Dynamic of Blended Learning and Technology Supported Learning Strategies On Tertiary Students' Performance in English Writing

Obadare Felicia Tomi (Ph.D)
Department of Languages and Linguistics
Bamidele Olumilua University of Education,
Science and Technology, Ikere-Ekiti, Ekiti-State
Email: obadarefelicia@bouesti.edu.ng
Phone: 08034826903

ABSTRACT

The study investigated the dynamic of blended learning and technology supported learning strategies on tertiary students' performance in English writing. The sample for the study is made up of ninety (90) students from public tertiary institutions in Ekiti State. Stratified random sampling technique was used to select the ninety (90) respondents from the three (3) sampled higher institutions in the state. The study used a quasi-experimental research method to explore the relationship between variables. The quasi-experimental design for the study was the non-randomized pretest, post-test control group design. The instrument used for data collection was an English Writing Skill Performance Test. Three research questions were raised to guide the study and they were answered descriptively using mean and Standard Deviation. Four research hypotheses were formulated for the study and tested using t-test analysis of independent sample and a two way Analysis of Covariance (ANCOVA). Based on the data analysis, findings revealed that students that were exposed to blended learning instructional strategy significantly outperformed their counterparts who were exposed to technology supported method strategy and those taught using conventional method of teaching. Also, students who were exposed to technology supported method performed significantly higher than those taught using conventional method. It was further found that significant difference existed in gender performance with respect to the two strategies employed in the experimental group. While female students outperformed their male counterpart when been exposed to blended learning strategy, no significant difference existed when they were exposed to technology supported method. Lastly, the study concludes that there was significant effect of blended learning, technology supported and conventional methods on the tertiary students' learning outcomes in post-test. government, in conjunction with curriculum developers, the federal and state government; other professional bodies like National Universities Commission should create resource centers that can sensitize other stakeholders in the educational sector on the efficacy of blended learning and technology supported learning approach.

Keywords: Students' performance, blended learning, Technology supported learning, Tertiary Institutions, English writing

1. INTRODUCTION

English language is the official language in Nigeria and due to its interdisciplinary status, its role in the educational sector cannot be overemphasized. Oladeji and Taiwo (2020) posits that the role of English language on our educational system cannot be over emphasized. This is because lectures, tutorials and practical are carried out in English. Despite the importance of English language in our educational sector, students still perform beyond expectations in the subject both at secondary school level and tertiary institutions where mass failure in English language has become a constant experience for decades (Ozuwuba 2018).

Writing as one of the language skill is a productive as well as an expressive skill which is a very effective tool for communication. It is both an act and an art which involves both the cognitive and psychomotor domains. Obadare (2021) postulates that writing as a production skill helps us to communicate our ideas, feelings and emotions. Osa Omoregie (2020) opines that writing motivates students' critical thinking, creativity, critical analysis, and organization of ideas, problem solving skill and the development of their ability to summarize given information.

However, it is observed that of all the language skills, writing is the most challenging and the most neglected. Writing is not a natural activity hence it poses problems to students even when they write in their mother tongue. In a similar development, Akinwamide (2005) posits that the process of writing in an academic environment is challenging; this becomes conspicuous as a result of the processing of what to write from the first language platform of writing, thus writing in English remains a herculean task for students who lean English as a second language.

Blended learning also known as technology mediated instruction, web-enhanced instruction or mixed- mode instruction, is an approach to education that combines online educational materials and opportunities for interaction online with physical place-based classroom methods. Blended learning allows students to progress at their own pace as it integrates a virtual and physical learning environment for students. It assists students to advance when they feel they are ready. Blended learning uses online and offline technologies to teach. It allows for quick adoption and usage of latest learning trends and modalities into the curriculum. The benefits of blended learning are innumerable. It allows different people learn different things in different ways: It helps learners to control the pace of their learning, the multiple modalities reinforces engagement, learning and retention, blended learning saves lost tools for building effective blended learning programme, LMS (Learning Management System) which allows one to create, manage and deliver learning content, webinar platform, Video software, an authoring troll and a collaborative learning platform.

According to Quigley (2023), blended learning which is also known as hybrid learning is an approach to education that combines online educational materials and opportunities for interaction online with traditional place-based classroom methods. Ashaver and Igywe (2013) opine that learning is simple by audio and visual processes than by verbal explanations of the teacher. In a similar development, Ofodu (2012) postulates that governments at all levels should pay attention to current and innovative strategies and valuable resources that will make learning engaging to the learners. There are audio instrumental strategies for aural learners which helps to stimulate and improve their mental imaginations.

Ofodu (2012) posits that teachers are required to have a repertoire of strategies that would allow them to maintain control over their classes while making learning dynamic and interactive since students learn at various speeds and in different ways. Ofodu (2012) submits that instructions can no longer remain at this level bearing in mind the current realities. According to Kiato and Kiate (1997), materials that teachers use in the classroom should appeal to all students in the class. According to Toffler (2023), the illiterate of the 21st century will not be those who cannot read and write but those who cannot learn, unlearn and relearn.

Technology has to do with the relationship that exist between society along its tools and crafts, and the extent that society can have grip of its environment. Technology is also the application of knowledge practically in a particular area or field and capability given by the practical application of knowledge. This implies that technology is systematic in its way of doing things which involve application of scientific procedures and some other well-structured means of knowledge to bring about remedies or solution to problems towards improving the society. Meanwhile, taking technology into education involves two concepts. These are technology in education and technology of education. Technology in education is the integration of technology through its application to every processes that surround and support education within institutions. This entails using technological based teaching aids like audio, visual and audio-visual aids to promote, enrich and facilitate teaching. Meanwhile, technology of education is all about pedagogy that is the methodology (Ibikunle & Dada, 2018). The feature of this is a systematic adoption or process of approach to instruction in respect to clearly stated learning objectives.

In the modern world of education, for education to thrive and achieve the intended goals, there is need for effective integration of technology into education. Technology integration is the combination of technology resources like audio and visual materials along with the practices that is technology-based into the day to day procedures, work ethic, teaching methodology and administration of school system. The technology resources is wide in concept but can be summarized as computers and every other specially developed software, internet or network-based communication gadget, and all other facilities, equipment and infrastructure that technologically driven. Meanwhile, practices aspect involve collaborative work, communication through technology medium, internet-based research, network-based transmission, retrieval of data, remote access to instrumentation, and additional approaches (National Center for Education Statistics [NCES], 2021). Technology integration should be continuous, routine and combined with efficiency and effectiveness with the capacity to give support to achievement of education goals and purposes.

On the importance of technology usage in learning, Susikaran (2014) opines that chalk and talk teaching method is not enough to teach English efficiently. Taiwo (2013) on the 21st century teacher, emphasizes that the digital revolution has become a catalyst for professionals in every discipline to engage in a rethinking of their professions and the digital/ new media is a major feature of this revolution. This medium conjures geographical boundaries and this has made it necessity for usage in our new classroom. Students' performance over the years has shown a decline over the years especially in the tertiary institution system. The problems of English language as a subject are many and range from inability to communicate fluently to ungrammatical written sentences.

Adekunle and Akinwumi (2019) submit that students produce ungrammatical sentences engage in the use of unconventional abbreviations use punctuation marks excessively, inappropriately and sometimes tail to use them where necessary. Also, Oyinloye (2014) asserts that it has been observed that students often write poor essays both at local and external examinations because they lack the imaginative powers to put words coherently clearly and logically. It is imperative to know that one cannot be doing the same thing over a period of time and expect to get a different and better result. It is observed that the language class is drab and boring.

Essay writing is an important aspect of the English Language examinations that out of the 100% allocated to English Language, 50% goes to essay writing. It therefore implies that failure in essay writing invariable leads to failure in English language as a subject. Aduradola (2015) posits that the increasingly consistent, abyssal performance and growing lack of intense of students in English Language has been alarming seeking robust and revolutionized methodology in teaching and learning. Partel (2014) asserts that technology has continued to play a major role in supporting and enhancing language learning.

1.1 Statement of the Problem

English as a subject is very vital to the understanding and appreciating educational ethics and achievements by the tertiary students. Despite all the numerous benefits accrued to the English language, the subject has not been given enough and deserved teaching and methodology attention enough as ought to have been. Overall, teaching and learning has developed from the era of blackboard and chalk to the era of technology. Despite the fact that the invention of technology is very good in the teaching and learning process of English language at all level of the studies and possess capability to improve students' performance, still there are a lot of observable limitations and barriers facing it's suitability and usefulness in tertiary institutions.

The integration of technology in the teaching of English language has so much benefits that both students and learning environment can derive from its use. The integration of technology in English language classroom helps the instructors to be more effective in the class as the material afford them the opportunity to make use of motion pictures to explain concept and ideas that are very vital in the English language class. More also, technology gives the students the opportunity to revisit the lesson of the previous lesson through playback option of technology and this enhance high level of knowledge retention.

It was however observed that despite all the benefits that can be derived from the use of integration of technology in school, its role has not been well established in teaching and learning in English writing skills among the public tertiary institutions in Ekiti State, South West Nigeria. Sequel to this background, the study there seek to investigate the dynamic of blended learning and technology supported learning strategies on tertiary students' performance in English writing.

1.2 Purpose of the Study

The major task in this study is to investigate the performance of tertiary students in English writing skills using blended learning and technology supported learning strategies. Specifically, the objectives of the study are to:

(i) Ascertain the impact of the usage of blended learning and technology supported learning strategies on tertiary students' performance in English writing.
(ii) Determine whether gender has any influence on the performance of tertiary students in English writing when taught using the concept of blended learning and technology supported learning strategies.

1.3 Research Questions

The following research questions were raised to guide the study:
1. What is the difference in the mean performance scores of tertiary students taught English writing using blended learning and technology supported learning instructional strategy in pre-test and posttest?
2. What is the difference in the mean performance scores of male and female students taught English writing using blended learning method in pre-test and posttest?
3. Is there any difference in the mean performance scores of male and female students taught English writing using technology supported learning instructional method in pre-test and posttest?

1.4 Research Hypotheses

The following null hypotheses will be formulated and tested at 0.05 level of significance.
1. There is no significant difference in the mean performance scores of students taught English writing using blended learning and technology supported learning instructional strategies in pre-test and posttest.
2. There is no significant difference in the mean performance scores of male and female students taught English writing using blended learning method and conventional teaching method.
3. There is no significant difference in the mean performance scores of male and female students taught English writing using technology supported learning instructional method and conventional teaching method.
4. There is no significant effect of blended learning and technology supported learning instructional strategy on the tertiary students' performance.

2. LITERATURE REVIEW

Blended learning approach in teaching and learning has become a matter of considerable interest to science teachers all over the world. As opposed to pure e-learning which refers to using only electronic media to learn, blended learning supplement traditional face-to-face teaching and learning environment with different kinds of technology-based instruction. Bielawaski and Metcalf (2003) report that blended learning focuses on optimizing achievement of learning objectives by applying the right learning technologies to match the right learning styles to transfer the right skills to the right person at the right time.

Yigit, Koyun, Yuskel and Cankaya (2013) also used blended learning model to optimize learning in teaching Algorithm and Programming course in Computer Engineering Education in Süleyman Demirel University Computer Engineering Department. In their comparative study, blended learning is achieved through Learning Management System (LMS) of university. Evaluation was based on students' homework, midterm and final exam grades of the students. Results of the study showed in blended learning education, education was more effective; students' achievements were better than expected in comparison to traditional education, however; algorithmic thinking abilities of students who enrolled in the Algorithm and Programming Course in blended and traditional education were close.

Zhang, Song and Burston (2011) examined the effectiveness of vocabulary learning via mobile phones and compared two groups of students at a Chinese university. While one group of students studied a selected list of vocabulary via text messages, the other group of students worked on the same list through paper material. When students' test results were compared, their findings revealed that "students can learn vocabulary more effectively in short-term via mobile phones than with paper material". Similarly, Khazaei and Dastjerdi (2011) made a comparative study on the impact of traditional and blended teaching on EFL learners' vocabulary acquisition.

The study aimed to explore the application of SMS to the blended method of teaching L2 vocabulary. Students were evaluated on their recognition and recall of vocabulary items. The results revealed that the students who received the learning content through blended teaching approach had better test results than the group of students who received the learning content in the traditional way. Based on the research findings, they confirmed "the significant supplementary role of Mobile-Assisted Language Learning (MALL) in the teaching of new vocabulary items.

There are very few empirical studies in the literature which found blended learning instruction had no impact on students' academic achievements. Alshwiah (2009) investigated the effects of a proposed blended learning strategy and analyzed students' attitudes toward the English language at Arabian Gulf University. The sample was divided into two groups: control group and experimental group. Findings indicated no significant difference between two groups regarding achievement or attitude towards English Language.

Similarly, Cheng, Shu, Liang and Hsu (2014) conducted a study to examine the effects of blended e-learning on electrical machinery performance. Participants were two classes of 11th graders majoring in electrical engineering. The participants were randomly selected and assigned to experimental group or the control group. The experiment lasted for 5 weeks. The results showed that there were no significant differences in achievement test scores between blended e-learning and traditional learning.

3. METHODOLOGY

3.1 Research Design
The study used a quasi-experimental research method to explore the relationship between variables. The quasi-experimental design for this study was the non-randomized pretest, post-test control group design which is represented diagrammatically as follows:

Experimental Group I: O_1 X_1 O_2
Experimental Group II: O_3 X_2 O_4
Control Group: O_5 C_3 O_6

Where O_1, O_3, O_5 = observation (Pretest)
O_2, O_4, O_6 = observation (Posttest)
X_1 – Treatment (Blended Learning)
X_2 – treatment (Technology Supported Learning)
C_3- treatment (Conventional Method)

The independent variables consisted of two models of instruction while the dependent variable is the academic performance.

3.2 Population and Sample
The population of this study consisted of all the public tertiary institutions in Ekiti State. The sample for the study is made up of ninety (90) students. Stratified random sampling technique was used to select the ninety (90) respondents from the three (3) sampled higher institutions in the state which comprises of Ekiti State University, Ado Ekiti; Federal Polytechnic, Ado Ekiti and Bamidele Olumilua University of Education, Science and Technology, Ikere. The higher institutions were purposively selected.

3.3 Instrumentation
The instrument used for data collection for this survey was an English Writing Skill Performance Test (EWSPT). This was due to the nature of information required and the form of analysis to be conducted. The instrument was designed and administered on the respondents in higher institutions in Ekiti State, Nigeria.

3.3 Validity and Reliability of the Instrument
The face and content validities of the instrument were ascertained by two (2) Tests and Measurement experts from College of Education, Bamidele Olumilua University of Education, Science and Technology, Ikere. A reliability index of 0.82 was obtained which is high enough, hence the instrument was adjudged to be reliable for the study.

3.4 Administration of Instrument and Method of Data Analysis
The researcher visited all the institutions under study. The sampled students in the experimental and control groups were made to write comprehension passages on a range of topics before and after they had been exposed to the treatments and their performances were graded for proper analytical report.

The research questions raised to guide the study were answered descriptively using mean and Standard Deviation while the hypotheses formulated for the study were tested using t-test of independent sample and two-way Analysis of Covariance (ANCOVA) at 0.05 level of significance.

4. RESULTS AND DATA ANALYSIS

This section presents the results of the study based on the data collected from the field to provide answers to research questions and hypotheses raised in the study.

Research Question 1
What is the difference in the mean performance scores of tertiary students taught English writing using blended learning and technology supported learning instructional strategies in pre-test and posttest?

Table 1: Responses to the difference in the mean performance scores of students taught English writing using Blended learning and technology supported method in pre-test and post test

Group		No (%)	Mean	SD
Blended learning Method	Pretest	30 (50.0)	9.01	3.007
Technology supported Method		30 (50.0)	10.11	3.258
Blended learning Method	Post test	30 (50.0)	24.10	4.227
Technology supported Method		30 (50.0)	23.87	5.109

Table 1 revealed the mean and standard deviation of the pre-test and post-test mean performance scores of students taught English writing using blended learning and technology supported strategy. It was shown that the pre-test score of students taught using blended learning method has a mean of (9.01) and standard deviation of (3.007). Also, the pre-test score of students taught using technology supported method has a mean of (10.11) and standard deviation of (3.258). This clearly showed that the mean difference of the two experimental groups was (1.10). This established the homogeneity of the groups.

It was further shown that the post-test score of students taught using blended learning method has a mean of (24.10) and standard deviation of (4.227). Also, the post-test score of students taught using technology supported method has a mean of (23.87) and standard deviation of (5.109). This evidently showed that the mean difference of the two experimental groups was (0.23). This implies that the average mean scores of tertiary English writing students taught using Blended learning method was higher than those taught using individualistic method, albeit marginal.

Research Question 2

What is the difference in the mean performance scores of male and female students taught English writing using blended learning method in pre-test and posttest?

Table 2: Responses to the difference in the mean performance score of male and female students taught English writing using Blended learning method in pre-test and posttest

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Blended learning Method (Pre-test)	Male	10	6.32	1.002	.487
	Female	20	7.08	3.874	.711
Blended learning Method (Post-test)	Male	10	17.32	2.779	.029
	Female	20	19.22	1.348	.634

Table 2 showed the mean performance score of male and female students taught English writing using Blended learning method in both pretest and posttest. The result revealed that female students in the pre-test had higher mean performance score (7.08) than male students with mean of (6.32) with mean difference of marginal (0.76). Also, in the post-test, female students had higher mean performance score (19.22) than their male counterparts with mean of (17.32) with mean difference of (1.90). This relatively implies that the performance of female students taught using Blended learning method was higher than those of the male students equally taught using Blended learning method in both pretest and posttest.

Research Question 3

What is the difference in the mean performance scores of male and female students taught English writing using technology supported learning instructional method in pre-test and posttest?

Table 3: Responses to the difference in the mean performance score of male and female students taught English writing using technology supported method in pre-test and posttest

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Technology supported Method (Pre-test)	Male	15	9.30	3.008	.410
	Female	15	7.71	2.743	.403
Technology supported Method (Post-test)	Male	15	18.02	5.221	.587
	Female	15	17.86	1.975	.617

Table 3 showed the mean performance score of male and female students taught English writing using technology supported method in both pretest and posttest. The result revealed that male students in the pre-test has higher mean performance score (9.30) than female students with mean of (7.71) with mean difference of (1.59). Also, in the post-test, male students equally had higher mean performance score (18.02) than their female counterparts with mean of (17.86) with mean

difference of marginal (0.16).

This relatively implies that the performance of male students taught using Technology supported method was higher than those of the female students equally taught using Technology supported method in both pretest and posttest.

4.1 Testing of Hypotheses

Hypothesis 1
There is no significant difference in the mean performance scores of students taught English writing using blended learning and technology supported learning instructional strategies in pre-test and posttest.

Table 4a: Student's t-test analysis of difference in the mean performance scores of students taught English writing concepts using blended learning and technology supported strategy in the pre-test

Method	N	Mean	SD	df	$t_{(cal)}$	$t_{(tab)}$	Decision
Blended learning	30	9.01	3.007	58	0.833	1.98	NS
Technology supported	30	10.11	3.258				

P<0.05 level of significance   *S = Significant*

From table 4a, the mean score of the students taught English writing concepts using Blended learning method (9.01) is less than the mean score of the students taught the same concept using technology supported method (10.11) with a mean difference of (1.10). The measure of variability (standard deviation) has a difference of (0.251). The t-test analysis shows that the calculated value (0.833) is less than the table value (1.98) at 0.05 level of significance. This implies that there is no significant difference in the mean score of the pre-test scores of English writing students taught using blended learning and technology supported strategy. Hence, the null hypothesis is upheld. This implies that there was no difference in the previous knowledge of the students taught English writing using blended learning and technology supported method on the areas of English writing where they were tested.

Table 4b: Student's t-test analysis of difference in the mean performance scores of students taught English writing concepts using blended learning and technology supported strategy in the post-test

Method	N	Mean	SD	df	$t_{(cal)}$	$t_{(tab)}$	Decision
Blended learning	30	24.10	4.227	58	4.271	1.98	S
Technology supported	30	23.87	5.109				

P<0.05 level of significance   *S = Significant*

From table 4b , the mean score performance of the students taught English writing concept using Blended learning method (24.10) is more than the mean score of the students taught using technology supported method (23.87) with a mean difference of (0.23).

The measure of variability (standard deviation) has a difference of (0.882). The t-test analysis shows that the calculated value (4.271) is higher than the table value (1.98) at 0.05 level of significance. This implies that there is significant difference between the mean performance scores of English writing students taught English writing using blended learning and technology supported strategy. Since students taught using blended learning method had higher mean score rating than those exposed to technology supported method, then students in Blended learning group performed significantly better than the counterparts in technology supported group, albeit marginal. Hence, the null hypothesis is not upheld.

Hypothesis 2

There is no significant difference in the mean performance scores of male and female students taught English writing using blended learning method and conventional teaching method.

Table 5: Student's t-test analysis of difference in the mean performance scores of male and female students taught English writing concepts using Blended learning strategy and conventional teaching method

Group	N	Mean	SD	df	$t_{(cal)}$	$t_{(tab)}$	Decision
Male	30	17.32	2.779				
Female	30	19.22	1.348	58	3.761	1.98	S

P<0.05 level of significance   *S = Significant*

From table 5, the mean performance scores of the male students (17.32) is less than the mean score of the female students (19.22) with a mean difference of (1.90). The measure of variability (standard deviation) has a difference of (1.431). The t-test analysis shows that the calculated value (3.761) is higher than the table value (1.98) at 0.05 level of significance.

This implies that there is a significant difference between the mean performance scores of male and female students taught English writing using Blended learning method conventional teaching method. Since female students had higher mean performance score, it implies that female students outperformed their male counterparts when exposed to Blended learning strategy conventional teaching method. Hence, the null hypothesis is not upheld.

Hypothesis 3

There is no significant difference in the mean performance scores of male and female students taught English writing using technology supported learning instructional method and conventional teaching method.

Table 6: Student's t-test analysis of difference in the mean performance scores of male and female students taught English writing using technology supported strategy and conventional teaching method

Group	N	Mean	SD	df	$t_{(cal)}$	$t_{(tab)}$	Decision
Male	30	18.02	5.221				
Female	30	17.86	1.975	58	1.371	1.98	NS

P<0.05 level of significance   *NS = Not Significant*

From table 6, the mean performance scores of the male students (18.02) is higher than the mean score of the female students (17.86) with a mean difference of marginal (0.16). The measure of variability (standard deviation) has a difference of (3.246). The t-test analysis shows that the calculated value (1.371) is less than the table value (1.98) at 0.05 level of significance. This implies that there is no significant difference between the mean performance scores of male and female students taught English writing using technology supported method. Hence, the null hypothesis is upheld.

Hypothesis 4

There is no significant effect of blended learning and technology supported learning instructional strategies on tertiary students' performance in retention test.

Table 7: A two-way Analysis of Covariance (ANCOVA) summary of treatment effect in experimental and control groups in the posttest

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	3108.590[a]	2	1554.295	4.605	.013	.096	9.209	.766
Intercept	12995.600	1	12995.600	38.501	.000	.307	38.501	1.000
Pretest	1786.090	1	1786.090	5.291	.024	.057	5.291	.624
Group	1182.412	1	1182.412	.003	.025	.039	3.503	.457
Error	29366.133	87	337.542					
Total	413375.00	90						
Corrected Total	32474.722	89						

a. R Squared = .096 (Adjusted R Squared = .075)
b. Computed using alpha = .05

Table 7 showed the effect of blended learning, technology supported learning and conventional strategies on tertiary students' performance in retention test. A Levene test was used to analyze the homogeneity of the variances. As a result of the analysis, it was found that the variances for the students' performance are homogeneous (F=0.457, p>0.05). Based on this result, a two-way ANCOVA was conducted. It was found that there were significant effect between the performance of students exposed to blended learning, technology supported learning and conventional strategies after treatment F(1, 87) = 0.003, p = 0.025, partial η^2 = 0.039.

Since 0.025 is less than 0.05 (at the 95% level of confidence) obtained for students in both experimental and control groups involved in the study was significant at 0.05 level of significance, this implies that there is a statistically significant two-way interaction effect. This indicated that there was a significant effect between the performance of tertiary students in the experimental and control groups. Hence, the null hypothesis was rejected.

In order to determine the sources of significant difference, Scheffe Post-Hoc test was applied. The result is shown in Table 8.

Table 8: Scheffe Post-Hoc Analysis of post-test Mean Scores of Experimental and Control Groups.

Group	Control	Blended learning	Technology supported	Mean	N
Control	0.684	-5.633*	-6.867*	27.78	30
Blended learning	5.633*	0.684	-1.233*	33.42	30
Technology supported	6.867*	1.233	0.684	34.65	30

Table 8 shows that there was a significant difference between the retention (post-test) mean scores of students exposed to blended learning strategy and those in the control group in favour of blended learning. Similarly, there was significant difference between the retention mean scores of students exposed to technology supported strategy and those in control group in favour of technology supported. There is also a significant difference between the mean scores of students exposed to technology supported strategy and blended learning strategy in favour of blended learning. Hence, it must be noted that there was significant difference between the retention mean scores of students in the experimental and control groups.

5. DISCUSSION OF FINDINGS

The descriptive analysis of the study showed homogeneity among the groups of students taught using Blended learning, Technology supported and conventional strategy of teaching at the pre-test stage. It was also revealed that during the post-test stage, the tertiary students taught English writing using Blended learning method was higher than those taught using conventional method. This corroborated the findings of Zhang, Song and Burston (2011) who examined the effectiveness of vocabulary learning via mobile phones and compared two groups of students at a Chinese university. When students' test results were compared, their findings revealed that "students can learn vocabulary more effectively in short-term via technology enhanced devices than with conventional material".

Also, the study revealed that the tertiary students taught English writing using Technology supported method has higher mean score than those taught using conventional method. This supported the position of Taiwo (2013) who on the 21st century teacher, emphasizes that the digital revolution has become a catalyst for professionals in every discipline to engage in a rethinking of their professions and the digital/ new media is a major feature of this revolution. The study further revealed that there was significant difference between the mean performance scores of male and female students taught English writing using Blended learning method.

Since female students had higher mean performance, it implies that female students outperformed their male counterpart when been exposed to Blended learning strategy. Penultimate, it was further found that there was no significant difference between the mean performance scores of male and female students taught English writing using technology supported method.

Lastly, it was revealed that there was significant effect of blended learning, technology supported and conventional methods on the tertiary students' learning outcomes in post-test. A Scheffe Post-Hoc Analysis of post-test mean scores shows that there was significant difference between the retention (post-posttest) mean scores of students exposed to blended learning strategy and those in the control group in favour of blended learning. Similarly, there was a significant difference between the retention mean scores of students exposed to technology supported strategy and those in control group in favour of technology supported.

There is also a significant difference between the mean scores of students exposed to technology supported strategy and blended learning strategy in favour of blended learning. Hence, it must be noted that there was significant difference between the retention mean scores of students in the experimental and control groups. The findings of the study was however at variance with the finding of Alshwiah (2009) who investigated the effects of a proposed blended learning strategy and analyzed students' attitudes toward the English language. Findings indicated no significant difference between two groups regarding achievement or attitude towards English Language.

6. CONCLUSION

Based on the findings of this study, it is evident that students that were exposed to blended learning instructional strategy significantly outperformed their counterparts who were exposed to technology supported method strategy and those taught using conventional method of teaching. Also, the study concluded that students who were exposed to technology supported method performed significantly higher than those taught using conventional method. Also, the study concludes that significant difference existed in gender performance with respect to the two strategies employed in the experimental group. While female students outperformed their male counterpart when been exposed to blended learning strategy, no significant difference existed when they were exposed to technology supported method. Lastly, the study concludes that there was significant effect of blended learning, technology supported and conventional methods on the tertiary students' learning outcomes in post-test.

7. RECOMMENDATIONS

The following recommendations are therefore given to be positively considered. Blended learning and technology supported learning strategy should be incorporated into the teaching of English writing at the tertiary level since it stimulate students to effectively learn and retain the concepts presented to them. Lecturers should make adequate use of teaching facilities for effective transfer of knowledge in teaching English writing.

The conventional method commonly used in teaching English writing should be modified and improved upon by making lessons technology and activity-based. In addition, the government, in conjunction with curriculum developers, the federal and state government; other professional bodies like National Universities Commission should create resource centers that can sensitize other stakeholders in the educational sector on the efficacy of blended learning and technology supported learning approach.

REFERENCES

Adekunle, O. O. & Akinwumi, R. J. M. (2019, June) *Impact of text messaging on the writing skills of teacher trainees in Federal College of Education Abeokuta*. In a book of abstracts of the 14thAnnual National Conference of Association of teachers and researchers in English as a second language (NATRESL) 25th – 28th June at Federal University of Technology, Akure

Aduradola, R. R. Thompson, O. O & Adebiyi, A. A. (2015). Impact of visual media technology as instructional aid on learning at tertiary level. *Journal for teaching of English and communication skills,* (12), 25 – 36.

Akinwamide T. K. (2015) The resultant import of Brainstorming on content Relevance and Logical Organization in the Writing Task of Second Language Learners. *The Journal of Curriculum Studies, Faculty of Education, Ekiti State University, Ado- Ekiti, Nigeria. 10 (11) 213-220.*

Alshwiah, A. A. S. (2009). The effects of a blended learning strategy in teaching vocabulary on premedical students' achievement, satisfaction and attitude toward English language (Published master thesis). Arabian Gulf University, Bahrain.

Ashaver D and Igywe M (2013). The uses of auto-visual materials in the teaching and learning process in college of Education in Benue state Nigeria. Josk Journal of Research and Method of Education 1(16): 44 – 45. Retrived May 10th, 2023. wwwmeser.org

Bielawaski, L. & Metcalf, D. (2003). Blended e-learning: Integrating knowledge, performance support, and online learning. Amherst, MA: HRDPress.

Cheng, C., Shu, K., Liang, C., Tseng, J., & Hsu, Y. (2014). Is blended e-learning as measured by an achievement test and self- assessment betterthan traditional classroom learning for vocational high school students? IRRODL, 15 (2)

Khazaei, S., Dastjerdi, H.V. (2011). An Investigation into the Impact of Traditional vs. Blended Teaching on EFL Learners' Vocabulary Acquisition: M-learning in Focus. *International Journal of Humanities and Social Science, 1*(15), 202-20 Lagos.

Obadare F. T. (2021) Effects of journals writing, portfolio assessment and prompt cards strategies on junior secondary school students' essay writing performance in Ekiti-Sate. A PHD thesis submitted to the department of arts and language education, faculty of education, Ekiti-State University, Ado-Ekiti, Nigeria.

Ofodu, G. O. (2012). Instructional strategies and resource utility in language teaching among basic educators in 21st century Nigeria. *English Language Teaching Today,* 5(5), 79 – 84.

Oladeji A. O & Taiwo M. B (2020) Examination of the use of English Curriculum in colleges of education and its implementation in Southwest Nigeria for sustainable development

Osa-Omoregie, D. O. (2019, September). *Enhancing composition writing in large classrooms using the task-based learning method.* A Paper Presented at the Annual International Conference of Language Educators at OAU Ile-Ife. 15th – 20th.

Oyinloye, G. O. (2014, April). *Writing: Nature and processes.* A Paper Presented at the Reading Association of Nigeria Workshop Held in Ekiti State University Ado Ekiti between 2nd and 3rd.

Ozuwuba A. U. (2018) Relationship between English proficiency and academic achievements of Nigeria secondary school students

Patel D.S 2014 Technology enhances language learning Tell in language classes internet

Quigley E. 2023 what is blended learning www.learnupon.com retrieved 11[h] May, 2023

Susikaran, R.S.A. (2014). The use of Multimedia in English Language Teaching.

Taiwo R. (2013) language Teaching and the 21st century Teacher competences Journal for teaching (10): 1, 1-8

Toffler A. (2023) Alvin Toffler Quotes https://www.goodreads.com, Retrieved 11[h] May, 2023

Yigit, T., Koyun, A., Yuksel, A. & Cankaya, I. (2013).Evaluation of Blended Learning Approach in Computer Engineering Education.Procedia- Social and Behavioral Sciences 141,807 – 812.

Zhang, H., Song, W., &Burston, J. (2011).Re-examining the effectiveness of vocabulary learning via mobile phones. *The Turkish Online Journal of Educational Technology, 10*(3), 203–214.