

Influence of Online Teaching on Students' Academic Performance in Private Secondary Schools in Port-Harcourt Metropolis

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Abstract: The study was conducted to ascertain the influence of online teaching on students' learning achievement in private secondary schools in Port Harcourt metropolis. The study was guided by three research objectives, three research questions and three hypotheses. The study adopted a descriptive survey research design and the population was 22,170 students and teachers. This number comprises 4,054 teachers and 18,116 students from 264 government approved private secondary schools in Port Harcourt metropolis. The sample for the study comprised a total of 894 teachers and students consisting of 407 teachers and 487 students purposively selected students who have been engaged in online learning. The instrument for data collection was a questionnaire. This instrument was validated by three experts and with an overall reliability coefficient of 0.86 obtained through Cronbach Alpha. The instrument was structured on a four point rating scale. The instrument was administered by the researcher with help of two research assistants. A total of 894 copies were administered and a total of 765 copies retrieved and used for data analysis. This constituted 421 female students and 344 male students. Data gathered were analysed using mean for the research questions and z-test for the hypotheses. It was found that online teaching had positive and significant influence on students' learning in private secondary schools in Port Harcourt metropolis. Based on the results it was recommended among others that collaboration strategies should be integrated into online teaching to enhance participation among students.

Keywords: Online teaching, Academic Performance, Private Secondary Schools

Introduction

The advent of COVID-19 affected many activities world over. Many businesses were shut down. The educational system was not left out. Schools were shut down for a long period of time. In order to enable access to education, schools engaged in utilizing online learning to delivery instruction. This process of delivering instruction to students though online mode is regarded online teaching. Online teaching also referred to as online education is the delivery of teaching and training through online resources and platforms such as Whatsapp, zoom meeting, teleconferencing, Google classroom, edmodo, teleconferencing, teaching through radio programmes, teaching through television, text message based instruction, teaching through e-mail, udemy, teachable, telegram, academy of mine, course craft, skillshare among others (Osuji & Orlu, 2022). A brief description of some of these online teaching tools is presented as follows:

Zoom is a video conferencing app where teachers and students can communicate via video and gives room for teachers to share their screen so that students can be seeing what their teacher

is explaining, it is initially designed for attending meetings but it was later used for teaching, just that for someone to enjoy it, one must be at a location with good internet network reception, which happened to be one of the difficulties many faced in using it in Nigeria (Palupi & Raharjo, 2020).

WhatsApp and Telegram are social media apps for chatting with friends and family, but it can be used for teaching and learning by sharing notes and the teacher will send voice notes to explain if there is a need for it. Just that Telegram is more advantageous than WhatsApp as students that join the class late will still have access to the previously taught lessons as telegram stores everything in the cloud (Noer & Febriyanti, 2021).

Edmodo is a teaching and learning platform where different classes can be created for students, it has both web and mobile app, resources or YouTube link for classes can also be shared on it and students will come back to their various classes to ask their teachers questions and submit their classwork or assignments, just that this platform is usually text-based, though audios can be shared in it as well most texts are employed, as a learning platform, it provides many features like quiz, assignments, polls and the like, which all these activities can be timed, when to start a quiz and time to stop, and also time to stop allowing submission of assignment (Adekunle & Opeyemi, 2021).

Google Classroom is a learning platform introduced by Google for the member of its Google suite education program in May 2014. It is a free learning platform that comprises of all learning tools that is more or less like a physical classroom where students and teachers can easily interact. It is integrated with Google sheet, drive and docs and helps with effective sharing of files among the students and their teachers (Bahasoan, Ayuandiani, Mukhram & Rahmat, 2020).

Another terminology used for online teaching and learning is E-learning which refers to forms of teaching and learning carried out in an electronic or online media, often with the aid of internet and other technological platforms, tools or devices such as wikis, blogs, podcasts, social networks, and video-sharing sites, which are widely used by students. E-learning is a learning process created by interaction with digitally delivered content, network-based services and tutoring support (Osuji & Charley, 2022). Also, Oye, Iahad, Madar and Ab.Rahim (2012) defined Elearning as the use of information and communication technology (ICT), including Web-based learning, computer-based learning, virtual classrooms and digital collaboration to enhance teaching and learning. According to European Commission (2001), e-Learning is the use of new multimedia technologies and the Internet to increase learning quality by easing access to facilities and services as well as distant exchanges and collaboration.

Teaching and learning must be effective to achieve the aim of the process. Effectiveness of any teaching and learning exercise is very important to both the teacher as well as the students. Three very important elements that determine effectiveness of an instructional process include: participation of learners, learning satisfaction and academic achievement among students (Hettiarachchi, Damayanthi, Heenkenda, Dissanayake, Ranagalage & Ananda, 2021).

One of the measures of the effectiveness of a teaching and learning activity is student satisfaction (Zeng & Wang, 2020). It is the extent to which students perceive their needs to have been totally met from an academic programme or a lesson. Learning satisfaction is an important element in a teaching and learning process. Achieving learning satisfaction can lead to better student performance, improvements in online teaching exercise. It can also promote students' retention in an academic programme (Cole, Shelley & Swartz, 2013). Furthermore, learning satisfaction is an element that can be used to make judgment of the effectiveness of online learning (Alqurashi, 2019).

In a study Hettiarachchi, Damayanthi, Heenkenda, Dissanayake, Ranagalage and Ananda, (2021) found that students engaged in interaction within an online learning had significant level of satisfaction. Similarly, Zhao, Shao and Su (2022) found that cognitive, emotional, and management support services in an online learning programme contributed significantly to learning satisfaction among students. A study by Edeh, Nwafor, Ezeanya, Eziokwu & Ani, (2020) found that students exposed to an elearning platform had higher academic achievement than students exposed to traditional classroom.

Statement of the Problem

The Advent of COVID-19 affected various activities in the world. Education also was affected. Many schools were closed down due to lockdown. To resolve this, many schools engaged their students in online learning and teaching. However, the knowledge of the effectiveness of online teaching in students learning particularly in private schools is limited. It was against this backdrop that the present study was intended.

Purpose of the Study

The purpose of this study was to find out the influence of online teaching on students' learning achievement in private secondary schools in Port Harcourt Metropolis. Specifically, the study intended to:

1. find out the influence of using whatsapp for instructional delivery on learning achievement among students in private secondary schools in Port Harcourt metropolis.
2. ascertain the influence of using zoom for instructional delivery on learning achievement among students in private secondary schools in Port Harcourt metropolis.
3. determine the influence of using google classroom for instructional delivery on learning achievement among students in private secondary schools in Port Harcourt metropolis.

Research Questions

The following research questions were used to guide investigation for the study.

1. What is the influence of using whatsapp for instructional delivery on learning achievement among students in private secondary schools in Port Harcourt metropolis?
2. What is the influence of using zoom for instructional delivery on learning achievement among students in private secondary schools in Port Harcourt metropolis?
3. determine the influence of using google classroom for instructional delivery on learning achievement among students in private secondary schools in Port Harcourt metropolis?

Hypotheses

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

1. There is no significant difference between the mean responses of teachers and students regarding the influence of using whatsapp for instructional delivery on their learning achievement in private secondary schools in Port Harcourt metropolis.

2. There is no significant difference between the mean responses of teachers and students regarding the influence of using zoom for instructional delivery on their learning achievement in private secondary schools in Port Harcourt metropolis.
3. There is no significant difference between the mean responses of teachers and students regarding the influence of using google classroom for instructional delivery on their learning achievement in private secondary schools in Port Harcourt metropolis.

Methodology

The study adopted a descriptive comparative survey design. According to Lodico, Spaulding and Voegtle in Nwineh (2018), the design is adopted when a researcher wants to describe data gathered from a sample, consisting of different groups, regarding their perception on an issue. In the present study, it was the intention of the authors to compare the mean opinion of two different groups (lecturers and students). Consequently, descriptive comparative survey design was considered appropriate. The population of the study was 22,170 teachers and students. This number comprise 4054 teachers and 18,116 students from 264 private secondary schools in Obio/Akpor and 101 private secondary schools in Port Harcourt City Local Government Areas of Rivers State (Source: National Association of Proprietors of Private Schools, Rivers State). The sample for the study comprised a total of 894 teachers and students consisting of 407 teachers and 487 students who have been engaged in online learning. The instrument for data analysis was a questionnaire titled: "Online Teaching and Students' Learning Achievement Questionnaire" (OTSLAQ). This instrument was developed by the researcher based on literature review and validated by three experts. The internal consistency reliability for the instrument was established using Cronbach Alpha which yielded an overall reliability coefficient of 0.86. The reliability coefficient of the first cluster of the instrument which elicited data on influence of WhatsApp on learning achievement was 0.84. The reliability coefficient for the second cluster which elicited data on influence of zoom on learning achievement was 0.87 while the reliability coefficient of the third cluster which elicited data on the influence of google classroom on learning achievement was 0.79. The instrument was structured on a four point rating scale of Strongly Agree (SA) with a score of 4; Agree (A) with a score of 3; Disagree (D) with a score of 2 and Strongly Disagree (SD) with a score of 1. The instrument was administered by the researcher with help of two research assistants. A total of 894 copies were administered and a total of 765 copies retrieved and used for data analysis. This constituted 344 teachers and 421 students. Data gathered were analysed using a criterion mean of 2.50 for the research questions and Z-test for the hypotheses.

Result

Research Question 1: What is the influence of using WhatsApp for instructional delivery on learning achievement among students in private secondary schools in Port Harcourt metropolis?

Table 1: Mean for Influence of Using WhatsApp for Instruction on Learning Achievement

S/N	Influence of WhatsApp on Learning Achievement	Students (n=421)			Teachers (n=344)		
		M	S.D	RMK	M	S.D	RMK
1	Utilising WhatsApp for instructional delivery provides opportunity for sharing individual ideas among students.	3,08	0.53	A	3.01	0.59	A
2	Utilising WhatsApp for instructional delivery enhances discussion among students.	3.21	0.55	A	2.97	0.60	A
3	Utilising WhatsApp for instructional delivery promotes learning together for better performance among students.	3.40	0.58	A	3.34	0.68	A
4	Utilising WhatsApp for instructional delivery promotes learning from each other which leads to improvement in academic performance.	3.48	0.58	A	3.39	0.55	A
5	Utilising WhatsApp for instructional delivery provides adequate time to interact with teachers for better understanding of concepts.	3.05	0.77	A	3.45	0.55	A
	Grand Mean	3.28	0.60	A	3.23	0.59	A

The result in Table 1 shows the influence of online teaching on learning participation in private secondary schools in Port Harcourt metropolis. The result shows that students and teachers agreed that: utilization of WhatsApp for instructional delivery provides opportunity for sharing individual ideas among students, utilization of WhatsApp for instructional delivery enhances discussion among students, utilization of WhatsApp for instructional delivery promotes learning together among students, utilization of WhatsApp for instructional delivery promotes learning from each other among students, utilization of WhatsApp for instructional delivery provides adequate time to interact with teachers. This is evident by mean responses greater than 2.50 for items 1, 2, 3, 4 and 5. Also, a grand mean value of 3.28 for students and 3.23 for teachers confirms that they agreed that online teaching has positive influence on learning participation.

Research Question 2: What is the influence of using zoom for instructional delivery on learning achievement among students in private secondary schools in Port Harcourt metropolis?

Table 2: Mean for Influence of Using Zoom for Instruction on Learning Achievement

S/N	Influence of Zoom on Learning Achievement	Students (n=421)			Teachers (n=344)		
		M	S.D	M	S.D	M	RMK
1	Utilising Zoom for instructional delivery creates a sense of community among learners.	3.87	0.58	A	3.54	0.65	A
2	Utilising Zoom for instructional delivery is as effective as face-to-face teaching.	3.52	0.59	A	3.39	0.63	A
3	There is high level of learning satisfaction with instructional delivery mode through Zoom.	2.99	0.64	A	3.41	0.59	A
4	Utilising Zoom for instructional delivery promotes effectiveness in students' assessment.	3.42	0.59	A	3.02	0.63	A
5	Presentation of lessons through Zoom results in knowledge gain for enhanced learning gain among students.	3.45	0.58	A	3.53	0.52	A
	Grand Mean	3.45	0.59	A	3.38	0.60	A

The result in Table 2 shows the influence of online teaching on learning satisfaction in private secondary schools in Port Harcourt metropolis. The result shows that both students and teachers agreed that: utilization of zoom for instructional delivery creates a sense of community among learners, utilization of zoom for instructional delivery is as effective as face-to-face teaching, There is high level of learning satisfaction through utilization of zoom for instructional delivery, Utilising Zoom for instructional delivery promotes effectiveness in students' assessment, Presentation of lessons through Zoom results in knowledge gain for enhanced learning gain among students. This is evident by mean responses greater than 2.50 for items 1, 2, 3, 4 and 5. Also, a grand mean value of 3.45 for students and 3.28 for teachers confirms that they agreed that online teaching has positive influence on learning satisfaction.

Research Question 3: What is the influence of using google classroom for instructional delivery on learning achievement among students in private secondary schools in Port Harcourt metropolis?

Table 3: Mean for Influence of Google Classroom on Learning Achievement

S/N	Influence of Utilising Google Classroom on Learning Achievement	Students (n=421)			Teachers (n=344)		
		M	S.D	M	S.D	S.D	RMK
1	Utilising google classroom for instructional delivery enhances collaboration for enhanced learning achievement among students.	3.47	0.65	A	3.46	0.63	A
2	Utilising google classroom for instructional delivery promotes quick feedback for better comprehension of facts among learners.	3.50	0.76	A	2.86	0.65	A
3	Opportunity for sharing of ideas in google classroom aids cognitive development for enhancement in achievement.	3.43	0.59	A	3.48	0.62	A
4	Promotion of learning at one's own pace in google classroom helps students to work according to ability for better academic achievement.	3.23	0.55	A	3.51	0.89	A
5	Utilising google classroom for instructional delivery enhances better academic performance among students.	3.52	0.63	A	3.65	0.57	A
	Grand Mean	3.43	0.64	A	3.39	0.67	A

The result in Table 3 shows the influence of online teaching on Academic achievement in private secondary schools in Port Harcourt metropolis. The result shows that both students and teachers agreed that: utilising google classroom for instructional delivery enhances collaboration for enhanced performance among students; utilising google classroom for instructional delivery promotes quick feedback for better comprehension of facts among learners, opportunity for sharing of ideas in google classroom aids cognitive development for enhancement in achievement, promotion of learning at one's own pace in google classroom helps students to work according to ability for better academic achievement, Utilising google classroom for instructional delivery enhances better academic performance among students. This is evident by mean responses greater than 2.50 for items 1, 2, 3, 4 and 5. Also, a grand mean value of 3.43 for students and 3.39 for teachers confirms that they agreed that online teaching has positive influence on academic achievement.

Hypothesis 1: There is no significant difference between the mean responses of teachers and students regarding the influence of using WhatsApp for instructional delivery on their learning achievement in private secondary schools in Port Harcourt metropolis.

Table 4: Z-Test for Influence on Using WhatsApp on Learning Participation

Groups	N	M	S.D.	Z-cal	Z-crit	Decision
Students	421	3.28	0.60	1.01	1.96	Accepted
Teachers	344	3.23	0.59			

Field Survey, 2023

The result in Table 4 shows the result for test of hypothesis one. As shown, calculated value of z (z-cal = 1.01) is less than the critical value (z-crit = 1.96). Based on this, the hypothesis is accepted. This shows that there is no significant difference between the mean responses of teachers and students regarding the influence of using WhatsApp for instructional delivery on their learning achievement in private secondary schools in Port Harcourt metropolis.

Hypothesis 2: There is no significant difference between the mean responses of teachers and students regarding the influence of using zoom for instructional delivery on their learning achievement in private secondary schools in Port Harcourt metropolis.

Table 5: Z-Test for Influence of Using Zoom on Learning Achievement

Groups	N	M	S.D.	Z-cal	Z-crit	Decision
Students	421	3.45	0.59	1.40	1.96	Accepted
Teachers	344	3.38	0.60			

The result in Table 5 shows the result for test of hypothesis two. As shown, calculated value of z (z-cal = 1.40) is less than the critical value (z-crit = 1.96). Based on this, the hypothesis is accepted. This shows that there is no significant difference between the mean responses of teacher and students regarding the influence of using zoom for instructional delivery on their learning achievement in private secondary schools in Port Harcourt metropolis.

Hypothesis 3: There is no significant difference between the mean responses of teachers and students regarding the influence of using google classroom for instructional delivery on their learning achievement in private secondary schools in Port Harcourt metropolis.

Table 6: Z-Test for Influence of Using Google Classroom on Learning Achievement

Groups	N	M	S.D.	Z-cal	Z-crit	Decision
Students	421	3.43	0.64	0.72	1.96	Accepted
Teachers	344	3.39	0.67			

Field Survey, 2023

The result in Table 6 shows the result for test of hypothesis three. As shown, calculated value of z (z-cal = 0.72) is less than the critical value (z-crit = 1.96). Based on this, the hypothesis is accepted. This shows that there is no significant difference between the mean responses of teachers and students regarding the influence of using google classroom for instructional delivery on their learning achievement in private secondary schools in Port Harcourt metropolis.

Discussion of Findings

The first research question sought to find out the influence of utilizing WhatsApp for instructional delivery on learning achievement among students in private secondary schools in Port Harcourt metropolis. The result shows that both teachers and students agreed that: utilization of WhatsApp for instructional delivery provides opportunity for sharing individual ideas among students, utilization of WhatsApp for instructional delivery enhances discussion among students, utilization of WhatsApp for instructional delivery promotes learning together among students, utilization of WhatsApp for instructional delivery promotes learning from each other among students, utilization of WhatsApp for instructional delivery provides adequate time to interact with teachers. The test of hypothesis one showed that there is no significant difference between the mean responses of teacher and students regarding the influence of using whatsapp for instructional delivery on their learning achievement in private secondary schools in Port Harcourt metropolis. This implies that there was similarity in the mean responses of teachers and students regarding the influence of online teaching on learning participation among students. This result agrees with the result by Hettiarachchi, Damayanthi, Heenkenda, Dissanayake, Ranagalage and Ananda, (2021).

The second research question sought to find out the influence of utilizing Zoom for instructional delivery on learning achievement among students in private secondary schools in Port Harcourt metropolis. The result shows that both students and teachers agreed that: utilization of zoom for instructional delivery creates a sense of community among learners, utilization of zoom for instructional delivery is as effective as face-to-face teaching, There is high level of learning satisfaction through utilization of zoom for instructional delivery, Utilising Zoom for instructional delivery promotes effectiveness in students' assessment, Presentation of lessons through Zoom results in knowledge gain for enhanced learning gain among students. The test of hypothesis two showed that there is no significant difference between the mean responses of teachers and students regarding the influence of using zoom for instructional delivery on their learning achievement in private secondary schools in Port Harcourt metropolis. This implies that there was similarity in the mean responses of teachers and students regarding the influence of utilizing zoom for instructional delivery on learning satisfaction among students. This result agrees with the result by Zhao, Shao and Su (2022) who found that cognitive, emotional, and management support services in an online learning programme contributed significantly to learning satisfaction among students.

The third research question sought to find out the influence of utilizing Zoom for instructional delivery on learning achievement among students in private secondary schools in Port Harcourt metropolis. The result shows that both students and teachers agreed that: utilising google classroom for instructional delivery enhances collaboration for enhanced performance among students; utilising google classroom for instructional delivery promotes quick feedback for better comprehension of facts among learners, opportunity for sharing of ideas in google classroom aids cognitive development for enhancement in achievement, promotion of learning at one's own pace in google classroom helps students to work according to ability for better academic achievement, Utilising google classroom for instructional delivery enhances better academic performance among students. The test of hypothesis three showed that there is no significant difference between the mean responses of teachers and students regarding the influence of using google classroom for instructional delivery on their learning achievement in private secondary schools in Port Harcourt metropolis. This implies that there was similarity in the mean responses of teachers and students regarding the influence of utilizing google classroom for instructional delivery on academic achievement among students. This result agrees with the result by Edeh, Nwafor, Ezeanya, Eziokwu & Ani, (2020) who found that students exposed to an e-learning platform had higher academic achievement than students exposed to traditional classroom.

Conclusion

The study focused on the influence of online teaching on students learning in private secondary schools in Port Harcourt metropolis. The result showed that online teaching has positive influence on learning participation, learning satisfaction and academic achievement. This implies that if online teaching tools and technology are integrated into the teaching and learning process, learning outcome would improve.

Recommendations

Based on the result of the study, the following recommendations were proffered.

1. Collaboration activities should be integrated into online learning to enhance participation among students.
2. Motivation strategies such as feedbacks should be adequately utilised in online teaching to ensure satisfaction among students.
3. Appropriate instructional aids should be utilised during online teaching to enhance comprehension among students.

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