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Efficacy of E-Learning Delivery Strategies on Students' Performance in Grammar in the Youth Resource Centre, Bonny Island, Rivers State

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Abstract
This study investigated the effect of Zoom and Google Classroom E-learning platforms on students' performance in Grammar at the Youth Resource Centre, Bonny Island, Rivers State. A quasi-experimental research design was adopted. The population of the study consisted of one thousand and eighty-four (1084) Senior Secondary Three (SSIII) students enrolled in the Youth Resource Centre Bonny Island in the 2020/2021 academic year. The sample size for this study comprised a total of 274 Senior Secondary Three (SS III) students made up of 170 male and 104 female students in intact classes determined purposively from the population. The instrument were used for data collection in this study was a researcher-made achievement test titled Grammar E-learning Achievement Test (GEAT). The reliability coefficient of the GEAT stood at 0.74 and was determined using Kuder- Richardson Formula 21 (K-R 21) technique. Mean and standard deviation were used to answer the research questions while ANCOVA was used to test the hypotheses. Findings revealed that, students taught grammar using Google classroom E-learning platform performed better than those who used Zoom E-learning platform. The study concluded that institutions of learning should be aware of students' current needs and interest related to their learning environment for better knowledge acquisition, engagement and academic performance. Hence, the study recommended among others that Zoom and Google classroom platforms should be adopted in educational institutions as a form of blended learning strategy in addition to using other methods of teaching.

Keywords: ICT, e-learning, videoconferencing, learning management system, academic performance

Introduction

Information and Communication Technology (ICT) is essential in all aspects of daily life, particularly in education. Many educational institutions have adopted the use of ICT to continue the process of educational communication because of its critical role in creating an effective learning process and enhancing the role of learning. The Internet has been found to hold a vast array of information that is accessible and retrievable just at the click of buttons without any restriction with respect to one's location. The internet has also led to the emergence of different technology applications such as the web 2.0 tools through which information and knowledge can be constructed and shared among people of related interests.

In recent years, different methods of teaching and learning in educational institutions have evolved gradually from face-to-face classrooms to online learning environments that defy the challenge of synchronous time and geographical distance. Education has developed with the use of these technologies. Students are increasingly utilizing technology advancements to enhance their learning in order to achieve superior academic results. As institutions of learning integrate technology into the classroom and curriculum to improve the efficiency of academic standards, students have generally been swift to adopt these new instructional technology tools in their learning to construct new knowledge. They use various educational mobile learning technologies, computer gadgets, electronic devices, and other ICT tools to support their learning (Wylie, 2015) [22].

As aptly expressed by Fomsi and Gogo (2017) [10], one very interesting feature of the 21st century is information explosion, which is made possible by technology.

The integration of technology into education in the 21st century has led to the transition from a traditional classroom to e-learning which in turn has led to the emergence of new concepts within the world of education such as e-learning, education through the internet, e-book, virtual university, e-library and other electronic media to allow the learner to learn according to their personal preferences.

With the supply and accessibility of such modern technology in educational institutions, integrated education using this technology has been designed and termed generally as e-learning.

E-learning refers to the use of new technologies in the service of learning and/ or learner support (Laurillard, 2006) [14]. It includes the delivery of content via the internet, intranet, audio and videotape, satellite broadcast, interactive TV and CD-ROM (Boon, Rusman, Van der Klink & Tattersall, 2005) [6]. E-learning technologies can be used in three main ways in education: technology-enhanced classroom teaching; distance education (in a bid to reach more students who cannot gain access to conventional classrooms); and distributed learning (a mix of deliberately reduced face-to-face teaching and online learning, also called 'the mixed mode' or 'flexible learning'). E-learning encourages learner-centredness and utilizes electronic technologies to get access to educational curriculum (Dwidienawati, Tjahjana & Abdinagoro, 2020) [8]. It also refers to a course, program or degree that is completed online. Presently, e-learning is inspiring the world societies at large. In this perturbed era, it is hard to get an education in the formal mode because of social, economic or interconnected problems. But many people nurse the ambition to continue their education within other possible means. E-learning makes education flexible because there is no limitation of time and space. So, e-learning makes learning easier. The evolution of technology is drastically changing the social norms. Educated and uneducated masses use technology frequently for enjoyment and other benefits. It is observed that different social media platforms such as Facebook, WhatsApp, and Twitter play an important role in education.

These platforms strongly attract learners and connect them with different parts of the world. The applications introduce learners to a variety of new forms of education, one of which is e-learning. An e-learner would like to adopt new technologies to learn and connect with people related to their field of study (Anshari, Alas, & Guan, 2016) [4]. Many countries of the world are promoting education through e-learning. Over the past years, internet revolution has made e-learning to become a popular tool for learning as an alternative to face-to-face learning. It has become a medium of delivery for online teaching. To date, e-learning has received considerable attention as a means of providing alternatives to traditional face-to-face and instructor-led education.

The growing ubiquity of the internet and further evolution of the internet has also given a new option for students in pursuing their education through e-learning (Pham, Williamson & Berry, 2018) [17]. E-learning, as a new method in teaching, is gradually used in education at all levels. It has become more popular now than ever. Institutions of learning are moving their focus to having more web-based methods in delivering educational materials (Pham *et al*., 2018) [17]. Even though e-learning is a trending topic, it is still seen by many as a supplement to education.

It is understood that e-learning gives both students and educational institutions varied opportunities to access quality instruction, however, the major concern of the e-learning method is the quality and the effectiveness of the learning process. These concerns were, however, no longer valid because of the disruption caused by the COVID-19 pandemic as a result of which e-learning became the only viable alternative to traditional learning to keep students engaged and to keep the learning process up and running.

The deadly and infectious Corona Virus also known as COVID-19 massively affected the global economic and educational systems. This tragedy shook the educational sector globally. The pandemic forced many schools and colleges to remain closed temporarily. Several areas were affected worldwide and there was a fear of losing the entire academic session or even the subsequent one. Various schools, colleges, universities, and other educational institutions discontinued in-person teaching and learning. It was uncertain when normal teaching would resume. As social distancing dominated at this stage, it had severe negative effects on learning.

Educational institutions struggled to find options to deal with this challenging situation. These circumstances made educators realize that scenario planning is an urgent need for academic institutions (Rieley, 2020) [18]. This was a situation that demanded humanity and unity. There was an urgent need to protect and save our students, faculty, academic staff, communities, societies, and the nation. Several arguments associated with e-learning surfaced. Accessibility, affordability, flexibility, learning pedagogy, life-long learning, and policy were some of the arguments related to online pedagogy. It is said that online mode of learning is easily accessible and can even reach rural and remote areas. It is considered to be a relatively cheaper mode of education in terms of the lower cost of transportation, accommodation, and the overall cost of institution-based learning. Flexibility is another interesting aspect of e-learning; a learner can schedule or plan their time for completion of courses available online.

The integration of active learning into course material facilitates student engagement regardless of the learning environment (face-to-face or online) and enhances academic performance.

Academic performance is an important educational variable that reflects the success or failure of a teaching and learning process. Campbell and Levin (2008), referred to academic performance as the outcome of a teaching and learning process. Similarly, Adeyemi (2014) [1] described performance as the scholastic standing of a student at a given moment which states the individual's intellectual abilities that can be measured by grades obtained from examinations or continuous assessments (tests or quizzes). Academic performance is also described as the measurement of accomplishment in a specific field of study (Elliott & Travers, 2002) [9]. According to Nneji (2015) [16], academic performance depicts students' achievement on a standard of measurement such as performance test, skill test and analytical thinking test. Amo (2015) [2] described academic performance as a successful accomplishment or performance in a particular subject area. It is indicated by grades, marks and scores of descriptive commentaries. It is therefore, not out of place to describe performance as the gain in knowledge

of students as a result of taking part in a learning activity or programme. Education stakeholders have expressed major concern on the effectiveness of e-learning. They argue that the ideal effectiveness of e-learning should be the evaluation of the academic performance of the student. Available studies prove that e-learning is effective. It has been found that students in schools and other educational institutions that engaged in e-learning, generally performed better than those in face-to-face courses. (Holley, 2002) [12] found out that students who participate in online/ e-learning achieve better grades than those who studied using the traditional approach. In today's technology-savvy world, every student has the passion to perform at peak level. But it is also a surprising fact that many students and educators ignore the significance of technology that can boost their academic performance. Technology aids visualization of concepts, helping better comprehension of a subject as well as providing unhindered access to knowledge and helping a wider coverage of knowledge on the subject that suits learners' appetite and interest which provides for enhanced academic performance. The thrust of this study therefore is to investigate the effect of e-learning delivery strategies on students' performance.

Statement of the Problem

The past few years have seen the entire world witness an unprecedented change occasioned by the COVID-19 pandemic. Nearly every country in the world was forced into a social and physical lockdown at the peak of the pandemic, preventing all normal activities in cities, towns, and villages. The Nigerian Ministry of Education and other educational institutions in Nigeria introduced e-learning to combat the social isolation caused by the COVID-19 lockdown. For the first time, many educational institutions in the country began to use virtual learning platforms such as Google Classroom, YouTube videos, video conferencing platforms and web applications as well as social media applications such as WhatsApp, email, dedicated institutional portals, and other learning alternatives to deliver their curricula. Primary and secondary schools, as well as institutions of higher learning such as colleges of education, monotecahnics, polytechnics and universities participated in e-learning activities, which presented numerous challenges to teachers, students, and management of the respective institutions. Prominent among these challenges as observed by the researcher were digital divide, lack of digital devices by teachers and students, cost of digital gadgets, internet data, and limited digital skills and competencies. For the institutions that were able to surmount these challenges, the uncertainty towards the effects of e-learning strategies on the enhancement of learners' performance became a source of concern. These concerns therefore necessitated this study to investigate the effect of innovative e-learning delivery strategies on students' performance, in Grammar at the Youth Resource Centre, Bonny Island, Rivers State.

Aim and Objectives of the Study

This study investigated the effect of Zoom and Google Classroom E-learning platforms on students' performance in Grammar at the Youth Resource Centre, Bonny Island. Specifically, the objectives of study were;

1. Determine the difference in the mean performance scores in Grammar of learners who used Zoom E-learning Platform (ZEP) and those who used Google Classroom E-learning Platform (GCEP).
2. Investigate the difference in the mean performance scores in Grammar of male and female learners who used Zoom E-learning Platform (ZEP) and those who used Google Classroom E-learning Platform (GCEP).

Research Questions

The following research questions were raised to guide this study:

1. What is the difference in the mean performance scores in Grammar of learners who used Zoom E-learning Platform (ZEP) and those who used Google Classroom E-learning Platform (GCEP)?
2. What is the difference in the mean performance scores in Grammar of male and female learners who used Zoom E-learning Platform (ZEP) and those who used Google Classroom E-learning Platform (GCEP)?

Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance:

$H0_1$: There is no significant difference in the mean performance scores in Grammar of learners who used Zoom E-learning Platform (ZEP) and those who used Google Classroom E-learning Platform (GCEP).

$H0_2$: There is no significant difference in the mean performance scores in Grammar of male and female learners who used Zoom E-learning Platform (ZEP) and those who used Google Classroom E-learning Platform (GCEP).

Significance of the Study

Findings from this study will enhance teachers' utilization of e-learning software applications with similar features to Zoom web-conferencing platforms, Google classroom and other learning management systems. It will also enable teachers to appreciate a proper instructional delivery by utilizing an alternative teaching strategy. Students at undergraduate and post-graduate levels would benefit from the findings of this study. The findings, when published, will show how male and female students differ in their interest, engagement and academic performance in Grammar when e-learning approach is used. Also, the results of this study would open other areas of research about e-learning and learning management systems (LMSs) on which students may intend to carry out their own research.

Methodology

The research design adopted for this study was quasi-experimental design using non-randomized, non-equivalent, pre-test and post-test experimental group design. The design is schematically represented as follows;

E_1	0_1	X_1	0_2
E_2	0_3	X_2	0_4
C	0_1	___	0_2

Where,

E_1 = Experimental Group One
E_2 = Experimental Group Two
O_1 = Pre-test for score for Experimental Group One
O_2 = Post-test score for Experimental Group One
O_3 = Pre-test score for Experimental Group Two
O_4 = Post-test score for Experimental Group Two
X_1 = Treatment on Experimental Group One (ZEDS)

X_2 = Treatment on Experimental Group Two (GCEDS)
C = Control Group
-- = No treatment
…….. (Dotted lines) = Intact classes

This study was carried out in the Youth Resource Centre, Bonny Island, Rivers State. The population of the study consisted of one thousand and eighty-four (1084) Senior Secondary Three (SSIII) students enrolled in the Youth Resource Centre Bonny Island in the 2020/2021 academic year. The sample size for this study comprised a total of 274 Senior Secondary Three (SS III) students made up of 170 male and 104 female students in the intact classes. The experimental group 1 consists of 91 SS III students (58 male and 33 female) enrolled in Youth Employability Program while the experimental group 2 consists of 87 SS III students (46 male and 41 female) enrolled in Youth Leadership Masterclass and control group is made up of 96 SSIII students (66 male and 30 female) enrolled in the Island Coding and Robotics Class. A purposive sampling technique was adopted to select these SS III students from three academic structured programs in the Resource Centre namely: Youth Employability Program, Youth Leadership Masterclass and Island Coding and Robotics Class. The instrument for data collection was a researcher-made achievement test titled; Grammar E-learning Achievement Test (GEAT). Grammar E-learning Achievement Test (GEAT) consisted of 75 multiple choice questions drawn from the content area of the study. Face and content validation were carried out on the instrument for this study. Three experts in Measurement and Evaluation in the Departments of Educational Psychology, Guidance and Counselling and Curriculum Studies and Educational Technology in the University of Port Harcourt validated the instrument. The reliability coefficient of the GEAT was determined with Kuder Richardson Formula 21 (K-R 21) technique. This technique helped to establish the internal consistency of the GEAT items which is a cognitive instrument. Reliability analysis produced a Kuder Richardson reliability coefficient of 0.74. The method of data collection was done in phases. Permission was sought from the Director of Youth Resource Centre Bonny Island, heads of the English Language and ICT Departments of the Centre through an official letter written by the researcher and approved by the researcher's supervisors. The consent and cooperation of the English Language and ICT instructors used for the study was solicited to assist the researcher for the period of the study as research assistants. Thereafter, the readiness assurance process was followed for the experimental groups. The GEAT was administered as pre-tests to the experimental groups and the control group to ascertain the equivalence in ability of the students. Thereafter, treatment commenced and lasted for five weeks of fifteen periods. At the end of the treatment, the test items from the instrument were re-organized and re-administered to the same students. The content taught include; Order of Adjectives, Direct and Indirect Speech, Question Tags and Concord. The researcher prepared an instructional package that would suit Zoom and Google Classroom online learning platforms using PowerPoint slides and then added the students to the Google classrooms Platforms. The instructional packages were sent to the platform for the students to study and interact. During the class, the students were allowed to take ownership of their lesson, they interacted with one another, discussed the content and answered questions based on the content they have studied in the platforms. The data generated from the administration of GEAT as pretest and posttest were analyzed using mean and standard deviation to answer the research questions while ANCOVA was used to test hypotheses. The statistical package for social sciences (SPSS version 21) was used for the analysis.

Results

Research and Analysis

Research Question 1: What is the difference in the mean performance scores in Grammar of learners who used Zoom E-learning Platform (ZEP) and those who used Google Classroom E-learning Platform (GCEP)?

Table 1: Mean, Standard Deviation and mean difference (gain) on the performance scores in Grammar of learners who used Zoom E-learning Platform (ZEP) and those who used Google Classroom E-learning Platform (GCEP)

		Pre-Test		Post-Test		Mean Difference	
Platform	N	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
Zoom E-Learning	91	50.17	11.30	60.79	4.90	10.62	6.40
Google Classroom	87	51.21	18.33	75.98	10.86	24.77	7.47

From Table 1, the pre-test mean of the students taught grammar using zoom E-learning platform on academic performance score is 50.17, SD =11.30, post-test mean score is 60.79, SD= 4.90, while their mean gain is 10.62. The students taught grammar with Google classroom E-learning platform has pre-test score of 51.21, SD= 18.33, their post-test mean score is 75.98, SD= 10.86 and mean gain is 24.77. This implies that learners taught grammar using Google classroom E-learning platform performed better than those who used Zoom E-learning platform.

Research Question 2: What is the difference in the mean performance scores in Grammar of male and female learners who used Zoom E-learning Platform (ZEP) and those who used Google Classroom E-learning Platform (GCEP)?

Table 2: Mean, Standard Deviation and mean difference (gain) on the performance scores in Grammar of male and female learners who used Zoom E-learning Platform (ZEP) and those who used Google Classroom E-learning Platform (GCEP)

E-learning Platform	Male $\bar{X}$	Female $\bar{X}$	Grand Mean
Zoom E-learning	61.62	64.85	63.24
Google Classroom	80.93	70.41	75.67
Mean Difference	19.31	5.56	12.43

From Table 2, the mean performance score in grammar of learners who used Zoom E-learning Platform is 63.24, while the mean performance in grammar of learners who used Google classroom E-learning Platform is 75.67. This implies that the learners who used Google classroom platform performed better than the learners who used Zoom E-learning platform. Also, the male learners performed better in grammar with Google classroom platform, while female learners performed better in grammar when using Zoom E-learning platform.

Hypothesis 1: There is no significant difference in the mean performance scores in Grammar of learners who used Zoom E-learning Platform (ZEP) and those who used Google Classroom E-learning Platform (GCEP).

Table 3: Summary of One-Way ANOVA Analysis on the mean performance scores in Grammar of learners who used Zoom E-learning Platform (ZEP) and those who used Google Classroom E-learning Platform (GCEP)

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	7733.103	1	7733.103	110.536	.000
Within Groups	12312.987	176	69.960		
Total	20046.090	177			

From Table 3, the analysis of variance on the mean performance scores in Grammar of learners who used Zoom E-learning Platform (ZEP) and those who used Google Classroom E-learning Platform (GCEP) yielded a mean square of 7733.103 (between groups) and 69.960 (within groups). This produced an F-value of 110.536 which has a sig value at 0.000(2-tailed). Since the significance value is less than 0.05 alpha value used for the test, a significant difference exists. The researcher rejected the null hypothesis and concluded that there is a significant difference in the mean performance scores in Grammar of learners who used Zoom E-learning Platform (ZEP) and those who used Google Classroom E-learning Platform (GCEP).

Hypothesis 2: There is no significant difference in the mean performance scores in Grammar of male and female learners who used Zoom E-learning Platform (ZEP) and those who used Google Classroom E-learning Platform (GCEP).

Table 4: Summary of Two-Way ANOVA Analysis on the mean performance scores in Grammar of male and female learners who used Zoom E-learning Platform (ZEP) and those who used Google Classroom E-learning Platform (GCEP)

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	10351.437[a]	3	3450.479	61.929	.000
Intercept	823956.996	1	823956.996	14788.411	.000
E-learning Platform	6608.321	1	6608.321	118.606	.000
Gender	567.698	1	567.698	10.189	.002
E-learning Platform * Gender	2017.704	1	2017.704	36.214	.000
Error	9694.653	174	55.716		
Total	873310.000	178			
Corrected Total	20046.090	177			
a. R Squared = .516 (Adjusted R Squared = .508)					

From Table 4, the analysis of variance on the mean performance scores in Grammar of male and female learners who used Zoom E-learning Platform (ZEP) and those who used Google Classroom E-learning Platform (GCEP) yielded a mean square of 6608.321 (E-learning Platform), 567.698 (Gender) and 2017.704 (E-learning Platform and Gender). This produced an overall F-value of 36.214 with a sig value at 0.000(2-tailed). Since the significance value is less than 0.05 alpha value used for the test, a significant difference exists. The researcher rejected the null hypothesis and concluded that there is a significant difference in the mean performance scores in Grammar of male and female learners who used Zoom E-learning Platform (ZEP) and those who used Google Classroom E-learning Platform (GCEP).

Discussion of Findings

From the study, the findings revealed that students taught grammar using Google classroom E-learning platform performed better than those who used Zoom E-learning platform. Also, the male students performed better in grammar with Google classroom platform, while female students performed better in grammar when Zoom E-learning platform was used. Further, there is a significant difference in the mean performance scores in Grammar of students who used Zoom E-learning Platform (ZEP) and those who used Google Classroom E-learning Platform (GCEP). This implies that Google Classroom E-learning platform enhances students learning of grammar, which eventually results in a better academic performance. This, therefore, means that Google Classroom E-learning platform was preferred to Zoom E-learning platform when it has to do with performance in grammar. Hence, introducing the use of Google Classroom E-learning platform in schools is necessary. The findings of this study suggest that there was a high achievement from using the Google Classroom platform as an additional tool in the Grammar classroom. These results contradict earlier studies (Azhar & Iqbal, 2018; Yigit, 2020) [5] but confirm the increasingly consistent results of more recent studies suggesting significant effects (Kamberi, 2013; Subandoro & Sulindra; 2019) [13, 20]. This finding also corroborates the finding of Anekwe and Amadi (2020) [3] who investigated the effect of Google classroom on trainee teachers' interest and performance in a Computer Education course in the University of Port Harcourt, Rivers State. From the study, the findings revealed that Google Classroom Discussion strategy has a significant effect in the teaching and learning of Computer in Education course. This result might be attributed to the fact that the teaching using Google Classroom Discussion strategy exposed students to not only the theory but the practical aspect of teaching and learning. With Google Classroom, students are better poised to experience and appreciate the integration of technological tools into educational packages. Google classroom might have also improved participants' performance more than other learning management systems and teaching platforms because students can carry their learning to anywhere, even in their homes, unlike the face-to-face method where learners can only learn with their lecturers present in class. Furthermore, students exposed to Google Classroom can explore related concepts on the internet with fewer limitations unlike in other platforms where students might be prevented from accessing additional learning resources conveniently. Also, Mostafa and Sohail (2016) [15] investigated the impact of Google Apps from the perspective of the higher educational institutions. The data was collected via an online questionnaire survey that was distributed among the respondents through their emails. The data were collected between 1st November 2015 and 31st April 2016. Results revealed that the administrative staff were more positive toward using Google Apps than their academic counterparts in performing their work; 58.8 % of the academic staff indicated that they were using Google Apps in processing their work. It was further revealed that that Google Apps are highly perceived by both academic and administrative staff.

This study agrees with the finding of the present study.

Similarly, Widodo (2017) [21] conducted a study aimed at finding out the effectiveness of math education using Google Apps for Education (GAFE) as a learning management system to improve mathematical communication skills of primary school pre-service teachers. The result of the study showed that mathematical communication skills of primary school pre-service teachers in the experiment group were better than the control group. This is because the primary school pre-service teachers in the experiment group used Google Apps for Education as a tool to communicate their ideas. This explains the importance of Google platform for better academic performance.

This finding was consistent in that the male students had better performance in grammar with Google classroom platform, while female students performed better in grammar when Zoom E-learning platform was used. Further, there is a significant difference in the mean performance scores in Grammar of students who used Zoom E-learning Platform (ZEP) and those who used Google Classroom E-learning Platform (GCEP). This implies that Google Classroom E-learning platform enhances students' learning of grammar, which eventually results in a better academic performance. This finding is similar to that of Heggart and Yoo (2018) [11], who conducted a study to examine the effectiveness of using Google Classroom for final year primary teacher education students to encourage student voice and agency, and to consider how the platform might influence future pedagogies at the tertiary level. The findings revealed that Google Classroom increased student participation and learning and improved classroom dynamics. It also revealed concerns around pace and user experience. Their findings agreed with the present study. In a similar study, Shaharanee, Jamil, and Rodzi (2017) [19] undertook a study to explore the effectiveness of Google Classroom's active learning activities for a data mining subject under the Decision Sciences program. The findings showed that most of the students were satisfied with the Google Classroom tools that were introduced in the class where all ratios are above average. The implication is that comparative performance is good in the areas of ease of access, perceived usefulness, communication and interaction, instruction delivery and students' satisfaction towards the Google Classroom's learning activities.

Conclusion

Based on the findings of the study, it was concluded that students taught grammar using Google classroom E-learning platform had better academic performance than those taught using Zoom E-learning platform. Therefore, institutions of learning should be aware of students' current needs and interests related to their learning environment for better knowledge acquisition and academic performance. This finding was consistent in that the male students had better performance in grammar with Google classroom platform, while female students performed better in grammar when Zoom E-learning platform was used. Also, students performed better when they own the pace and time of their learning, participate more in classroom, and taught using a good learning management system. Furthermore, comparative performance is good in the areas of ease of access, perceived usefulness, communication and interaction, instruction delivery and students' satisfaction towards the Zoom and Google Classroom's learning activities.

Recommendations

Based on the findings and conclusions, the following recommendations are made:

1. Zoom and Google classroom platforms should be adopted in educational institutions as a form of blended learning strategy in addition to using other methods of teaching.
2. Language courses such as Grammar should be taught using Zoom, Google classroom, Video-conferencing platforms and other innovative and student-tailored learning management systems (LMSs).
3. Teachers should act as guides on the side and allow students to take control of their learning as this will enhance their participation thereby increasing their academic performance.

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