



Effects of Blended learning Approach on Colleges of Education students' interest and achievement in Economics in North-East, Nigeria

¹Elkana Samuel Bwari, ²Ashiru Shehu Abdullahi, ³Jamal Sunusi Gar

¹Department of Economics

²Department of Hausa

⁵Department of Economics

Adamu Tafawa Balewa College of Education, Kanger

ABSTRACT

This study investigated the effect of the blended learning approach on students' interest and achievement in Economics in Colleges of Education in North-East Nigeria. Two research questions were raised, and two hypotheses were tested at a 0.05 level of significance. The study employed a quasi-experimental non-randomised pre-test post-test control group design. The population comprised 907 NCE II students offering Economics across fourteen public Colleges of Education in the region. A sample of 51 intact NCE II classes from two co-educational Colleges was selected through a simple random sampling technique. School A served as the experimental group, while School B served as the control group. The experimental group used Moodle as a virtual learning platform for the blended learning approach. Data were collected using two validated instruments: the Economics Learner Achievement Test (ELAT) with 25 items and the Economics Learner Interest Scale (ELIS) with 20 items. The instruments were validated by experts, and reliability was determined using the Kuder-Richardson (KR-21) formula, yielding a coefficient of 0.77. The instruments were administered as pre-tests and post-tests over a twelve-week instructional period. Data were analysed using mean and standard deviation for the research questions and Analysis of Covariance (ANCOVA) for the hypotheses. The findings revealed that the blended learning approach significantly enhanced students' interest and achievement compared to the conventional method, with no significant gender differences. It was recommended that the Nigeria Educational Research and Development Council (NERDC) develop subject-based instructional software to promote technology-driven learning in Nigerian schools.

ARTICLE INFO

Article History

Received: May, 2025

Received in revised form: June, 2025

Accepted: July, 2025

Published online: September, 2025

KEYWORDS

Achievement, Blended learning, Colleges, Economics, Interest and Students

INTRODUCTION

The emerging trends in the world's education system require that teaching and learning should be improved through the use of electronic technologies. Colleges in Nigeria need not to be relegated from the advent of this educational globalisation approach. Integration of online teaching and learning becomes more effective solution to address the challenges

undermining the standards of the Colleges in the North-Eastern region of the country.

Educational technology in Nigerian higher institutions, particularly in North East Colleges of Education, has become an essential tool for improving the instructional process. The integration of technology into the educational system aims to modernize the instructional process and provide students with the skills

Corresponding author: Elkana Samuel Bwari

✉ sambwari@gmail.com

Department of Economics, Adamu Tafawa Balewa College of Education, Kanger.

© 2025. Faculty of Technology Education. ATBU Bauchi. All rights reserved



necessary to succeed in a technology-driven world.

North East Colleges of Education have started to embrace various educational technological tools to complement traditional teaching methods which is aimed at improving student engagement and learning efficiency. With the rapid growth of digital technologies, educators are increasingly turning to technological resources to improve student interaction with course content and promote active learning (Daramola, 2023).

College of Education is one of the tertiary institutions in Nigerian alongside other institutions like polytechnics, monotechnics and Universities. However, Colleges of Education are the institutions that are exclusively saddled with the responsibility of training teachers who will in turn teach at the Junior Secondary Schools and Senior Secondary Schools level of education in Nigeria FGN (2021). The objectives of the (NCE) as stipulated in the national policy on education is to raise teachers with adequate intellectual and professional background to teach at junior and senior secondary schools level of education and to be adaptable to changing situations.

The introduction of digital learning environments, like Moodle, has revolutionized the way students interact with content and engage with educational materials. Moodle is a widely used Learning Management System (LMS) that offers a virtual space where students can access course materials, interact with peers and instructors, and track their learning progress (Arifin *et al.*, 2023). Yet, studies revealed that Nigerian tertiary institutions, face a multitude of challenges, including inadequate infrastructure, large class sizes, and limited access to learning resources and these challenges are believed to be among the major factors hindering the delivery of high-quality education (Gidado *et al.*, 2023; Okoye & Arimonu, 2016; Gidado & Diffang, 2024; Kola *et al.*, 2021.).

These challenges necessitate innovative educational solutions that can improve student engagement, academic achievement, and prepare graduates for the complexities of the modern workforce after graduation. Despite the challenges, some Nigerian colleges have

successfully implemented blended learning. For instance, the college of education, Kwara State and the University of Lagos introduced a blended learning model for its distance learning program, resulting in increased student enrollment and satisfaction (Akinbode & Alaka, 2020). Similarly, Covenant University has integrated blended learning into its curriculum, leveraging its robust IT infrastructure to enhance teaching and learning (Oluwalola *et al.*, 2022). Therefore, blended learning as an instructional approach that combines online and face-to-face learning environments, providing a flexible framework that leverages the strengths of both modalities, it could be considered as a possible solution to the outlined challenges (Munawar, *et al.*, 2023).

Imogen (2018) also posited that the conventional classroom approach is that approach where physical human interactions are encouraged as students interact with the teacher and their classmates face-to-face. Sometimes called the face-to-face teaching/learning approach, the conventional approach refers to a situation where the instructor and the student of an educational institution are in a place devoted to instruction and the teaching and learning take place at the same time. (Purdue University, 2019).

Interest is characterized as the feeling of doing or endeavoring to give focus to something or of needing to be included with and to find out more about something. Interest is the reflection of a well-developed personal preference to enjoy and value a particular subject or activity across situations. Educational achievement is the level of a persons' application of what is learned in a given field of learning. Knowledge of achievement is very important in order to make further improvements in instruction and learning strategies and ultimately enhance the level of achievement (Bulus & Bwari 2023).

Hoque (2016) found that students using blended learning had better achievement than those who did not use blended learning. The findings of this study reveal that the senior secondary students in economics using blended learning have better knowledge exposure than their counterparts. Through this combination, an innovative training model called Blended Product



Training was developed. This model combines the flexibility of Blended Learning with the product-oriented approach of Product-Based Learning, so that participants not only gain knowledge but also practical skills in designing, building, and managing digital libraries (Asitah & Ismafitri, 2021). Blended Product Training is a training model that combines synchronous and asynchronous learning to achieve training goals by producing tangible products (Keppen *et al.*, 2021).

The rapid development of information and communication technology has brought significant changes in the field of education. One of the tangible impacts of ICT advancement is the demand for educational institutions to adapt to digital-based learning and information management systems. In actual practice on the ground, it shows that many schools still manage libraries conventionally with manual borrowing systems and non-digitized teaching materials collections. This hinders quick and flexible access to learning resources for teachers and students, thereby obstructing the learning process because of that, the learning is not optimal and the learning objectives have not been achieved (Tella *et al.*, 2023)..

The advent of technology in education has transformed pedagogical practices, with blended learning emerging as one of the most effective approaches in recent years. Blended learning combines face-to-face instruction with online learning activities, thereby creating a flexible and interactive learning environment. In the Nigerian context, where infrastructural and instructional challenges persist, blended learning offers an opportunity to enhance students' interest and achievement in subjects such as Economics. This study investigates the extent to which blended learning influences students' interest and achievement in Economics in Colleges of Education located in North-East Nigeria.

STATEMENT OF THE PROBLEM

Certainly, the 21st century has brought about significant changes to the global educational landscape, driven by rapid technological advancements and the need for

more flexible, student-centered learning approaches. However, most lecturers in Nigeria are used to the traditional (chalk-board) method of teaching, which renders students' passive listeners and makes teaching ineffective, consequently affecting the students' achievement in Economics particularly. On the other hand, the state of knowledge explosion with increasing specialization, an increase in the student teacher ratio, and an increase in the workload of teachers means that classroom instruction alone does not, in most cases, bring out the desired goals from teaching and learning, which causes some drawbacks in student achievement in Economics.

Students' declining interest and poor achievement in Economics have been a source of concern to educators and policymakers in Nigeria. Traditional instructional methods such as lecture-based teaching have been found inadequate in stimulating students' interest and achievement. The integration of technology in instruction through blended learning presents a possible solution. However, the adoption of blended learning in Nigerian Colleges of Education remains low, especially in the North-East, due to infrastructural deficits and limited digital literacy among lecturers and students. This study seeks to address these gaps by examining the potentiality of blended learning in transforming NCE education in Nigeria, identifying the key challenges, and proposing context-specific strategies for successful implementation. The problem, therefore, is the inadequate integration of blended learning in Nigerian colleges of education particularly in North-East Nigeria, which hinders the ability of NCE students to benefit from modern learning approaches that could enhance their learning experiences, academic achievement, and interest for the 21st-century workforce.

Objective of the Study

The purpose of this study is to:

1. find out the effect of gender on the interest mean score of students taught Economics using blended learning approach.

2. compare the effect of gender on the mean achievement scores of students exposed to blended learning approach.

Research Questions

The study was guided by the following research questions:

1. what is the difference on the interest mean scores of male and female students taught Economics using blended learning approach?
2. what is the difference in the mean achievement scores of male and female students exposed to blended learning strategy?

Hypotheses

The following hypotheses were tested at the 0.05 level of significance:

H01: there is no significant difference between interest mean score of male and female taught using blended learning approach.

H02: there is no significant difference between the achievement mean scores of male and female taught Economics using blended learning Strategy.

RESEARCH METHODOLOGY

This study adopted a quasi-experimental design, using a non-randomized pre-test/post-test control group design. Quasi-experimental research is a type of design whereby the researcher determines the effect of an independent variable on one or more dependent variables. In this study, the independent variable is the treatment involving the use of a blended learning package, while the dependent variable is the students' achievement and interest. A quasi-experimental design was used because the schools will not allow for the randomization of subjects into groups. The population for this study is 907 NCE II students from public colleges of education North-East, Nigeria. A sample of 51 students offering economics was used for the study. To obtain the study sample, simple random sampling was used to select two (2) schools from

the 14 public colleges of education having the same characteristics.

All the NCE II students offering economics were used as intact classes in the two schools selected. The sample for the study consisted of two co-educational schools. School A was used as an experimental group with 25 students, and School B was used as a control group with 26 students. The instruments used for data collection were the Economics Learners Achievement Test (EAT) and the Economics Learners Interest Scale (ELIS), developed by the researchers. The ELIS is a rating scale with 20 items in five response options that was used to get information on the interest of the students in Economics. While the test contained sections A and B, Section A contains items based on the demographic data of the participants, and Section B comprises twenty-five (25) multiple choice objective test items with five options (A–E) per item for the students to answer.

The ELAT was used as a pretest, which was reshuffled and served as a post-test. The instrument (ELAT) was trial-tested on 31 NCE II students outside the study area. Data collected from the trial testing was used to determine the reliability of the instruments using Kuder Richardson formula 21, and an internal consistency reliability coefficient of 0.7 and above is taken to be sufficient for the study, but if lower, then the instrument will be considered unreliable. The research questions were answered using the mean and standard deviation, while Analysis of Covariance (ANCOVA) was used for testing the null hypotheses at the 0.05% level of significance.

The symbolic representation of the design is presented in Figure 1.

Group	Pre-test	Treatment	Post-test
E	O ₁	X	O ₂
C	O ₃		O ₄

Figure 1: Illustration of non-randomized pre-test and post-test Control Group Design

Where:

E means experimental group

C means control group

O₁ represents pre-test for experimental group

X represents treatment of blended learning approach

O₂ represents post-test for the experimental group

O₃ represents pre-test for the control group

O₄ represents post-test for the control group

– represents no treatment for the control group

----- dotted line indicates non-randomization of subjects to groups

Table 1: Distribution of Sample Size

School	Population	Male	Female
School A	25	08	17
School B	26	12	14
Total	51	20	31

Source: Field Survey, 2025.

RESULTS

Hypothesis One

There is no significant difference between interest mean score of male and female taught using blended learning approach.

Table 2: ANCOVA Result on Effect of Gender on Interest of Students in the Experimental Group

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Squared	Eta
Corrected Model	70.646 ^a	2	35.323	.201	.819	.018	
Intercept	1254.773	1	1254.773	7.139	.014	.245	
Pre-test	1.177	1	1.177	.007	.936	.000	
Gender	68.872	1	68.872	.392	.538	.017	
Error	3866.794	22	175.763				
Total	117237.000	25					
Corrected Total	3937.440	24					

a. R Squared = .018 (Adjusted R Squared = -.071)

Data from table 2 shows that the main effect of gender yielded $F(1,22) = 0.392$, $p > 0.05$, since the p-value of 0.538 is greater than 0.05 level of significance, the null hypothesis was retained, indicating that there was no significant effect of gender on the interest of students taught Economics with blended learning approach. This

implies that gender can help increase interest in Economics for both male and female students.

Hypothesis Two

There is no significant difference between the achievement mean scores of male and female taught Economics using blended learning approach.

Table 3: ANCOVA Result on Effect of Gender on Achievement of Students in the Experimental Group

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Squared	Eta
Corrected Model	804.247 ^a	2	402.124	8.391	.002	.433	
Intercept	52.608	1	52.608	1.098	.306	.048	
Pre-test	639.687	1	639.687	13.348	.001	.378	
Gender	47.296	1	47.296	.987	.331	.043	
Error	1054.313	22	47.923				
Total	98704.000	25					
Corrected Total	1858.560	24					

a. R Squared = .433 (Adjusted R Squared = .381)

Data from table 3 revealed that the main effect of gender yielded $F(1,22) = 0.987$, $p > 0.05$,

since the p-value of 0.331 is greater than 0.05 level of significance, the null hypothesis was retained, indicating that there was no significant

Corresponding author: *Elkana Samuel Bwari*

✉ sambwari@gmail.com

Department of Economics, Adamu Tafawa Balewa College of Education, Kanger.

© 2025. Faculty of Technology Education. ATBU Bauchi. All rights reserved



effect of gender on the achievement of students taught Economics with blended learning approach. This implies that gender cannot help improve achievement in Economics for both male and female students.

FINDINGS OF THE STUDY

The result of the analysis showed that;

1. The results showed that there was no statistically significant effect of gender on the interest of students taught Economics using Blended Learning Approach.
2. The results showed that there was no statistically significant effect of gender on the mean achievement scores of students taught Economics using Blended Learning Approach. This means that gender was not a significant factor in determining students' achievement in Economics.

DISCUSSION OF FINDINGS

The findings of this study revealed that there was an increase in the interest mean score of male and female students after treatment with male having a higher interest than the female. This concurs with the findings of Glory and Sopuruchi (2017), Adeyemi and Ajewole (2011), who found that gender has a significant influence on the interest but does not have a significant influence on achievement of students. This means that the interest scores of students taught Economics with blended learning approach differ significantly from those who were taught with conventional approach. The results are in line with the findings of Adeyemi, (2010) who discovered that gender had no significant effect on the students' interest. However, the study indicated better academic achievement and interest on students taught with Blended Learning over those taught traditionally.

The findings also showed that there was an increase in the achievement mean score of male and female students after treatment with female having a higher achievement than the male. It therefore means that blended learning approach in the teaching of Economics had more effect on female students' achievement scores than on that of the male students. The finding is contrary to the findings of Du (2011) and Gogo

(2018) who discovered that male students performed better than the female students on an e-learning course taught with a blended learning approach. An explanation for this, may be that male students are less technophobic than female students. Though the female students had a higher mean gain on achievement scores than the male students taught Economics with blended learning approach, the results shows that the difference is not statistically significant. It can be deduced that a blended learning approach does improve students' achievement in economics. This is in line with the findings of Eze, Ezenwafor and Obidile (2016), Okocha, Eyiolorunshe, and Oguntayo (2016) and Noni, Abdullah and Ismail (2017) who found out that male and female students did not differ in their achievement scores.

CONCLUSION

Based on the evidence presented, the research has found that the blended learning approach is more effective than the conventional instructional method. It is concluded that students' gender did not significantly affect their academic achievement and interest in Economics whether they were taught with either Blended Learning Approach or face-to-face Approach. This study therefore concludes that Blended Learning Approach is an effective way of improving students' academic achievement in Economics and should therefore be adopted in teaching Economics in Colleges of Education.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made:

1. Policy makers and curriculum planners should not only spell out these effective teaching methods or approaches to be used but they should also monitor their implementation as well.
2. The Nigeria Educational Development and Research Council (NERDC) should research how to develop and create subject-based instructional software for all subjects to encourage the use of technology (blended learning) in education.



3. Economics concepts should be taught with more than one teaching style, i.e., lecture method, blended learning method, and practical method, as it is known to increase the academic achievement of colleges of education students, thereby making teaching very effective.

Acknowledgement

The authors acknowledged the Tetfund and management of Adamu Tafawa Balewa College of Education Kanger for financially supporting the research work.

REFERENCES

- Arifin, M., Eryani, I., & Farahtika, G. (2023). Students' perception of using Moodle as a learning management system in tertiary education. *AL-ISHLAH Journal Pendidikan*, 15(4).
<https://doi.org/10.35445/alishlah.v15i4.3855>
- Akinbode, M., & Alaka, M. (2020). Blended learning in Nigerian universities: A case study of the University of Lagos. *African Journal of Educational Technology*, 10(1), 45-56.
- Asitah, N., & Ismafitri, R. (2021). *Product Based Learning*.
<https://www.researchgate.net/publication/357393367>
- Bulus, C.H., & Bwari, E.S. (2023). Effects of blended learning Approach on Senior Secondary Students' Interest and Achievement in Economics in Bauchi Local Government Area, Nigeria. *International Journal of Education and Evaluation (IJEE)*, 9 (9), 186-195.
- Daramola, F. O. (2023). Utilization of ICT resources for teaching among some selected lecturers in colleges of education in Kwara state. *ASEAN Journal of Educational Research and Technology*, 2(1), 1-10.
- Diffang, A. D., Mansur S., & Mohammed, H. M. (2024). Information and Communication Technology:A Panacea for Addressing Teaching and Learning Pedagogy Among Teachers Using Fifth Generation Technology in 21st Century Nigeria. *International Journal of Social Sciences and Management Research*, 10(8), 386-394. E-ISSN 2545-5303. DOI: 10.56201/ijssmr.
- FGN (Federal Government of Nigeria). (2021). *National Policy on Education*. Federal Ministry of Education.
- Gidado, B. K., Apeh, H. A., & Diffang, A. D. (2024). The implementation of virtual learning pedagogy as perceived by lecturers and students of public and private universities in North-central Nigeria. *International Journal of Current Science (IJCSPUB)* www.ijcspub.org. ISSN: 2250-177
- Hoque, M. E. (2016). Three domains of learning: cognitive, affective and psychomotor. *The Journal of EFL Education and Research*, 2(2), 45-52.
- Kola, A. J., Opeyemi, A. A., Sunday, O. S., & Tayo, O. O. (2021). Nigerian higher education research and the challenges of sustainable development. *American Journal of Creative Education*, 4(1), 1-9.
<https://doi.org/10.20448/815.41.1.9>
- Keppenene, V., Hopman, E. W. M., & Jackson, C. N. (2021). Production-based training benefits the comprehension and production of grammatical gender in L2 German. *Applied Psycholinguistics*, 42(4).
<https://doi.org/10.1017/S014271642100014X>
- Munawar, U., Khan, A. R., Suleman, Q., & Ali, M. M. (2023). Blended Learning's Effects on Teenagers Secondary-Level Academic Performance in the matter of Chemistry. *VFAST Transactions on Education and Social Sciences*, 11(1), 231-245.
<https://doi.org/10.21015/vtess.v11i1.1458>
- Tella, A., Ajani, Y. A., & Ailaku, U. V. (2023). Libraries in the metaverse: the need for metaliteracy for digital librarians and digital age library users. *Library Hi Tech News*, 40(8), 94-106.
<https://doi.org/10.1108/LHTN-06-2023-0094>

Corresponding author: Elkana Samuel Bwari

✉ sambwari@gmail.com

Department of Economics, Adamu Tafawa Balewa College of Education, Kanger.

© 2025. Faculty of Technology Education. ATBU Bauchi. All rights reserved