

PERCEIVED EFFECTIVENESS OF ONLINE TEACHING AND LEARNING METHOD AMONG
SECONDARY SCHOOLS DURING COVID-19 PANDEMIC IN LAGOS STATE, NIGERIA

BY

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Abstract

This paper examined the perceived effectiveness of online learning during the COVID-19 pandemic in Lagos State. A survey research design was employed for the study. The population consisted of 1500 students and 500 teachers that claimed to be learning and teaching through online in Lagos State, Nigeria. The data for the study were gathered through the use of the questionnaire tagged "Effectiveness of Online Teaching in Lagos State" (EOTLS) and were analyzed with descriptive statistical such as frequency counts and percentages. The reliability of the instrument was determined through the test re-test method using Pearson Product Moment Correlation Co-efficient statistic and the correlation co-efficient value stood at 0.83. The findings revealed that students preferred face to face teaching than online with a percentage of 82.6%. The reasons were that; they understand better during face to face. Others claimed to have internet network problem or power outage. Moreover, the findings revealed that teachers were not adequately motivated to teach online. 74.8% of the total respondents claimed not to have financial abilities to deliver online lessons because of the meagre money given to them by their schools. The findings also revealed that 93% of the teachers were not used to teaching online with Zoom and Teams. The study recommends that Lagos State Government should develop the quality of online learning and motivate teachers by training them in the use of online teaching software and other professional development that will prepare them for future unexpected re-occurrence.

Keywords: COVID-19, Online teaching and learning, Effectiveness, Zoom, Teams.

Introduction

The spread of COVID-19 in the world and Nigeria in particular has created huge consequences on the already ill-state of weak country's education sector, consequently resulting into closure of schools across the country. This undoubtedly demanded the migration of teaching and learning from the traditional class room method to remote and online mode. UNESCO (2020) accounted that over 1.5 billion representing 91 percent of the world's students in over 190 countries were out of school during the peak of the pandemic lockdown causing immense disruption to lives, education and total welfare of the students worldwide. February 27th marked the arrival of COVID-19; an unexpected and unprepared for guest in Nigeria; the time the schools in the country were in second term. This called for a concern in the country as the pandemic ravaged global education. On 19th March 2020, the Federal Ministry of Education approved the closure of schools as a response to the pandemic. Lagos State Ministry of Education in response, closed schools in the state on 23rd March, 2020. Consequently, this necessitated the transition from traditional classroom learning to online learning to finish the term's work. Many schools in Lagos State continued their teaching to avoid waste of time and wrote their second term exam online. Various ICT innovations were deployed by teachers to deliver their teaching to students at home.

Lagos state is the commercial hub of Nigeria and it hosts many institutions. According to 2017 Annual Public School Census Lagos State has a total of 349 junior secondary schools and 322 senior secondary schools with a students' population of 337,724 and 229,980, respectively. Recently, many of the public and private senior secondary schools were shut down in compliance with the federal government directives that all educational institutions should be shut down to curtail the spread of COVID-19 virus. Online teaching and learning are progressively gaining global attention especially after the fallout of the global pandemic. This medium has tremendously made learning comfortable and accessible by all without stress. Even though online teaching and learning has been from Education 2.0 era, a spontaneous surge was witnessed this year compared to previous years. When it comes to Nigeria, and Lagos state in particular, traditional face to face method has always been the dominant approach. The common challenge of this method is that the constant usage of traditional method has led to ease of using off-line approach thereby causing teachers' rigidity and inadaptability to the online method. Furthermore, inaccessibility to equipment has caused another untold hardship to the implementation of online teaching and learning in this 21st century. However, the coming of Covid-19 signaled the beginning of radical

transformation in the educational system not only in Lagos state and Nigeria but globally. Educational institutions worldwide have evolved to online classes. But how effective is this method during Covid-19? This research paper reveals the outcome of the survey carried out to understand the effectiveness of online teaching and learning method among secondary schools during Covid-19 pandemic in Lagos State, Nigeria. The responses from this research should assist policy makers to improve e-learning method of teaching so as to provide an improved and better learning experience to both learners and tutors

Literature Review

An online learning is a system of learning using technology or distance learning. Bartley & Golek, (2004) and Evans & Haase (2001) opined that the method of online and distance learning has been part of the America education system and consequently becoming the most viable sector in America education sector. For the benefit of doubt and this purpose of this research paper online learning is considered to be lessons delivered solely over the internet The internet technologies has been a formidable and inevitable tool gaining worldwide recognition not only in education but in other sectors. Government and public sectors worldwide have realised the importance of maintaining a dynamic and resourceful workforce in combating increasing global competition, consequently ensuring the training and upgrading of workers' skills and online adaptability (Bose, 2004). Online learning has been the most preferred choice for the provision of staff training due to its cost effectiveness and its timely added value for progressive education of the recipients irrespective of their locations (Combs, 2002; Shinkareva & Benson, 2006).

The provision of an online learning system is an important factor in providing a comprehensive Information and Communications Technology solution within schools. Blackboard and other similar systems provide an easy to use, well-structured medium to assist learning and teaching because students and teachers are able to access information from anywhere around the world. An E-Learning system used properly is an important support structure for the delivery of modern, productive pedagogy (VITTA and Keane, 2005). Pardemean and Suparyanto (2014), in their study, showed that the students' computer skills had a strong correlation with their achievements. Therefore, it is important to consider the influence of computer skills on achievement when implementing ICT into the learning process. A computer skills test should be designed and administered as a part of the student admissions requirements. The test should be taken prior to the students' participation in an e-learning process. Furthermore, the school that implements an e-learning should consider students' computer skills when dividing the students into groups based on students' abilities.

Objectives of the Study

This objective of this paper is to investigate the effectiveness of online teaching and learning method among secondary schools during Covid-19 pandemic in Lagos State Nigeria. Specifically, the sub-objectives include

1. To find out the level of online teaching and learning effectiveness during the pandemic from the students' perspective
2. To find out the major challenges faced by students and teachers during Covid-19 pandemic

Research Questions

The following research questions were formulated for this study;

- i. What is the level of online teaching and learning effectiveness during the pandemic from the students' perspective?
- ii. What are the challenges faced by students and teachers in online teaching and learning during Covid-19 pandemic?

Methodology

A survey research design was employed for this study. The population consisted 1500 students and 500 teachers that claimed to be learning and teaching through online respectively in Lagos State, Nigeria. The data for the study were gathered through the use of questionnaires. The questionnaire tagged "Effectiveness of Online Teaching in Lagos State" (EOTLS) was administered to teachers and students and were analyzed with descriptive statistical such as frequency counts and percentages. Apart from the demography and online teaching platform questions, 29 questions to ascertain the effectiveness of online learning were asked with response choices consisting pre-defined options of strongly agree (SA), agree (A), disagree (D) strongly disagree (SD), while qualitative (open ended) responses to get more opinions were collated through filling of blank spaces. To test the face and contents validity, the instrument was given to a senior colleague from a reputable university and the recommendations given were included in the

final draft of the instrument. Moreover, the reliability of the instrument was determined through the test re-test method using Pearson Product Moment Correlation Co-efficient statistic and the correlation co-efficient value stood at 0.83. Due to the fact the research was carried out during the peak of Covid-19, the questionnaire was distributed through Google form. Moreover, the link for the questionnaire was shared to an estimated number of over 1500 students and 500 teachers across the 20 local government areas in Lagos state. A total of 1432 and 460 responses were collated from students and teachers representing 95.5% and 92% respectively.

Table 1:
Teachers' Demographic Details

Teachers demographic details			Total
Gender	Male	Female	460
	289 [62.8%]	171 [37.2%]	[100%]
Age	21 – 35	36–50	50 above
	121 [26.3%]	270 [58.7%]	69 [15%]
			460
			[100%]
School	Private	Public	460
	278 [60.4%]	182 [39.6%]	[100%]

Table 2:
Students' demographic details

Students demographic details			Total
Gender	Male	Female	1432
	795 [55.5%]	637 [45.5%]	[100%]
School	Private 892	Public 540	1432
	[62.3%]	[37.7%]	[100%]

Table 3:
Online teaching platform

Online teaching platform				
Zoom	MS Teams	WhatsApp	Telegram	Total
239 [52%]	98 [21.3%]	103 [22.4%]	20 [4.3%]	460 [100%]

Table 4:
Assessing the effectiveness of online learning (Learners)

Variables	SA	S	D	SD	Total
1 I prefer online learning than physical class	68 [4.7%]	72 [5%]	321 [22.5%]	971 [67.8%]	1432 [100%]
2 Online learning is more effective than physical class	75 [5.2%]	86 [6%]	378 [26.4%]	893 [62.4%]	1432 [100%]
3 I enjoy students to teacher intimacy in online learning than physical class	51 [3.6%]	87 [6.1%]	432 [30.2%]	862 [60.1%]	1432 [100%]
4 I lose interest and I easily get bored in online lesson	494 [34.5%]	354 [24.7%]	295 [20.6%]	289 [20.2%]	1432 [100%]
5 I get better answers to my questions in	102 [7.1%]	86 [6%]	578 [40.4%]	666 [46.5%]	1432 [100%]

	online learning than physical class					
6	There is students collaborations in online learning than physical class	86 [6%]	59 [4.1%]	643 [44.9%]	644 [45%]	1432 [100%]
7	Online lessons are more inclusive than physical	143 [10%]	95 [6.6%]	593 [41.4%]	601 [42%]	1432 [100%]
8	I get more engaged in online learning than physical class	97 [6.8%]	99 [6.9%]	572 [39.9%]	664 [46.4%]	1432 [100%]
9	There is instant feedback from my teacher in online learning than physical class	102 [7.1%]	87 [6.1%]	659 [46%]	584 [40.8%]	1432 [100%]
	Total respondents	1218 [9.5%]	1025 [7.9%]	4471 [34.7%]	6174 [47.9%]	12888 [100%]

Three things usually make a lesson effective: students' feedback, students' engagement and teacher's knowledge. Judging with these 3 criteria that I personally formulated, and from the above table, it is evident that online learning is not as effective as traditional face to face method. As shown in the final percentage, 82.6% (34.7% + 47.9) disagreed with the assertion. An in-depth analysis revealed that students prefer physical class than online lass as 1271 students representing 88.8% disagreed that online is more effective than physical class. In the same vein, 1246 students representing 86.3% claimed that online engagement is not as effective as physical classroom engagement. Furthermore, 86.8% of the students affirmed that they didn't get instant feedback from their teachers during online lessons. Majority of the students also claimed that they lose interest and get bored easily during online lesson as 848 responses resenting 59.2% attested to the assertion while 40.8% either disagreed or strongly disagreed. Students felt that online class ineffectiveness is due to many challenges it poses to them and this is the major cause of lack of interest and class engagement in the online class. An effective classroom is a classroom where subject's objectives are clearly stated and easily covered with students taking charge of their learning by been able to recall the lesson's objectives. However, many students felt that teachers mostly rush them through the lesson's objectives due to the limited edition of zoom (40 mins) mostly used by the teachers and this hinders an effective lesson coverage

Table 5:
Assessing the effectiveness of online learning (Teachers)

	Variables	SA	S	D	SD	Total
1	I prefer online learning than physical class	20 [4.3%]	51 [11.1%]	153 [33.3%]	236 [51.3%]	460 [100%]
2	Online learning is more effective than physical class	14 [3%]	27 [5.9%]	121 [26.3%]	298 [64.8%]	460 [100%]
3	I enjoy students to teacher intimacy in online learning than physical class	51 [11.1%]	87 [18.9%]	119 [25.9%]	203 [44.1%]	460 [100%]
4	Online learning is	67	84	111	198	460

	more comfortable and convenient for me than physical class	[14.6%]	[18.2%]	[24.2%]	[43%]	[100%]
5	Learners have maximum concentration throughout the online lesson	13 [2.8%]	19 [4.2%]	169 [36.7%]	259 [56.3%]	460 [100%]
6	Learners answer questions at any time during the online lesson	66 [14.3%]	79 [17.3%]	129 [28%]	186 [40.4%]	460 [100%]
7	Online lessons are more interactive than physical	43 [9.4%]	34 [7.4%]	128 [27.8%]	255 [55.4%]	460 [100%]
8	Students get more engaged in online learning than physical class	29 [6.3%]	17 [3.6%]	202 [44%]	212 [46.1%]	460 [100%]
	Total respondents	303 [8.2%]	398 [10.8%]	1132 [30.8%]	1847 [50.2%]	3680 [100%]

From the teachers' responses as shown in the above table, it is evident that more teachers also prefer physical class than online class as 389 respondents representing 84.6% support physical class than online class, while 419 teachers representing 91.1% claimed that online class is not as effective as physical class. Furthermore, 428 teachers representing 92% affirmed that learners don't have maximum concentration throughout online lesson session. On the level of students' interaction during online class, 383 respondents affirmed that students don't have interaction in online class as physical class. All the forgoing analysis summed up to having 81% as the total respondents affirming that online learning is not as effective as physical. Teachers' experience as gathered by the open ended responses showed that students at times frustrated the online class. Summary responses showed that students at times connected to the online class, deactivated their video and engaged themselves in other things. Others completely leave their laptop and go elsewhere. This was proved by the teachers when a student's name was called severally without any response from such students. Moreover, from the few that attend a class, some intentionally mute their audio and claimed to the teacher that their microphone was faulty just to avoid answering of questions

Table 6:
Challenges faced by students in online teaching and learning during Covid-19 pandemic

	Variables	SA	S	D	SD	Total
1	Internet instability	312 [21.8%]	224 [15.6%]	432 [30.2%]	464 [32.4%]	1432 [100%]
2	Power supply unavailability	644 [45%]	643 [44.9%]	59 [4.1%]	86 [6%]	1432 [100%]
3	Computer problem	97 [6.8%]	99 [6.9%]	572 [39.9%]	664 [46.4%]	1432 [100%]
4	Network issue due to location	102 [7.1%]	578 [40.4%]	86 [6%]	666 [46.5%]	1432 [100%]
5	Lack of understanding of the subject's contents	494 [34.5%]	354 [24.7%]	295 [20.6%]	289 [20.2%]	1432 [100%]

Total respondents	1649	1898	1444	2169	7160
	[23%]	[26.5%]	[20.2%]	[30.3%]	[100%]

From the above table, it is evident that the major problem faced by students during online class was power supply unavailability with 1287 students representing 89.9% affirming to this. On the other hand, the proportion of the students that have internet stability is 62.6% while 37.4% claimed to have internet problem. Majority of the respondents claimed not to have any form of computer problem with 86.3% asserting to this while 13.7% stated that they experienced one computer problem or the other at one point in time. Sadly, 848 respondents representing 59.2% claimed not to have the understanding of the subject contents. While many students disagreed with the internet instability, power problem made a lot of parents relied heavily on the use of generator which according to them was not sustainable. Even though internet was available, the rate of poor connectivity due to location made students have poor audio and video quality. This of course made a lot of students to give an excuse of why they refused to turn on their video and hid under this presence to abscond from the online class as earlier discussed.

Table 7:
Challenges faced by teachers in online teaching and learning during Covid-19 pandemic

Variables	SA	S	D	SD	Total
1 Internet instability	167 [36.3%]	138 [30%]	129 [28%]	26 [5.7%]	460 [100%]
2 Power supply availability	298 [64.8%]	121 [26.3%]	27 [5.9%]	14 [3%]	460 [100%]
3 Computer problem	71 [15.4%]	98 [21.3%]	119 [25.9%]	172 [37.4%]	460 [100%]
4 Network issue due to location	167 [36.3%]	184 [40%]	86 [18.7%]	23 [5%]	460 [100%]
5 Lack of adequate knowledge of software	169 [36.7%]	259 [56.3%]	13 [2.8%]	19 [4.2%]	460 [100%]
6 Lack of motivation (money for data, salary)	206 [44.8%]	138 [30%]	73 [15.9%]	43 [9.3%]	460 [100%]
7 Low attendance during online class	194 [42.2%]	187 [40.6%]	58 [12.6%]	21 [4.6%]	460 [100%]
Total respondents	1078 [39.1%]	938 [34%]	447 [16.1%]	297 [10.8%]	2760 [100%]

From the above table, most teachers either strongly agreed or agreed with the fact that internet instability was a great problem as 306 respondents representing 66.3% attesting to this. In the same vein, 419 respondents claimed to have power supply problem and 351 respondents representing 76.3% had network issue due to their location. On the knowledge of the software used to teach, 428 respondents representing 93% claimed not to have adequate knowledge of the software used to teach while 7% have adequate knowledge of the software. The table to reveal that most teachers were not paid money for data or salary and thus lack of motivation to teach. Affirming this assertion are 344 teachers representing 74.8% while 25.2% claimed to be motivated. Further investigations revealed that most teachers that claimed not to be motivated were actually private school teachers. The table also revealed that students attendance were low during the online class with 82.8% respondents attesting to this. Apart from internet instability, network issue and power outage as revealed above, most teachers had the difficulty in either using or adapting to the use of software to teach online. Table 3 revealed that zoom was the most widely used software with 52%, however, teachers found it challenging in manipulating the software for more engaging lesson such the use of breakout room to divide students into groups.

Discussing of Findings

The result of this research paper clearly shows than traditional lesson is preferred than online learning because of its effectiveness in getting feedback from teachers, better students' engagement, all-inclusive learning, interactions and quality of teaching in general. Even though the world is gradually changing to technology class, the study reveals

that online is less effective, less tailored and structured when compared to traditional face to face learning. This is collaborated by Nambiar (2020). The study revealed that teachers and students' perception on online learning effectiveness is in doubt compared to physical class. This is because according to him, teachers found it difficult to clarify students' doubts as the quality of students' discussion is low. Young and Cornelius (2004) in their study also collaborated this finding. Their study showed that practicality is an important element use to determine satisfaction of an online class. Their research showed that students were not satisfied with the subjects that tutors could not provide practical lessons. This is also evident in this research as students grossly complained about their inability to undertake practical classes in science subjects online. Tratnik (2017) believed that limited technical skills will consequently lead to an ineffective class and students been disfranchised. This disfranchising according to Zeng and Perris (2004) has a great impact in the learning process.

Conclusion

The study found out that the level of online teaching and learning effectiveness compared to traditional face to face class as well as the challenges faced by both students and teachers. The result revealed that traditional face to face class is more preferred and more effective by both the learners and tutors. This is because, all the criteria raised by the researcher to measure the effectiveness of a class which are student's feedback, students' level of engagement and teachers' knowledge were judged to better realised and utilized in physical class than online class. Furthermore, the result from the survey showed that both teacher and learners preferred physical class compared to online due to better learning support system, better level of students' interaction and the overall quality of the lesson. The study also revealed that the most challenge faced by the learners and the tutors was power supply problem in their locations. This necessitated the use of generator which the study revealed not to be sustainable.

Recommendations

Based on the outcome of the research study, it is recommended that

1. Appropriate department under the Lagos State Ministry of Education should develop the quality of online learning among the teachers in the state
2. Increased sensitization should focus on staff development in other to increase the adoption of online medium of learning in the state
3. There should be enough motivation by training teachers in the use of online teaching software and other professional development that will prepare them for future unexpected re-occurrence.

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