

EFFECT OF PADLET BLENDED LEARNING AND FLIPGRID INSTRUCTIONAL APPROACHES ON STUDENTS' ACHIEVEMENT IN GOVERNMENT IN OTUKPO EDUCATION ZONE, BENUE STATE, NIGERIA

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Abstract

This study determined the effect of Padlet blended learning and Flipgrid instructional approaches on students' achievement in Government in Otukpo education zone, Benue State Nigeria. It adopted Quasi-experimental research design, precisely pre-test post-test non-equivalent group design. The population of the study comprised 1,132 of senior secondary school two (SS2) Government students 23 Co-educational public secondary schools in Otukpo Education Zone. The sample of this study consisted of 134 SS2 government students selected from four schools through Multistage sampling procedure, and intact classes from each of the schools were assigned to the experimental groups. Government Achievement Test (GAT). GAT was validated and tested for reliability. The internal consistency of GAT was 0.71 using Kuder-Richarson (K-R20). Mean and standard deviation was used to answer two research question while the null hypothesis was tested using analysis of covariance (ANCOVA) at 0.05 level of significance. Result obtained revealed that students taught Government in secondary schools with the use of Padlet blended learning had higher mean achievement scores than those taught with Flipgrid instructional approaches. The finding was discussed extensively with far-reaching conclusions and recommendations on specific ways of improving status of teaching and learning government in senior secondary schools in Otukpo education zone, Benue State in particular and Nigeria in general.

Keywords: Padlet, blended learning, flipgrid instructional application, achievement, government

Introduction

The use of technologies for learning has gained a lot of global acceptance in the post covid-19 era that educators are provided with ample opportunities to investigate the most effective virtual instructional application that can enhance teaching and learning processes. In this 21st century where digital tools and products seems to form the basis of most human activities, the development of various instructional applications to enhance online teaching and learning has gained a lot of prominence in recent times. According to Oludube in Ezegbe, Okeke, Ejah, Okocha & (2019) the adoption of virtual instructional products in education has progressively repositioned the way knowledge and information are generated, developed and transmitted. In response to 21st century learning demands, blended learning has emerged as useful alternative (MacDonald, 2006; NPE, 2014). Blended learning combines face-to-face instruction with online instructional tools to enhance learning and students achievement. Blended learning incorporates four essential learning and innovation skills, which includes, critical thinking and problem solving, creativity, collaboration, and communication (Partnership for 21st Century learning, in Ejah, 2018). These innovative skills are essentially critical for educational development in this 21st century. Although, there are on-line instructional software that can aid teaching and learning, however, two web 2.0 tools gaining attention in this study are Padlet and Flipgrid. Therefore, this study investigated the effect of Padlet blended and Flipgrid instructional approaches on students' academic achievement in Government in Otukpo Education Zone.

Padlet application is a multi-media online pin board, which can be likened to a normal classroom chalkboard used by teachers during the classroom instruction. According to Shield, (2014) Padlet is as an online wall web-based where ideas are collated via virtual post from the users. Use of Padlet leveraged on the social virtual environment of padlet to collaborate and exchange ideas by making useful post on the virtual wall. More so, Nagamani, (2016) observed that Padlet as a free online software is used to create an online bulletin board that is used to provide information. As an online virtual pin board, padlet offers an online environment where users can express thoughts on topics of their choice (Kassondra, 2014). As a multi-media instructional application, padlet virtual wall has many features and search engines that facilitate communication, image and video sharing among users. Such relevant photos and videos can enable learners to develop knowledge on topics and ideas by creating an engaging social virtual classroom on padlet. Therefore, as an online collaborative tool, padlet can facilitate teaching activities and result in better academic achievement (Abdelrahman, 2014). Accordingly, Fiester and Green, (2016); Miller, (2016) observe that, padlet plays an important role in humanizing online teaching and learning by replicating the classroom experience of information exchange and social construct, not just between learners and teachers but among the learners themselves. Considering the efficacy of padlet blended learning in other subject areas, the researcher thought that the fusion of face-to-face instruction and padlet application in the teaching of Government in senior secondary school in Otukpo education zone can further enhance higher level thinking for creation of new knowledge and ideas among students so as to enhance the students' achievement. Although, padlet as a virtual instructional tool has been useful in teaching and learning, Fripgrid instructional application also has provided a veritable platform for virtual instruction among learners.

Flipgrid is social virtual instructional software that is used to create a short video and upload on a virtual grid for other members of the group to access and respond. According to McLain (2018) Flipgrid is an internet instructional application that provides virtual platform for learners to make videos to support learning process. This goes to say that, Flipgrid allows instructors to facilitate an entire class online without necessarily being in the four walls of the classroom. Flipgrid like other online instructional software has its digital management system which allow for deliberate display and manipulation of contents and materials for effective collaborative learning. A couple of studies such as, Kiles, Vishenchuk and Hohmeier, (2020), and Johnson, (2018) on the use of Flipgrid as an instructional application were mostly to investigate students perception in Colleges and universities in Europe and Middle East. For instance, Kiles, Vishenchuk and Hohmeier, conducted a study on Implementation of Flipgrid as a Self-Reflection Tool in University of Tennessee Health Science Center. The findings of the study revealed that Flipgrid appears to have potential as a self-reflection tool. The result of the study suggests that the use of digital video (flipgrid) applications can increase student use of language.

From the foregoing, while studies exist on padlet and flipgrid in subjects such as English and Sciences, not much work seems to have been conducted on the effect of Padlet blended learning and Flipgrid on students' academic achievement in Government, especially in Otukpo Education Zone, Benue State. Academic achievement has long been recognized as one of the important goals of education the world over. Achievement connotes the rating of learners' cumulative behavioural outcome at the end of a given learners' task within a particular period of time. This could further imply that, Academic achievement of student is the ability of the student to study and remember facts and being able to communicate knowledge orally or in written form even in an examination condition (Kpolovie, Joe and Okoto, 2014). Academic achievement most times manifests

in test scores, grade point average and/or degree certificate (Nnachi in Okeke, Ezegebe, Okwuba, Ome, Ejah and Pandem 2020). However, despite the numerous benefits students could derive from studying Government, students' achievement in the subject has been fluctuating over the years. Government as one of the important social science subjects offered in senior secondary schools, plays a vital role in preparing students for responsible citizenship in Nigeria. It teaches educates students about democratic principles, human rights, civic duties which are critical for national development (Olawepo, Jekayinfa, in Ejah, 2023).. The fluctuating achievement of students in Government in West African Examination Council (WAEC) as revealed by the WAEC Chief Examiners Reports in recent years (2023-2025) has necessitated the exploring of alternative and more students centered instructional approaches which can aid in enhancing students achievement in Government (e-learning WAEC Chief Examiners report, 2023-2025).

In a quest to unravel the reasons behind students fluctuating achievement in Government, Meziobi, Fubara and Meziobi, (2008) opined that the preference in the use of lecture method may not only affect cognition but could to a great extent influence students overall academic achievement. Accordingly, Olawepo and Jekayinfaas cited in Ejah, (2018) observed that teachers of Government prefer to use lecture method in teaching. This collaborated with the method mostly adopted by teachers of Government in Benue State (Benue State Teaching Service Board, 2018). Furthermore, Onger as cited in Okeke, Ezegebe, Ome, Ejah and Pandem (2020) identified poor teaching methods/strategy among the factors responsible for poor academic achievement in Government. This has place teaching method in pivotal position in the process of teaching and students' academic achievement.

Several studies have linked students' achievement to the methods of teaching (Nuraqilah & Saidalvi, 2019; Ugwonna, 2019; Petersen, Townsend & Onaka, 2020; Boateng & Nyamekye, 2022). Therefore, the researcher in this study combined face to face instruction and online instruction such as padlet and flipgrid so as to determine the most efficacious one among the two in enhancing students' achievement, being that, both padlet and flipgrid promote interaction, peer learning and student-centered learning. Also, the rationale for the choice of the two applications other than the traditional method is based on the findings of the previous researches which show that student-centered methods enhance students' learning more than the teacher-centered methods (Audu, 2018; Dimitrios, Labros, Nikolaos, Maria and Athanasios, 2013). Hence, this study investigated the effect of padlet blended learning and flipgrid instructional approaches on students' achievement in Government in Otukpo Education Zone, Benue State.

Research Questions

1. What is the effect of padlet blended learning and flipgrid instructional approaches on students' achievement in Government?

Hypothesis

Ho1: There is no significant difference between the mean achievement scores of students taught Government in senior secondary schools with padlet blended learning and those taught Government with flipgrid instructional approaches.

Methods

The study was conducted in Otukpo Education zone. Otukpo Education zone comprises of two local government areas in Benue South Senatorial District, Benue State Nigeria, namely; Otukpo and Ohimini local government areas. The design adopted for this study is quasi-experimental precisely, pre-test post-test non equivalent group design. The quasi-experimental research design involves the manipulation of one or more independent

variables (Nworgu, 2015). Therefore, the design was considered appropriate for the study. The population of the study comprised 1,132 of senior secondary school two (SS2) Government students 23 public secondary schools in Otukpo Education Zone. The sample of this study consisted of 134 SS2 government as a subject selected from four secondary schools through Multistage sampling procedure, and intact classes from each of the schools were assigned to the experimental groups. Government Achievement Test (GAT). The GAT consists of 50 multi-choice objective test items with alternatives. The GAT test items were adapted by the researcher from the West African Examination Council (WAEC) compiled past questions and modified. GAT was validated and tested for reliability. The internal consistency of GAT was 0.71 using Kuder-Richarson (K-R20).

The four intact classes were made to cover the same learning contents, such as; Totalitarianism, Civil Service, Pre-colonial Hausa/Fulani Emirate, Yoruba and Igbo traditional Political System. The reason for the choice of these topics was that, they are among the topics reported by the WAEC Chief Examiner as being avoided by the students during WAEC Examination. More so, the topics are broad, hence, can be considered appropriate to test students' achievement in Government using Padlet Blended learning and Flipgrid instructional approach. Adapting padlet blended learning and flipgrid instructional approach for teaching these units of lessons will enable teachers to appreciate using virtual instructional tools to improve on student's understanding thereby enhancing students achievement in Government. Four Lesson plans based on Padlet Blended Learning and Flipgrid instructional approach were used to teach the experimental groups. The treatment (experiment) lasted for four weeks, teaching one unit per week. Regular Government teachers of the selected schools that are ICT Compliant, were used for the experiment to avoid faking of behaviour on the parts on the parts of the students as a result of teacher variability during the experiment. The regular Government teachers were given one week training to guarantee uniformity of instructional delivery and effective integration and usage of padlet blended learning and flipgrid instructional approach lesson plans on Government. The regular teachers were trained on how to use padelet blended learning and flipgrid instructional approach lesson plans as a guide. During the time of training, the trainees were given some feeding and transport allowances to motivate them to comply with training. At the end of the treatment (after four weeks) the experimental groups were given post-test (using GAT). The scores of the experimental groups were recorded.

Mean and standard deviation was used to answer the research question while the null hypothesis was tested using analysis of covariance (ANCOVA) at 0.05 level of significance. Analysis of Covariance (ANCOVA) was used in testing the null hypotheses in a quasi-experimental study of non-equivalent group design to reduce effect of initial group differences on the outcome of the experiment. Thus, ANCOVA was used to analyze mean gain scores to determine the statistical significance between and within groups as Covariates between pre-test and post-test (Nworgu, 2015; Okwo, 2016)

Results

Research Question: What is the effect of Padlet blended learning and Flipgrid instructional approaches on students' achievement in Government as a subject?

Table 1: Mean achievement scores of students taught government with Padlet blended learning and those taught with Flipgrid instructional approaches.

Method	N	Pre-test Mean	SD	Post-test Mean	SD	Mean Gain Score
Padlet Blended	74	17.00	2.12	61.49	9.00	44.49

Flipgrid Instruction	60	16.92	1.74	58.28	7.67	41.36
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The result presented on Table 1 shows that students taught Government in senior secondary schools using Padlet Blended Learning had mean and standard deviation achievement scores of ($M=17.00$, ($SD=2.12$) while students taught with Flipgrid instructional approach had pretest mean and standard deviation achievement scores of ($M=16.92$ ($SD=1.74$) respectively. This suggest that at pretest level students in both Padlet blended learning and Flipgrid instructional approaches class were at almost the same cognitive level, since their achievement were almost the same. The posttest mean and standard deviation achievement scores of students taught Government in senior secondary schools using Padlet blended learning and Flipgrid instructional approaches are ($M= 61.49$ ($SD=9.00$) and ($M=58.28$ ($SD=7.67$) respectively. This implies that students taught Government in senior secondary schools with Padlet blended learning had better achievement than their counterparts taught with Flipgrid instructional approach. Thus, Padlet blended learning enhances students' achievement in Government in senior secondary schools more than Flipgrid instructional approach. More so, the post-test standard deviations score of ($SD=9.00$ and 7.67) indicates that students taught with Padlet blended learning had higher dispersion in their individuals' mean scores around their group mean compared to their counterparts. In other words, the variability of individuals' mean scores around their group were lower in the classroom where Flipgrid instructional approach was used compared to Padlet blended learning.

Ho: There is no significant difference between the mean achievement scores of students taught Government in senior secondary schools with Padlet blended learning and those taught Government with Flipgrid instructional approaches.

Table 2: Analysis of covariance on the difference between the mean achievement scores of students taught government in senior secondary schools with Padlet blended learning and those taught with Flipgrid instructional approaches.

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Square d	Decisio n
Corrected Model	2235.150 ^a	8	279.394	4.656	.000	.230	
Intercept	3641.294	1	3641.294	60.676	.000	.327	
Pretest	222.287	1	222.287	3.704	.057	.029	
Method	249.074	1	249.074	4.150	.044	.032	Sig.
Error	7501.485	125	60.012				
Total	492977.000	134					
Corrected Total	9736.634	133					

a. R Squared = .230 (Adjusted R Squared = .180)

The result in Table 2 also shows that an F-ratio of 4.150 with associated probability value of 0.044 and effect size ratio of 0.032 this finding is less than the alpha value of 0.05. Therefore, the null hypothesis was rejected and thus, there was significant difference in the mean achievement scores of students taught Government using Padlet Blended Learning than those taught using Flipgrid instructional approach in favour of Padlet blended learning. This implies that students taught Government with Padlet blended learning had better achievement compared with their counterparts taught with Flipgrid instructional approach. The effect size coefficient of 0.032 indicates that there was

moderate effect of instructional application on students' achievement in favour of padlet blended learning approach.

Discussion of Finding

The analysis revealed that students taught using Padlet blending learning (PBL) performed significantly better in Government Achievement Test than their counterparts who were taught using Flipgrid instructional approach (FIA). Result on Table 2 further confirmed this finding by indicating statistically significant effect of PBL on students' achievement in Government. This implies that the efficacy of the two-teaching virtual instructional approaches with regards to academic achievement in Government is not the same. As such, the students' achievement using PBL appears better than with FIA. The efficacy of this Padlet blended learning could be attributed to its multi-media features which include combination of social virtual environment with various knowledge and information in search engines which create opportunity for learners' access to relevant contents that contribute to knowledge. Hence, Padlet blended learning provides students with the ability to proffer accurate solution to a given task. As a result of this unique feature of Padlet blended learning, its effectiveness was found to be significantly better than Flipgrid instructional approach with regards to students' achievement.

This finding is in agreement with the result of earlier studies carried out by Alabbad, and Huwamel, (2020) that showed Padlet blended learning improved on the achievement of students in English lexical knowledge more than conventional method. More so, Udosen, (2020) in his findings revealed that padlet improved on the achievement of students in Agricultural Science more than conventional method. This is due to padlet's social virtual instructional environment which creates and an enabling social educational milieu for critical thinking, brainstorming activities. More so padlet is very easy to manipulate as it encourages effective collaborative learning. The findings of this study also support Albert Bandura's social learning theory and Mishra and Koehler technological pedagogical and content knowledge (TPACK) theory. Both theories postulated the need for continued interaction between significant factors such as imitation and symbolic learning as well as the need for integration of technology into teaching and learning in the classroom.

Conclusion

Based on the findings, the study concludes that Padlet blended learning enhanced students' achievement in Government classes than Flipgrid instructional approach. This implies that teachers of Government and other related social science subject can adopt this method in order to enhance their students' academic achievement.

Recommendations

Based on the finding of the study, the following recommendations were made:

1. Government teachers should use Padlet blended learning to enhance students' achievement in Government as a subject, since the study found it very effective.
2. Curriculum planners should emphasis more on the effectiveness of instructional applications specifically, Padlet blended learning and Flipgrid instructional approaches for teaching and learning of Government at Senior Secondary Schools.
3. Stakeholders in education should organize workshops, conferences and seminars for teachers to enlighten them on the need to vary their methods of teaching to incorporate student-centered methods and ICT.

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