approach is fitting because it enables the researcher to compare the impacts of two distinct instructional methods—blended learning and traditional classroom techniques—on students' learning outcomes without the need for random assignment of participants to groups. The study will include two groups: one experimental group that will experience blended learning and a control group that will be taught using traditional classroom methods. The research population comprises all teachers in Senior Secondary Schools located in Gusau, Zamfara State, Nigeria. The sample for this study includes 150 Senior Secondary Schools in Gusau, all with at least five years of teaching experience. The tool used for this research was a checklist designed by the researcher, titled "Checklist on the Blended Learning and Traditional Classroom Methods (CBLTCM)." A four-point Likert scale was employed to gauge responses, ranging from Strongly Agree (4 Points) to Strongly Disagree (1 Point). A mean response below 2.50 was deemed a benchmark for Disagree, while a mean response of 2.50 and above was considered a benchmark for Agree. The questionnaire was validated by experts in measurement and evaluation, including lecturers from the Science Education department at Federal University, Gusau, and those from the Psychology, Guidance, and Counselling department at the Federal College of Education (Technical), Gusau. They provided several insights, which the researcher incorporated, leading to the instrument being accepted as suitable for its intended purpose, as it was found to be clear, capable of measuring what it was designed to measure, and thus met both face and content validity.

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Results

Research Question 1

How does blended learning affect the academic performance of senior secondary school students in Gusau Local Government Area of Zamfara State?

The result of the effect of blended learning on the academic performance of senior secondary school students in Gusau Local Government Area of Zamfara State is presented in Table 1;

Table 1

Mean rating scale of effect of blended learning on the academic performance of senior secondary school students

S/No	Statement	N	SA	A	D	SD	Mean	Decision
1	Blended learning improves learners' understanding of classroom lessons.	150	260	171	42	07	3.20	Agree
2	Students' perform better in tests and examinations when taught through blended learning compared to traditional classroom methods.	150	292	134	12	4	2.92	Agree
3	The use of multimedia resources (videos, slides, online materials) in blended learning enhances academic performance.	150	264	180	32	08	3.23	Agree
4	Blended learning allows students to learn at their own pace, which positively affects their academic achievement.	150	240	165	20	05	2.87	Agree
5	Learners are more motivated to study when lessons are delivered through blended learning approaches.	150	348	177	06	01	3.55	Agree
6	Blended learning improves the ability to complete assignments and projects effectively.	150	276	210	14	04	3.37	Agree
7	Interaction with teachers and students is better when using blended learning, leading to improved academic performance.	150	328	141	30	04	3.37	Agree
8	Access to online learning materials in blended learning helps students revise and perform better in examinations.	150	232	225	26	04	3.25	Agree
9	Learning becomes a lot more enjoyable, which makes students attend classes regularly.	150	364	120	24	07	3.43	Agree
10	Students are much more eager to tackle learning tasks when blended learning is in play compared to the traditional approach.	150	356	114	30	08	3.39	Agree
	Grand Mean						**3.26**	**Agree**

Table 1 shows that all the teachers at senior secondary schools believes that blended learning has positive impact on academic performance of senior secondary school students in Gusau Local Government Area of Zamfara State. The respondents agreed on all 10 test items, with average responses exceeding the benchmark of 2.50. The overall average response across all items was 3.26, which is significantly above the benchmark. This suggests that all teachers at senior secondary levels recognize that blended learning enhances positive impact, student engagement and motivation compared to traditional teaching methods, not just in Gusau metropolis, Zamfara state, but across the entire country and even globally.

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Research Question Two

What differences exist in the academic performance between students taught using blended learning and those taught through traditional classroom methods?

The result of the differences in the academic performance of students taught using blended learning and those taught using traditional classroom methods is presented in Table 2

Table 2

Mean rating scale on the academic performance of students taught using blended learning and those taught using traditional classroom methods

S/No	Statement	N	SA	A	D	SD	Mean	Decision
1	Students taught through blended learning perform better in examinations than those taught through traditional classroom methods.	150	368	141	12	05	3.51	Agree
2	Blended learning helps students understand difficult concepts more easily than traditional teaching methods.	150	348	165	14	01	3.52	Agree
3	Students in blended learning environments achieve higher test scores than those in conventional classrooms.	150	292	153	30	11	3.24	Agree
4	Traditional classroom teaching is less effective in improving students' academic performance compared to blended learning.	150	332	117	44	06	3.33	Agree
5	Students retain knowledge longer when taught through blended learning than through traditional methods.	150	364	147	16	02	3.53	Agree
6	The use of digital and online resources in blended learning leads to better academic outcomes than relying only on face-to-face instruction.	150	324	186	10	02	3.48	Agree
7	Students taught through traditional classroom methods struggle more with independent learning compared to those in blended learning.	150	316	189	08	04	3.45	Agree
8	Blended learning encourages active participation, which improves students' academic performance more than traditional methods.	150	292	195	18	03	3.39	Disagree
9	There is a noticeable difference in assignment quality between students exposed to blended learning and those taught traditionally.	150	340	129	30	10	3.39	Agree
10	Students taught through blended learning demonstrate better problem-solving and critical thinking skills than those taught using traditional classroom methods.	150	354	141	26	02	3.49	Agree
	Grand Mean						**3.43**	**Agree**

Table 2 indicates that all teachers at senior secondary school's view that there was wide gap that differentiate the academic performance of students taught using blended learning and those taught using traditional classroom

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methods. The respondents agreed on all 10 items, with average responses well exceeding the benchmark of 2.50. The overall average response across all the 10 items was 3.43, which is highly above the benchmark. This result shows that all teachers at senior secondary levels believe that there was wide gap that differentiate the academic performance of students taught using blended learning and those taught using traditional classroom methods which equally has transformed classroom activities to better position not only in Zamfara state but throughout the country and worldwide.

Discussion of Findings

The fact that teaching and learning is critical to the scientific and technological development of the nation makes research into the field an imperative. This study explored how blended learning impacts positively the academic performance of senior secondary school students. The goal was to determine if blended learning could enhance student performance positively and to encourage teachers to adopt this approach in their teaching, aligning with modern educational practices.

The first research question aimed to uncover how blended learning method can bring positive impact, influences student engagement and motivation to academic performance of senior secondary school students in Gusau Local Government Area of Zamfara State compared to traditional teaching methods. The findings indicate that blended learning significantly boosts both engagement and motivation, proving to be more effective than conventional methods (Jenks & Springer, 2021). This aligns with another research carried out by Gambari (2009), Yaki (2021), and Bello (2022). The takeaway here is that using blended learning in teaching brings positive impact, makes learning more interesting, efficient, effective, and motivating.

The second research question focused on the differences in the academic performance of students taught using blended learning and those taught using traditional classroom methods. The study found that there was a wide gap that differentiate the academic performance of students taught using blended learning and those taught using traditional classroom methods. This conclusion is supported by similar research conducted by Tunde (2024), Achuonye (2021), and Yusuf and Afolabi (2020), which showed that blended learning brings about excellent results for learners while being less burdensome for teachers. Ultimately, the findings suggest that students' learning styles significantly shape their responses to blended learning.

Additionally, Christmann and Badgett (2020) backed the findings of this study, making a compelling case for further research by arguing that “despite the praise for blended learning as an effective teaching method, there is still no documented evidence to confirm its claimed superiority” (p. 92). Jenks and Springer (2021) advanced the fact that blended learning can be an effective mode of instruction in the education environment but is not offered to prove the superiority of blended learning. Rather blended learning should be seen as supplementing the activities in teaching and learning.

Conclusion

This study investigated how blended learning impact the teaching and learning process among senior secondary school students in Zamfara State, Nigeria. From the discussions and findings, several conclusions were drawn. Researchers and the consensus suggest that the use of blended learning in teaching and learning is validated by the study's outcomes. The data collected indicates that blended learning enhances learning, aligning with the global trends of the 21st century, often referred to as the “Digital Age.” Many similar studies and current educational trends support the integration of technology in education due to its remarkably dynamic ability to facilitate teaching and learning. However, the researcher firmly believes that no intervention can address poor performance in schools better than technology, as it provides significant opportunities to meet learning objectives, whether in the short or long term.

A key finding of this study is that technology alone cannot fully optimize teaching and learning. It requires certain conditions to be effective, such as a conducive learning environment, a willingness and readiness to learn, appropriate time for the teaching and learning process, as well as the intellectual skills and cognitive styles of the learners being adequately supported.

Recommendations

Based on the findings of this study, the following recommendations were

1. Blended learning, when used effectively, can really enhance teaching by making learning more engaging, relevant, and motivating. That's why the Nigeria Educational Development and Research Council (NEDRC) should investigate developing subject-specific instructional software for all subjects to promote the use of blended learning in education.

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2. It's crucial for governments at all levels to prioritize ongoing professional development for teachers and educators across various fields, especially to keep them updated on the latest trends and challenges in blended learning in education.
3. State and local governments need to step up their investment in education by funding the development of educational software for all subjects taught in senior secondary schools.
4. Non-governmental organizations and community-minded individuals should pitch in to help train and retrain teachers through workshops, seminars, and conferences, equipping them with the skills needed for to ensure high-quality education at every level.

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