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Effect Glogster on Students' Academic Achievement in Selected Basic Technology Concepts in Ilorin Metropolis

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ABSTRACTS

This study examined the Effect of Glogster on students' Academic Achievement in Selected Basic Technology Concepts in Ilorin Metropolis. The study adopted a quasi-experimental type, of pre-test, post-test, non-randomized, control group design. The design is a 2 x 2 factorial design. The sample for the study comprised of 24 males and 20 females (44) students selected from JSS II classes of selected two schools. School A was assigned as the experimental group, while School B was the control group. The purposive sampling technique was used to select intact classes used for the study. Four research questions were raised and answered, while two research hypotheses were formulated and tested. Descriptive and Inferential statistics were used to answer the research question and test the stated hypotheses with the aid of statistical product and service solution (SPSS) version 20.0 at a 0.05 level of significance. The findings indicated that there was no significant difference in the mean scores' performance of male and female students that were exposed to Glogster and there was no significant difference between male and female students' attitudes towards the use of Glogster for learning. The study concluded that learning can be enhanced among secondary school' students if appropriate technology like Glogster is deployed for learning. Therefore, it was recommended that secondary school students be encouraged to deploy Glogster for learning irrespective of their gender.

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1. INTRODUCTION

Education is a very socially oriented activity and quality education has traditionally been associated with strong teachers having high degrees of personal contact with learners, the advent of ICT and its rapid growth has increased the quality of education as students can learn anytime and anywhere with or without a teacher, students can also interact with other students. With the world moving rapidly into digital media and information, the role of ICT in education is becoming more and more important. The role of ICT for classroom instruction has rapidly become one of the most important and widely discussed issues in contemporary education policy (Aduwa- Ogbiegbaen and Iyamu, 2005). Most experts in the field of education agreed that, when properly used, ICT holds great promise to improve classroom instruction in addition to shaping workforce opportunities. Aduwa- Ogbiegbaen and Iyamu, (2005) Indicated that computer illiteracy is now regarded as the new illiteracy. This has gingered a new and strong desire to equip schools with computer facilities and qualified personnel necessary to produce technologically proficient and efficient students in developed countries of the world. There is no doubt that computers can aid the instructional process and facilitate students' learning. Many studies have found positive effects associated with technology-aided instructions in Nigeria (Aduwa- Ogbiegbaen and Iyamu, 2005).

The teaching and learning with Information and Communication Technologies in the Nigerian institutions in the 21st century most importantly have developed within the framework of theory and practice. In this technological age, the effective means of communication in classroom instruction requires the use of communication technologies. The illiterate of the 21st century, will not be those who cannot read and write, but those who cannot learn, unlearn and relearn Taylor and O'Reilly (2021). The above statement pointed out the relevance of the ICT revolution in 21st-century education. Choudhary and Choudhary, (2013). argued that there are four basic issues in the use of ICT in education in the 21st century. They are effectiveness, cost, equality, and sustainability. They pointed out that in recent years there has been an upsurge of interest in how ICTs most importantly computers and the internet can best be harnessed to improve the efficiency and effectiveness of education at all levels and in both formal and nonformal settings Choudhary and Choudhary, (2013). Rather than focusing on content contained in a specifically chosen textbook, students can now gather content through their research. Rather than working in isolation to find answers within the pages of an assigned book, students can now work collaboratively with classmates and even with others around the world through the advances in using appropriate technological tools. In the past, too often, students did not connect what they had learned in one subject with another. 21st century education curriculum is integrated and interdisciplinary. Literature, math, science, and writing for example can all be interwoven. 20th-century education focused on literacy in reading, writing, and mathematics. Multiple literacies such as media, computers, digital, information and technology are recognized in 21st-century learning. Assessment transitioned from the teacher judging the accuracy of the work produced by students to more authentic forms of assessments. These include self-assessments, assessments by peers, and even assessments by a public audience in some cases.

The most significant aspect of the National Policy on Education (the Federal Republic of Nigeria, 2004) is the focus it gives to the Nigerian educational system, the need for the Industrialization of the nation in which technical education plays crucial roles and the realization to change from white-collar job-oriented educational system to science and

technology-oriented educational system which prepares individuals to be self-reliant and useful to the society, informed the Federal Government to emphasize technical education.

The sudden outbreak of COVID-19 in 2020 all over the world made online learning more popular and relevant. As part of responses by the Nigerian government to curb the spread of the COVID-19 pandemic, schools were closed across the country and various measures were put in place to ensure that children/students continued to learn despite the closure of schools. Among the various interventions to ensure continuous learning of students despite the closure of schools is teaching via various online platforms [Dhawan, \(2020\)](#). Online learning has the potential to improve learning outcomes by replacing lecture time with the group and individual work that engages students more actively in learning, enabling greater motivation and deeper learning ([Twigg-Flesner, 2018](#)). These activities include online discussions, continuous assessments with immediate feedback, and increased computer lab hours where students can get one-on-one support based on the work they have done from the simulations and visualizations that make challenging abstract demonstrated advantages of online learning. Teachers usually adopt the online form of instruction delivery to support the learning of students with disabilities and gifted students, to enable flexible scheduling, to reduce the cost of traditional learning, to provide rich feedback and communication about students' performance, and to motivate students to learn on their own.

Online learning platforms include Edmodo, Google classroom/ meet, Udemy, Docebo, Turner room, Glogster among others. Online learning supports learning by making teaching and learning fun for teachers and students, students can interact with other students all over the world. It encourages creativity and continuous learning. Students complete the course at their own pace and at a time they find convenient ([Lin and Gao, 2020](#)). With the advent of online learning, education is easier to access than ever. Glogster is a Web 2.0 platform that allows users to create interactive online posters called Glogs, by adding images, videos, auditors, and text. It is a cloud-based platform for creating presentations and interactive learning. As a learner-centered tool, it supports student's knowledge building by allowing them to construct their meaning of the content. It is an online platform that supports culturally responsive practices since students can use this tool to show what they know and can do, share their passions and interests, and reveal what they care about. Students can use Glogster as a way to build upon their knowledge and present their learning. Learners enjoy making their meaning and showcasing it to others in an interactive, online poster. Its format promotes the construction of new knowledge while balancing mastery of skills and the use of multimedia and web resources.

There has been considerable scholarly interest in issues related to gender and the online classroom. Some evidence suggests that male and female students experience the online environment differently. [Al-Azawei et al., \(2017\)](#) investigated how gender difference affects online participation and the results show that engagement is a highly individual and complex activity, irrespective of any gender. [Fadilah et al., \(2020\)](#) has shown that variations in satisfaction levels can be due to gender differences. Other studies have found that gender differences exist in perceived playfulness regarding the level of technology acceptance of a blended learning system among student users. Descriptive studies have also shown that gender differences exist in terms of communication patterns among the students in mixed eLearning and traditional teaching environments.

In general, scholars agree that male students tend to be more autonomous and independent, however, female students tend to seek relationships and connectedness. Females show more involvement in communication as they tend to treat computers as social media. The level of involvement may affect the process of information integration, and thus

gender behavioral differences in interaction may have different impacts on learning satisfaction. Furthermore, self-efficacy can also vary between males and females. For instance, Lee et al., (2016). Time revealed that men possess a higher tendency to use new media. Besides, the gender gap also exists in technology, evaluation, and capitalization. Students' attitudes are an important predictor of the usage and implementation of technology (Rodgers and Chen, 2002). Krech and Crutchfield (1948) defined attitudes "as an enduring organization of motivational, emotional, perceptual, and cognitive processes with respect to some aspect of the individual's world" (p. 152). These definitions emphasized the enduring nature of attitudes and their close relationship to individuals' behavior. Some sociologists and psychologists defined attitudes simply in terms of the probability that a person will show a specified behavior in a specified situation. Allport (1933) defined an attitude as "a mental and neural state of readiness, organized through experience, exerting a directive and dynamic influence upon the individual's response to all objects and situations with which it is related" (p. 810).

Studies have revealed that acceptance of Glogster depends on the attitude of students and the instructors towards it Adeoye, (2013). Various studies have attempted to investigate learners' attitudes toward the use of blogs in higher education (Coutinho, 2007; Ellison and Wu, 2008; Halic et al., 2010; William and Jacobs, 2004). William and Jacobs, (2004) reported that a majority of MBA students at the Harvard Law School and Queensland University of Technology indicated a positive attitude toward the use of blogs in teaching and believed that the use of blogs contributed to their learning. Teachers and pre-service teachers also show a positive attitude toward the use of blogs in teaching and learning. Yang (2009) found that Taiwanese English as Foreign Language (EFL) teachers appreciated the use of blogs for promoting critical thinking skills, reporting that the use of blogs for discussion was more effective than a face-to-face discussion. Coutinho (2007) obtained similar results. Investigates the effect of weblog integrated writing instruction on students writing performance.

Also, students' perceptions toward weblog used in their writing courses have been examined seventy undergraduate students in the Department of Primary Education at Marmara University participated in this study. Data were collected through students, written products, and weblog perception questionnaires. The finding indicated that blog integrated writing instruction improved the writing performance of students. Moreover, students had a favorable perception of weblog use. Halic et al., (2010) found that the majority of the participants believed that blogs created a sense of community, which in turn enhanced their learning. Ellison and Wu, (2008) conducted a study that investigated students' attitudes toward blogging in the classroom and its effect on comprehension. The results of the study indicated that the majority of the participants showed positive attitudes toward blogging. They reported that reading others' blogs contributed to a better understanding of the course content. Undergraduate students writing blogs during their internship perceived blogging as a knowledge-sharing space positively.

Based on the premise that attitude determines behaviors and on the work of Everett Rogers in Abimbade (2011), suggested that attitude towards Glogster is determined by three factors: the prior educational condition, characteristics of students, and perceived characteristics of the blog. Students will then act in accordance with their attitude towards educational Glogster. Adedoye, et al., (2013) noted that the acceptance of Glogster depends on the attitude of students and the instructors towards it various studies attempted to investigate learners' attitudes toward the use of Glogster in higher education (Coutinho, 2007; Ellison and Wu, 2008; Halic et al., 2010; William and Jacobs, 2004). William and Jacobs,

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The 21st-century philosophy of teaching and learning is “child-centered” as such; Technology is deployed to complement the teacher whose role is that of a ‘guide on the side, not a sage on the stage’ as it was in the traditional method of teaching. However, Okure and concluded that most teachers in Nigeria are used to the traditional (chalk-talk) method of teaching which renders students passive listeners and makes teaching ineffective, consequently affecting the students’ performance in Basic Technology especially. On the other hand, the state of knowledge explosion with increasing specialization, increase in student-teacher ratio and increase in the workload of teachers, classroom instruction alone does not in most cases bring out the desired goals from the teaching and learning process, this causes some drawbacks in students’ performance in basic technology. Again the situation in most classrooms in Nigeria is the prevalence of authoritarian and didactic approaches to teaching/learning which do not prepare students for 21st-century challenges, with these approaches the will not be realized. These outmoded and didactic approaches have only resulted in students’ poor academic performances in Basic Technology and other subjects in external examinations.

An investigation carried out to find out the average performance of JSS students that offered Basic Technology in Junior Secondary School Certificate Examination (JSCE) in Ilorin from 2016-2018 academic sessions indicated very poor performance. These indicate that students performed very badly indeed and raised serious cause for concern considering the huge resources expended by governments at different levels to improve the standard of education in Nigeria as a whole and Ilorin in particular. The critical importance of basic technology to the development of science and technology in Nigeria and Ilorin, in particular, makes it necessary to explore available strategies to improve teaching and learn of basic technology. Since learning can be contextualized, an online learning platform may be the medium to facilitate students' better learning of Basic Technology. Hence this study examined the effect of Glogster on students’ academic performance in Basic Technology in Ilorin.

The main purpose of this study is to determine the effect of Glogster on students’ academic performance in Basic Technology in Ilorin. The study will specifically:

- (i) Examined the difference between the achievement of Junior secondary school student taught selected Basic Technology concepts using Glogster and those taught with the conventional method.
- (ii) Examined gender influence on the achievement of Junior secondary school Student taught selected Basic technology concepts using Glogster.
- (iii) Examined gender influence on the Junior secondary school Student attitude towards the use of Glogster.

The following hypotheses were formulated to guide the study:

- (i) H_{01} : there is no significant difference between the achievement of Junior secondary school students taught selected Basic Technology concepts using Glogster and those taught with the conventional method.

- (ii) Ho₂: There is no significant difference in the attitude of male and female students towards the use of Glogster.
- (iii) Ho₃: There is no significant difference in the achievement of Junior secondary school Students who taught selected Basic Technology concepts using Glogster based on gender.

2. METHODS

2.1. Methodology

This study is a quasi-experimental type, of pre-test, post-test, non-randomized, control group design. The design is a 2 x 2 factorial design. This paradigm represents two levels of treatment; the students taught using the traditional method (experimental group1) and the students taught using Glogster (experimental group2); and two levels of gender (male and female).

2.2. Population, Sample and Sampling Techniques

The target population of this research is the second-year junior secondary school (JSS 2) Basic technology students in Ilorin. The nature of the study, however, requires that the research sample was purposively selected. This is because research on Glogster (an Online learning platform) must necessarily be conducted in schools where computers and internet connections are available for students' use and where students are computer literate. This is why a standard private secondary school in Ilorin is purposely sampled for the study. A private secondary school in Ilorin is selected as the experimental group while a public secondary school is sampled as the control group, as the school is believed to be less equivalent in standard to the school used for the experimental group. The sample for the experimental group is made up of 20 students, this comprises 7 male students and 13 female students while the control group is made up of 20 male students and 25 female students. In all, 65 students (respondents) participated in this study.

2.3. Research Instruments

The instruments for this research were the Treatment instrument "Glogster" and the test instruments which include the Basic Technology (BT) performance test and questionnaire. The BT performance test was used to measure the pre-test and post-test. Finally, the questionnaire investigated the participants' perception and reaction towards the use of Glogster.

2.4. Validation of Research Instruments

Validity explains how well the collected data covers the actual area of investigation. Validity means "measure what's intended to be measured". The instrument was validated for face and content validity by the researcher's supervisor and three other lecturers within the Department of Educational Technology, University of Ilorin, Ilorin, Nigeria. Following the lecturers' validation reports, some items of the research instrument were corrected, adjusted, and modified as directed to reinforce the validity. Reliability concerns the extent to which a measurement of a phenomenon provides a stable and consistent result. Reliability is additionally concerned with repeatability. For example, a scale or test is claimed to be reliable if repeat measurement made under constant conditions will give the same result. A pilot study was administered from a specific secondary school in Oyo State for the reliability of the research instrument. The research instrument was reliable at 0.84 for items on the

achievement test, 0.76 on the attitudinal questionnaire at 0.05 level of significance, using Cronbach Alpha SPSS statistical tool.

2.5. Procedure for Data Collection

We obtained a letter of introduction from the Head of Department, Department of Educational Technology, University of Ilorin, and was taken to the sampled schools to seek permission from relevant authorities before the commencement of the exercise. The treatment lasted for one week at the rate of two contact hours of integrated instruction. All groups (experimental and control groups) were subjected to the BT performance test as the pre-test. Then, the students in the experimental group were exposed to Glogster which had been installed on desktop computers and mobile phones using web browsers (explorer or chrome). Experimental group learners learned using the Glogster procedures which involve using computers and mobile phones to incorporate music, pictures, visual effects, word choice, font, and the design they like. Participants were oriented to use a variety of authentic tasks. The experimental group participants learned how to create and use a Glogster (online poster). Participants were able to convey the powerful tools of technology that help students express freely and creatively opinions. Participants used a Glogster assessment rubric to critique their products. Participants were taught how to create a Glogster account amusing google.com.

Participants were given directions to create a new Glog. Participants were guided to create and name a new Glog. They were encouraged to select Glog templates, such as Glog Project. They were instructed to click "images" to upload an image from their computer. Participants were asked to add text boxes by clicking "Tools" and selecting "Text"; they were able to edit the text inside the text box and place the text box where they desire. Using Glogster, participants were able to upload videos to use them to express themselves better. The Glogster project could be comprehensive enough to help improve the participation of the participants for it could include the image, graphics, text, videos, and music. The control group students were exposed to the conventional/traditional teaching method on the same content used for experimental groups. They were taught using a conventional classroom format. The classroom contained a chalkboard, charts, and real objects which served as instructional materials for the instruction. After the treatment, the two groups were exposed to the BT performance test which had been re-arranged as a posttest, and a questionnaire was used to investigate the students' perception. The researcher sought the content of all the respondents, and they have the right to withdraw from the study at any time. Data collected were treated with utmost confidentiality and anonymity.

2.6. Data Analysis Techniques

The analysis and interpretation of data obtained from the test items and questionnaire were carried out using descriptive and inferential statistics. Mean and standard deviation was used to answer the research questions. The questionnaire items were ranked 4 for Strongly Agree, 3 for Agree, 2 for Disagree, and 1 for Strongly Disagree for questionnaire items that were positively worded and vice versa for items that were negatively worded. For hypotheses testing the following statistical tools were used with the aid of Statistics Package for Social Science (SPSS) version 20.0. Analysis of covariance (ANCOVA) statistical technique was used to test research hypotheses 1 while independent t-test was used to test hypotheses 2 and 3. All hypotheses were tested at a 0.05 level of significance.

3. RESULTS AND DISCUSSION

3.1. Research question one: Is there any difference in the achievement of junior secondary school students taught selected basic technology concepts using Glogster and those taught with the conventional method?

Table 1 shows that there was an improvement in the post-test scores of the two groups, but the experimental group had a higher mean gain score. For instance, students taught the conventional method had a mean gain score of 0.02 while students taught using Glogster had a mean gain score of 0.82. This implies that there was a difference in the achievement of the two groups where the experimental group performed slightly better than the control group. This indicated that the experimental group benefited from the treatment instrument.

3.2. Research question two: What is the influence of male and female students on the achievement of Junior secondary school students taught selected Basic technology concepts using Glogster?

Table 2, indicated both male and female students exposed to Glogster had a mean gain score of 1.12 and 0.06 respectively. This implies that the treatment improved the achievement of the students exposed to Glogster irrespective of gender. However, the male students had a better mean gain score than females students.

3.3. Research question three: What is the gender influence on the Junior secondary school student attitude towards the use of Glogster?

From **Table 3**, it can be deduced that both male and female students exposed to Glogster had mean scores of 13.73 and 10.12 respectively. This shows that there was a difference in the attitude of male and female students exposed to Glogster.

3.4. Hypotheses Testing

3.4.1. Hypothesis one: there is no significant difference between the achievement of Junior secondary school students taught selected basic Technology concepts using Glogster and those taught with the conventional method

To determine whether there was a significant difference in the post-test mean scores of students in the experimental and control group Analysis of Covariance using the pretest as a covariate was done and the result is as shown in **Table 4**.

An examination of **Table 4** revealed that $F(1, 57) = 1.382$, $p > 0.05$ was not significant. The results revealed the supplementary instructional tool (Glogster) produced no significant effect on the post-test achievement scores of students when covariate effect (pre-test) was controlled. Hence, hypothesis one was not rejected. Therefore, there was no significant difference between the achievement of students taught selected Basic technology concepts using Glogster and those that were taught with the convention lecture method.

3.4.2. Hypothesis two: There is no significant difference in the attitude of male and female students towards the use of Glogster.

To determine whether there was a significant difference in the attitude of students towards the use of Glogster, the null hypothesis was tested by using a t-test as shown in **Table 5**.

From **Table 5**, it can be deduced that there was no significant difference between male and female attitudes towards the use of Glogster. This is reflected in the result: $t(42) = 0.00$, $p > 0.05$. Thus, the hypothesis was not rejected. By implication, the stated null hypothesis was

established thus: There is no significant difference in the attitude of students toward the use of Glogster based on gender.

Table 1. Mean achievement scores of male and female students taught Glogster.

Groups	N	Pretest mean	Posttest mean	Mean gain source
Experimental group	44	10.45	9.63	0.82
Control group	30	8.26	8.20	0.06

Table 2. Mean achievement scores of male and female students taught Glogster.

Treatment	Gender	N	Pretest mean	Posttest mean	Mean gain score
Glogster	Male	24	8.38	9.50	1.12
	Female	20	9.79	9.85	0.06

Table 3. Mean scores on attitude of male and female students exposed to Glogster.

Gender	N	Mean	Standard deviation
Male	24	13.73	3.48
Female	20	10.12	1.62

Table 4. ANCOVA result of the mean achievement scores of experimental and control groups.

Source	Type III sum of squares	Df	Mean square	F	Sig
Corrected model	282.126a	2	14.063	2.098	.132
Intercept	279.783	1	279.783	41.741	.000
Main effect (treatment)	9.265	1	9.265	1.382	.245
Pretest	17.709	1	17.709	2.642	.110
Error	382.058	57	6.703		
Total	4865.000.	60			
Corrected total	410.183	59			

3.3.3. Hypothesis three: There is no significant difference in the achievement of Junior secondary school students who taught selected Basic Technology concepts using Glogster based on gender.

An examination of **Table 6** revealed that an $F(1, 27) = 2.053, p > 0.05$ was not significant. The results revealed that there was no significant difference in the achievement of Junior secondary school Students who taught selected Basic Technology concepts using Glogster based on gender. Hence, hypothesis two was not rejected.

The result of the analysis of the performance scores of students at pretest and posttest (before and after exposure to Glogster) was examined with research question 2 and hypothesis 1. The result of the ANCOVA analysis indicated that there was a significant difference between the performance of BT students taught using Glogster and those that were taught with the conventional lecture method. Also, the experimental group performed is significantly different from their contemporaries in the control group. This finding agrees with the earlier findings) which revealed that Glogster had positive effects on the students' performance. This finding also agrees with the earlier finding of which revealed that blogs significantly improved the performance of students. This finding also agrees with the earlier finding of whose study indicated that Technological tools are used in the classroom to improve lesson planning and other aspects of the teaching and learning process. The author further indicated that Web-based tools tremendously improve learning and boost the development of critical reading skills specifically, and the use of authentic texts will be ensured; accordingly, students will develop a great awareness of the good online texts, for students will be writing texts for authentic purposes as well.

This finding however agreed with the earlier finding of whose findings indicated Glogster is an internet tool that allows users to create and share interactive posters composed of text, graphics, sound, and videos. Therefore, Glogster is an interactive poster display that provides opportunities for collaborative student-centered learning. The author further posited that Blogging is considered a powerful communication tool that helps communication skills, for task-based language promotes communication and social interaction. From the above findings, it can be deduced that Glogster produced a more positive effect on students' performance. The excellent performance of the students exposed to Glogster over those taught with conventional lecture method was testified to the fact that using Glogster is a better approach for teaching Basic technology concepts in Nigeria. However, as effective as Glogster is, it should not be adopted to replace the conventional lecture method because of the missing real-life teachings which students enjoy in conventional ones. Hence, Glogster should only be used to supplement and complement conventional teachings. The influence of gender on the performance of college of education students when exposed to Glogster was examined using hypothesis three and research question 3. The result of the ANCOVA established no significant difference in the performance of male and female students that were exposed to Glogster. Furthermore, the analysis also indicated that gender did not influence the performance of students in Basic technology when they were exposed to Glogster. This implies that the treatment improved the performance of the students exposed to Glogster irrespective of gender.

Table 5. T-test result on student's attitude towards the use of blog.

Gender	N	X	SD	Df	T	Sig	Remarks
Male	24	13.73	3.48	42	0.00	0.640	Not sig
Female	20	10.12	1.624				

Table 6. ANCOVA result of the mean performance scores of male and female students exposed to Glogster.

Source	Type III sum of squares	Df	Mean square	F	Sig
Corrected Model	15.119	2	7.559	1.032	.370
Intercept	154.363	1	154.363	21.066	.000
Main effect (gender)	15.041	1	15.041	2.053	.163
Pretest	.229	1	.259	.035	.852
Error	197.848	27	7.328		
Total	2661.000	30			
Corrected total	212.967	29			

The result agreed with the earlier findings of [Al-Azawei et al., \(2017\)](#). whose study investigated how gender difference affects online participation and the results show that engagement is a highly individual and complex activity, irrespective of any gender. Another research by [Fadilah et al., \(2020\)](#) has shown that variations in satisfaction levels can be due to gender differences. Other studies have found that gender differences exist in perceived playfulness regarding the level of technology acceptance of a blended learning system among student users. Descriptive studies have also shown that gender differences exist in terms of communication patterns among the students in mixed eLearning and traditional teaching environments. These findings oppose the findings of which revealed that females are less confident in the use of blogs to improve their academic performance when compare to their male colleagues. It also refutes the findings of which revealed that there was a significant difference in the performance of students based on gender when taught with ICT tools.

The researcher could not locate any other previous research on the influence of gender on students' performance when taught using Glogster to support or oppose these findings. Therefore, the conclusion of many studies on gender in ICT usage is that gender difference influenced students' performance when taught using ICT-Based Instructional strategies and innovative online tools like Glogster.

Glogster students' attitude towards the use of Glogster was examined using research question 4. The result of the mean scores indicated that the students reacted to the use of Glogster. The result agreed with the earlier whose study surveyed the attitude of the students towards online learning in India. The results show that the students have a favorable perception towards online learning for sustaining their academic interest and development. The study contradicts the previous study of whose study surveyed the perception of students towards eLearning during the lockdown. The result indicated that the majority of the students have negative perceptions towards eLearning. The study shows that there is a need for the administration to take crucial measures for improving e-learning for better education. They reported that students' attitudes were positive towards the use of blogs. It also agrees with

the finding of William and Jacob, (2004) whose findings reported that student's attitude towards the use of Glogster was positive. Yang (2009) findings are in line with the result of this study as it revealed that learners had positive attitudes towards using a blog for learning English vocabulary. It is also in line with the findings of who indicated that students had a positive attitude towards the use of the blog. From the findings, it could be deduced that integrating Glogster as a supplementary tool for teaching Basic Technology will be a welcomed idea by students. Efforts to make it work should therefore be made by all stakeholders at the secondary school level.

4. CONCLUSION

The result obtained from the data gathered and analyzed in this study indicated that the Glogster covered the four selected Basic technology concepts. The Glogster was used and found effective for learning Basic technology concepts. The students taught using Glogster and conventional lecture performed better than their counterparts taught using conventional lecture alone. Gender equality performance was also recorded because both the male and female students that were taught using blogs performed equally and the issues of gender influence or difference in students' performance did not arise. The findings showed that there was no significant difference in their performances.

5. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

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