

## Effects of Blended Learning Approach on Senior Secondary Students' Interest and Achievement in Economics in Bauchi Local Government Area, Nigeria

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### **Abstract**

*This study determined the effect of blended learning approach on students' 'interest and academic achievement in senior secondary schools in Bauchi Local Government Area of Bauchi State. Two research questions were answered, and two hypotheses were tested at the 0.05 level of significance. A quasi-experimental, non-randomized pre-test, post-test control group research design was adopted for the study. The population of the study consisted of 10 secondary schools with 1070 SSII students that offered economics in Bauchi L.G.A. in 2023. The sample size was made up of 51 intact SS2 intact classes from two co-educational schools. A simple random sampling technique was adopted to select two schools, and SSII students offering Economics were used in their intact classes. School A was used as an experimental group, while School B was used as a control group. Students in the experimental group were enrolled in a learning management system (WhatsApp), which served as the virtual learning environment for the blended learning approach. The instrument for data collection was an achievement test titled Economics Learner Achievement Test (ELAT), which contained 25 items covering four topics in economics, and an interest scale titled Economics Learner Interest Scale (ELIS), which contained 20 items. The instrument was administered as a pre-test to both the experimental and control groups. The teaching approaches were applied for five weeks, after which the post-test was administered. The mean and standard deviation were used to answer the research questions, while Analysis of Covariance (ANCOVA) was used to test the hypotheses at the 0.05 level of significance. The findings of the study revealed that a blended learning approach had a significant effect on students' interest and achievement in economics. It was recommended, among others, that technology, if used adequately and wisely, supplement teaching and make learning more interesting, real, and motivating. Therefore, 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 as it improves students' academic achievement and interest in the subject.*

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**Keywords:** Achievement, Blended learning, Economics, Interest and Students

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## INTRODUCTION

When Economics was introduced into the secondary school curriculum, its popularity grew rapidly because the first few schools that offered it in the West African School Certificate Examination (WASCE) had unexpectedly good results. There was a positive relationship between the quality of results in Economics and the number of candidates that offered it in subsequent years in the WASCE. It may be said that Economics came into the secondary school curriculum in Nigeria in 1966, much later than most other secondary school subjects. Economics was, however, taken by private candidates in the General Certificate Examination before it became a secondary school subject. It was recognized that Economic problems were at the heart of modern society (Azi & Drenkat, 2021).

In present-day society, human needs have grown so enormously that it has become very difficult to say which human need is the main one and which is a subsidiary need. In such a situation, human needs always remain unfulfilled, and the individual is in constant trouble for the achievement of needs and fulfillment of wants. To achieve this aim of satisfying his wants, the individual is always busy performing various types of activities. In present-day society, all your needs and wants can be satisfied only if you have enough wealth and money. Thus, all human activities are directed towards earning money and acquiring wealth. It means that most human activities are economic activities (Soundararajan, 2017).

Economics is the social science that is concerned with the production, distribution, and consumption of goods and services. Economics deals with the study of various activities of man directed towards the acquisition of wealth and the earning of money. Economics is a social science subject that deals with the production, exchange, and consumption of various commodities in economic systems. It shows how scarce resources can be used to increase wealth and human welfare. The central focus of economics is on the scarcity of resources and choices among their alternative uses. The study of economics enables an individual to think about and apply economic principles in solving practical problems for useful living and effective management of scarce resources (Bulus, 2018). It helps a person gain an understanding of human behaviour and cultivate analytical and argumentative skills that are crucial for winning jobs in the present-day job market. With the drastic transformation of the economy in recent decades, there is a growing demand for trained economists from diverse fields such as government, finance and banking, the social sector, management, business, policymaking, and teaching. Despite the importance of Economics to students and society at large, it has been observed that Economics students fail certain aspects of the subject. Many reasons have been advanced for this fluctuating state of students' achievement in economics. Some of the reasons for the students' poor achievement in the subject have been attributed to the wrong application of teaching strategies and techniques (Busola, 2011).

The lecture teaching method has been the most frequently used method for teaching economics in Nigerian secondary schools. It is strictly teacher-centered and authoritarian in nature. In this type of learning environment, students' participation is minimal. The use of the lecture method has been found to have negative effects on most of the students, which reduces their concentration in class. This means that teachers should shift from teacher-centered methods of instruction to student-centered instructional strategies. Teachers are implementers and thus need to learn and apply new pedagogy to their classroom instruction. Methods used during the teaching and learning process play a very significant role as they help in the deep understanding of the concepts to be learned. Methods used during the teaching and learning process can also go a long way in improving students' interest in economics.

The world of education is witnessing a significant change; the credit goes to technologies that have enough potential to bring about change. These changes are not only

facilitating collaboration in schools but have also made the teaching and learning process learner-centered. It not only surrounds our lives but is also the foundation of our society. We live in a global village with easy access to a vast array of online information and experiences. Our generation is growing in a world where information and opportunity are just a screen touch away.

Nowadays, due to rapid advancement in technology, there are huge gaps in the subject material used in the past and those used at present. The foremost reason for the same is a shift in the roles of both teachers and students, along with classroom settings and schools. Learning nonetheless has been upheld with numerous technologies, from radio in the 1920s to TV in the 1950s and internet learning in the 1980s, that commenced with computer-based learning (CBL) and moved to web-based learning. Teaching and learning have been utilizing technology from the 1900s to 2023. Technology has appeared as maps, slides, diagrams, models, movies, stereographs (TV), radio, charts, computers, CDs, important edge computers, smaller scale computers, films, overhead projectors, computers, iPads, telephones, smart mobile phones, interactive white sheets, programming interactive recordings, internet-based life, for example, Facebook, WhatsApp, messages, online journals, podcasts, Instagram, wikis, and so forth, have replaced chalkboards. This has led to a shift in the educational approach from a teacher-centered to a student-centered approach where the learner structures the information and the teacher only acts as a facilitator. Ilhan and Crulersoy (2019) affirm that failure to do proper planning in economics lessons prevents teaching activities from being implemented in a productive way. Considering the above challenges, a blended strategy seems like a viable means for overcoming the learning difficulties experienced by Economics students and teachers in Nigeria, particularly in the study area.

Yonge (2014) viewed blended learning as a mixture of traditional and online learning. It is an innovative method used in the teaching and learning process to enhance the understanding level of students. Blended learning supports all the benefits of e-learning, including cost reductions, time efficiency, and location convenience for the learner, as well as the essential one-on-one personal understanding and motivation that face-to-face instruction presents. In the teaching of economics in secondary schools, the contents, which are multifarious and rich, not only make teachers feel teaching is difficult but also make students feel learning is difficult. The application of blended learning can make the key points and difficulties of teaching much clearer and help teachers realize the re-integration of teaching contents by using high-quality network resources, thereby improving teaching efficiency. Students can also break through the limitations of time and space and enhance the autonomy of learning through the teaching resources shared by teachers on the network platform. Economics lessons must be designed, planned, and structured according to the facts, concepts, and skills that allow learners to apply such knowledge to different economic activities within their locality to improve their lives (Ononye and Ijeoma, 2020). Thus, there are numerous obstacles in the way of providing better education to economics teachers.

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 person's 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.

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. Emphatically, Christman and Badgett (2012) stated that blended learning application is at best at the second level and hence advocate re-thinking, re-envisioning, and re-imagining change in pedagogic approaches through blended learning use by educators. A lot of studies have confirmed that blended learning makes learning accessible to all by the fastest means possible and links learning to work practices, keeping line managers happy and contributing to flexible learning and working needs. Bada, Adewole, and Olalekan (2009) submitted that little is known about the use of blended learning in the Nigerian education system, particularly in social science learning settings.

### **STATEMENT OF THE PROBLEM**

Today's era is full of technology and the digital world, thus creating new challenges for teachers, as teachers' roles have changed from being instructors to facilitators, providing useful information to students with a combination of online materials that are beneficial to students. However, most secondary school teachers 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. Despite the importance attached to the learning and teaching of economics in our educational system, the achievement of students in secondary schools in Nigeria has remained an issue of concern to all stakeholders. Which is attributed to pedagogical issues in preparing for lessons as well as the teaching and learning processes? Failure to do proper planning in Economics lessons prevents teaching activities from being implemented in a productive way. thereby causing a setback in students' learning and thus affecting their achievement in Economics. For instance, in 2022, the WAEC statistics show that there was a decrease of more than five percent in students' performance when compared with the 81.7 percent pass rate recorded in 2021. The above case of poor achievement shows there is a need to provide solutions to it, and one way to curtail the problem is by incorporating students into learning processes that combine both face-to-face and online learning approaches. Thus, it is based on this background that the researcher deems it fit to carry out research on the effects of blended learning approaches on senior secondary school students' interest and achievement in Economics in Bauchi Local Government Area.

### **OBJECTIVES OF THE STUDY**

The objectives of the study were to:

1. determine the difference in the interest mean score of senior secondary school students taught Economics using blended learning approach and those taught with conventional method.
2. examine the difference in achievement of senior secondary students' in Economics in the experimental and control groups

### **RESEARCH QUESTIONS**

The study was guided by the following research questions:

1. What is the pretest and posttest interest mean score of students taught Economics using a blended learning approach and those taught with conventional methods?
2. What is the pretest and posttest achievement mean score of students in Economics in the experimental and control groups?

## HYPOTHESES

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

1. There is no significant difference between the posttest interest mean score of students taught economics using a blended learning approach and conventional teaching method.
3. There is no significant difference between the post-test achievement mean scores of the students in the experimental and control groups.

## 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 was 1070 SS II students from private secondary schools in Bauchi L.G.A. 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 10 schools having the same characteristics. All the SS2 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 (ELAT) 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 40 SS 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..

## RESULTS

### Research Question One

What is the pretest and posttest interest mean score of students taught Economics using a blended learning approach and those taught with conventional methods?

**Table 1 Pre-test and post-test Interest Mean Scores of Students in the Experimental and Control Groups**

Group	N	Pre-test		Post-test		Mean Gain	$\bar{x}$ - difference
		Mean	SD	Mean	SD		
Experimental	25	48.36	5.49	67.32	12.81	18.96	17.85

Control	26	49.08	5.25	50.19	5.41	1.11
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Data in Table 1 revealed the results of the pre-test and post-test interest mean scores of students in Economics in the experimental and control groups. In the experimental group, the post-test interest mean score was 67.32 with a standard deviation of 12.81, higher than the pre-test mean score of 48.36 with a standard deviation of 5.49 and a mean gain of 18.96, indicating that there was an increase in the interest of students after treatment. Also, for the control group, the mean score was 49.08 with a standard deviation of 5.25 at the pre-test. The post-test mean score of students was 50.19 with a standard deviation of 5.41. The findings showed that students in the experimental group had a higher interest mean score (67.32) after treatment using a blended learning approach than those in the control group (32.68) who were not given treatment, with a mean difference of 17.85. This means that at the pre-test, the students in both groups had a low interest level, but after the intervention using a blended learning approach, the experimental group had a higher mean score than the control group. It can be deduced that the blended learning approach does increase students' interest in Economics.

### Research Question Two

What is the pretest and posttest achievement mean score of students in Economics in the experimental and control groups?

**Table 2**  
**Pre-test and post-test Achievement of Students in the Experimental and Control Groups**

Group	N	Pre-test		Post-test		Mean Gain	$\bar{x}$ - difference
		Mean	SD	Mean	SD		
Experimental	25	45.60	5.033	62.24	8.80	16.64	9.71
Control	26	42.15	4.12	49.08	5.83	6.93	

Table 2 reveals the results of the pre-test and post-test achievement mean scores of students in Economics in the experimental and control groups. In the experimental group, the post-test achievement mean score was 62.24 with a standard deviation of 8.80, higher than the pre-test mean score of 45.60 with a standard deviation of 5.03 and a mean gain of 16.64, indicating that there was an increase in the achievement of students after treatment. Also, for the control group, the mean score was 42.15 with a standard deviation of 4.12 at the pre-test. The post-test mean score of students was 49.08 with a standard deviation of 5.83. The findings showed that students in the experimental group had a higher achievement mean score (62.24) after treatment using a blended learning approach than those in the control group (49.08), who were not given treatment, with a mean difference of 9.71. This means that at the pre-test, the students in both groups had low achievement, but after the intervention using a blended learning approach, the experimental group had a higher mean score than the control group. It can be deduced that a blended learning approach does improve students' achievement in Economics.

### Hypothesis One

There is no significant difference between the posttest interest mean score of students taught economics using a blended learning approach and conventional teaching method.

**Table 3**  
**ANCOVA Result on Post-test Interest of Students in the Experimental and Control Groups**

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Squared	Eta
Corrected Model	3784.714 <sup>a</sup>	2	1892.357	19.645	.000	.450	
Intercept	1473.192	1	1473.192	15.294	.000	.242	
Pre-test	45.839	1	45.839	.476	.494	.010	
Group	3777.928	1	3777.928	39.220	.000	.450	
Error	4623.639	48	96.326				
Total	183470.000	51					
Corrected Total	8408.353	50					

a. R Squared = .450 (Adjusted R Squared = .427)

Table 3 shows that  $F(1,48) = 39.22$ ,  $p < 0.05$ . Since the p-value of 0.000 is less than 0.05 level of significance, the null hypothesis was rejected, indicating that there was a significant effect of the blended learning approach on the interest of students in Economics. The result further reveals an adjusted R squared value of .427, which means that 42.7 percent of the variation in the dependent variable, which is interest in Economics is explained by variation in the treatment of blended learning approaches, while the remaining is due to other factors not included in this study.

#### Hypothesis Two

There is no significant difference between the post-test achievement mean scores of the students in the experimental and control groups.

**Table 4**  
**ANCOVA Result on Post-test Achievement of Students in the Experimental and Control Groups**

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Squared	Eta
Corrected Model	3061.538 <sup>a</sup>	2	1530.769	39.607	.000	.623	
Intercept	131.519	1	131.519	3.403	.071	.066	
Pre-test	853.239	1	853.239	22.076	.000	.315	
Group	1117.781	1	1117.781	28.921	.000	.376	
Error	1855.168	48	38.649				
Total	162176.000	51					
Corrected Total	4916.706	50					

a. R Squared = .623 (Adjusted R Squared = .607)

Data in Table 4 shows that  $F(1,48) = 28.92$ ,  $p < 0.05$ . Since the p-value of 0.000 is less than 0.05 level of significance, the null hypothesis was rejected, indicating that there was a significant effect of the blended learning approach on the achievement of students in Economics. The result further reveals an adjusted R squared value of .607, which means that 60.7 percent of the variation in the dependent variable, which is achievement in Economics is explained by variation in the treatment of blended learning approach, while the remaining is due to other factors not included in this study.

## DISCUSSION

The findings of this study revealed that students in the experimental group had a higher interest mean score after treatment using a blended learning approach than those in the control group who were not given treatment, with a mean difference. This means that at the pre-test, the students in both groups had a low interest level, but after the intervention using a blended learning approach, the experimental group had a higher mean score than the control group. This may have enhanced their interest. The findings of this study are in line with the findings of Hodgkinson and Perera (1996), Zain, Subramaniam, Abd Rashid and Ghani (2009), and Shahidul (2010) that students are fearful and anxious towards the subject of economics. It revealed that the implementation of the different blended learning activities has helped to increase student engagement and interest and has provided insight into the research questions. The finding is also consistent with Kiviniemi (2014), who discovered that students' performance increased better in the blended learning model than in the conventional face-to-face approach.

The findings showed that students in the experimental group had a higher achievement mean score after treatment using a blended learning approach than those in the control group who were not given treatment. This means that at the pre-test, the students in both groups had low achievement, but after the intervention using a blended learning approach, the experimental group had a higher mean score than the control group. It can be deduced that a blended learning approach does improve students' achievement in economics. The results of this study are in line with those of Lopez-Perez, Perez-Lopez, and Rodriguez-Ariza (2013), who found out that a blended learning approach had a positive effect on undergraduate students' performance in four different business programs. The increase in students' academic achievement may be a result of their increased participation in blended learning approaches. A blended learning approach mixes the benefits of both face-to-face and online learning approaches to create a blend that is better for the students.

## CONCLUSION

Based on the evidence presented, the research has found that the blended learning approach is more effective than the conventional instructional method. Students taught using the blended learning approach performed better than those taught using the conventional instructional method. The blended learning approach was more effective in promoting and arousing students' interest and enthusiasm in learning than the conventional instructional method. This study therefore concludes that a blended learning approach is an effective way of improving students' academic achievement in Economics and should therefore be adopted in teaching Economics in senior secondary schools.

## RECOMMENDATIONS

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

1. 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.
2. 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 secondary school students, thereby making teaching very effective.

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