Assessment of Students' Involvement in Online Teaching and Learning during Covid-19 Pandemic in the Federal Science and Technical College, Ahoada, Rivers State

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Abstract
The Covid-19 Pandemic compelled schools in many countries, including Nigeria to move all teaching and learning activities online. The teaching and learning activities inevitably shifted to a full electronic learning with the help of the school media in the Federal Science and Technical College, Ahoada. This study seeks to assess students' involvement in online teaching and learning during covid-19. Descriptive research design was used for this study. A self-structured questionnaire was employed and a purposive sampling technique was used to select 245 respondents. A reliability of 0.68 was obtained and frequency and percentages were used to describe the variables. Results showed that 95% of the respondents had a study plan that enabled them get involved in online learning. Although 60% of the respondents indicated the high cost of internet subscription and 50% quality of service delivery by service providers as part of factors that hamper students active involvement, 35% indicated that the best time to study during the pandemic was in the afternoon. The study recommended that training on awareness, knowledge and interaction with online learning resources for teaching and learning should be encouraged to students, a review of ICT policy to favour educational institutions, students and teachers towards acquiring ICT infrastructure.

Keywords: Students' involvement, online teaching and learning, Covid-19.

Introduction
The outbreak of coronavirus disease has revolutionized teaching and learning, necessitating the use of online format. It has compelled schools around the globe to close down and moved all teaching and learning activities online. The infection control and physical distance measures are crucial to prevent the virus from further spreading and to help control the pandemic situation. The policy of compulsory physical distancing has been implemented in many countries including Nigeria, resulting in nationwide school closure. In a bid to adhere to the federal government policy, institutions are compelled to make appropriate and timely modifications in order to continue to deliver education and to sustain the continuation of students' academic progress. The teaching and learning activities automatically shifted to a full electronic learning with the assistance of the school media in the Federal Science and Technical College (FSTC), Ahoada. Several researches have revealed that the use of digital technologies for online teaching and learning and continuous professional development have proven to be effective (Cook, Levision, Garside, Dupras, Erwin & Montori 2008). It has been established that digital technologies encourage students in self-paced learning and also influence curricula update (Ruiz, Mintzer & Leipzig, 2006). The Horizon report 2020 on teaching and learning pointed out the effectiveness of online teaching in tackling challenges of shortage of venues for a large group of students. Similarly, McCoy, Pettit and Lewis (2015) observed that students and teachers considered live streaming classes an efficient compensation for the absence of face-to-face teaching, thus providing more avenues for open discussions. However, tools for teaching and learning in the era of ICT explosion needs to be readily available for students' active involvement and participation. FSTC Ahoada shifted into digitalized materials for a term. This was a good preparation for a full session as well as for final year Senior Science and Senior Technical Three (SS/ST3) students. Online formative assessments were performed and these assessments were used to show the nature of learning online, thus engaging the

students more in the learning process.

Every online assessment enables the learner to demonstrate their capabilities in critical thinking and problem-solving. These are the main benefits of migrating from the usual face-to-face teaching to digital classroom. Although for any online teaching and learning to effectively take off, digital devices are required. The cost of subscription and infrastructural tools as well as the poor quality of service by network providers are some of the factors that need to be adequately considered (Nkanu, 2017). It has been observed that students in rural areas lack adequate access to information and communication technology as there has been a difference existing between urban and rural areas in the usage of digital device (Lembani, Gunter, Breines and Dalu, 2020). Not all students have great skill on digital technologies as well as equal access; although these inequalities had existed, the covid-19 pandemic brought about this exposure (Jaeger and Blaabaek, 2020). As reported by Grishchenko (2020), people in rural areas, including economically-disadvantaged ones, often have access to digital technologies and those without knowledge of these technologies have difficulties fitting into online education. Also, some students live in houses with inadequate space and as such cannot have online classes in their homes.

This study is hinged on social cognitive learning theory developed by Albert Bandura in the 1960s as social learning theory which later became social cognitive theory in 1986. It was used to study social behaviour change, communication and preparedness in the wake of Ebola and Zika virus outbreaks. The theory highlights a multifaceted causal structure which indicates that learning occurs in a social context with a dynamic and reciprocal interaction of the person, environment and behaviour. Applied to this research, the theory holds that the independent variables- students' involvement and participation would explain the knowledge and behaviour of students towards online teaching and learning because the structure of online learning should provide the interaction between the students and educators as well as promoting the facilitation of active learning and

offering educational support. This study investigated students' involvement and participation in online teaching and learning during Covid-19 Pandemic.

Research Questions
The following research questions guided the study. These include:
1. What is the level of involvement of FSTC Ahoada students in online teaching and learning during Covid-19 pandemic?
2. What perceived factors hamper the students' active involvement in online teaching and learning during Covid-19 pandemic?

Research Method
This study adopted descriptive research design. Purposive sampling technique was used, and a sample size of 245 respondents participated in the study. The data for the study was collected by means of self-structured questionnaire developed by the researchers. The questionnaire has four sections from A to C. Section A included background information, section B contains twelve items on students involvement, section C- contains four items on perceived factors that hampers students involvement in online teaching and learning. The participants responded to the questionnaire using the following categories: Yes and No, Strongly Agree, Strongly Disagree, Agree, Disagree, High, moderate, low and undecided. The instrument was validated by seeking the opinion of experts who made necessary corrections to ensure face and content validity. The reliability of the items were established using Cronbach Alpha and a score of 0.68 was obtained which was considered reliable. Data generated were processed using Statistical Package for Social Sciences (SPSS) version 21. Frequency and percentage were used to describe the variables.

Results
Research Question 1
What is the level of involvement of FSTC Ahoada students in online teaching and learning during Covid-19 pandemic?

Table 1a: Background Information

Background information	Frequency	percent
Age		
9 -11	12	5.30
12- 14	25	10.0
15-17	208	84.7
Gender		
Male	159	65.0
Female	86	35.0
Class		
JS1	12	5.0
JS2	12	5.0
JS3	25	10.0
S/ST1	-	
SS/ST2	74	30.0
SS/ST3	122	50.0

Table 1b: Students Involvement

Variable	Responses	Frequency	Percent
Do you have a study plan?	Yes	233	95.0
	No	12	5.0
Do you have a stable power supply to access online learning resources?	Yes	74	30.0
	No	135	55.0
	Maybe	36	15.0
Does your school have a platform for online learning?	Yes	245	100
Do you have a personal digital device for learning online?	Yes	220	90.0
	No	25	10.0
Does your current location during lockdown affect your access to the internet?	Yes	159	65.0
	No	86	35.1
Do you have regular bandwidth?	Yes	147	60.1
	No	98	39.9
Do you have ICT practical skills?	Yes	159	65.0
	No	86	35.1

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Table 1a and 1b show that 245 of the respondents stated that they have been involved in the online teaching and learning during Covid-19 Pandemic. Based on the background information, gender had 159 (65%) males and 86 (35%) females, 208 (84.7%) were between the ages of 15- 17, 25 (10%) were between 12-14 and 12 (5.3%) were between 9 -11. Majority of the respondents were SS/ST3 122(50%), SS/ST2 74(30%), JS3 25(10%), JS2 12(5%), JS1 12(5%).

Majority of the respondents 233(95%) had a study plan, 12(5%) responded NO. Majority of the respondents 135 (55%) attest of not having a stable power supply to use the internet or access online learning, 74(30%) Yes, 36(15%) Maybe. All respondents attest that the school had a platform that could be accessed online. 159(65%) responded that their current location during lockdown did not affect their access to the internet via mobile phone. 220(90%) of the respondents have a modern computer, laptop or mobile phone, 25(10%) responded No. 147(60.1%) respondents have regular bandwidth, 98(39.9%) responded No.159 (65%) respondents have ICT practical skills while 86(35.1%) responded No.

Table 2: Students Participation

Variable	Responses	Frequency	Percent
During the lockdown I read with my personal timetable to enable me participate in online classes	Strongly Agree	233	95.0
	Agree	-	-
	Strongly disagree	12	5.0
	Disagree	-	-
I am comfortable with my study venue	Strongly Agree	-	-
	Agree	49	20.0
	Strongly Disagree	171	70.0
	Disagree	25	10.0
I face distraction during study time by my parents, siblings and friends	Strongly Agree	74	30.0
	Agree	134	55.0
	Strongly disagree	-	-
	Disagree	37	15.0
I enjoy the interaction during online classes	Strongly Agree	61	25.0
	Agree	159	65.0
	Strongly disagree	-	-
	Disagree	25	10.0
Frequent online quizzes help to improve My study	Strongly Agree	86	35.0
	Agree	147	60.0
	Strongly disagree	12	5.0
	Disagree	-	-

Table 2 shows that 233(95%) respondents agreed that during the lockdown they read with their personal timetable to enable them participate in online classes while 12(5) disagree. Majority of the respondents 171(70%) agreed that they were not comfortable with their study venue, 49(20%) strongly agreed while 25(10%) disagree. 134(55%) respondents agreed that they faced distraction during study time from parents, siblings and friends,74(30%)

strongly agreed while 37(15%) disagreed. Majority of the respondents 159(65%) enjoy the interaction during online classes, 61(25%) strongly agreed while 25(10%) disagreed. 147(60%) agreed that frequent online quizzes helped to improve their study, 86(35%) strongly

agreed while 12(5%) strongly disagreed.

Research Question 2:
What perceived factors hamper the students' active involvement in online teaching and learning during Covid-19 pandemic?

Table 3: Perceived factors that hamper students' involvement and participation

Variable	Remarks	Frequency	Percent
Cost of internet subscription	High	147	60.0
	Moderate	74	30.3
	Low	12	4.89
	Undecided	12	4.89
Quality of service delivery by network providers	High	-	-
	Moderate	22	8.97
	Low	100	40.8
	Fair	123	50.0
Level of comprehension during lockdown	High	-	-
	Moderate	196	80.0
	Low	40	16.3
	Undecided	9	3.7
Best time to study during pandemic	Early morning	61	25.0
	Afternoon	86	35.0
	Evening	61	25.0
	Late in the night	37	15.0

Tables 3 shows that respondents rated the cost of internet subscription to be very high 147(60%), 74(30.3%) Moderate, 12(4.89%) low and 12(4.89%) undecided. The quality of service delivery by network providers was rated 123(50%) fair, 22(8.97%) moderate and 100(40.8%) low. Respondents rated level of comprehension during lockdown as 196(80%) moderate, 40(16.3%) low and 9(3.7%) undecided. Majority of the respondents 86(35%) rated best time to study during pandemic as afternoon, 61(25%) morning and evening respectively while 37(15%) late in the night as factors that hamper students involvement and participation in online teaching and learning during Covid-19 Pandemic.

Discussion of Findings
This study revealed that majority of the

respondents 233(95%) had a study plan that enabled them carry on the online teaching and learning and were mostly SS/ST3 students 55%. This is expected because they were to sit for their external examination immediately after the lockdown. Also, students were faced with difficulties ranging from logistics, technical, financial and social context (Lassoued, Alhendanin and Bashitialshaaer, 2020). It is not every student that has great skill on digital technologies as well as equal access, the adoption of online teaching and learning in Nigeria is being hindered by some factors which also hampers on students involvement and participation.

The findings of this study also revealed that majority of the respondents participated in online teaching and learning during Covid-19 pandemic. There was an improvement in the

online learning; students learnt new techniques and adjusted to online teaching. Although students were found not to be comfortable with their study venue as parents, siblings and friends constitute a source of distraction. This is similar to the findings of Grishchenko (2020) who reported that some students live in houses with inadequate space and as such cannot have online classes in their homes.

Furthermore, the study indicated high cost of the internet subscription and poor quality of service delivery by network providers. This is similar to the findings of Nkanu (2017) who reported that cost of internet subscription and infrastructural tools with poor quality of service by network providers are some factors that contributed to digital divide which in turn hampered students' involvement and participation. However, students' participation throughout online learning started with a high degree of engagement and there was a noticeable drop in the level of comprehension as indicated in the findings. This could be as a result of the non-execution of some proposed activities in the different topics taught online (Lima, Neves, Ramires, Soares, Martiru, Lopez and Mello-Carpes, 2020).

Conclusion
Based on the result of the analysis and the discussion of findings, it could be concluded that students of the Federal Science and Technical College, Ahoada were involved and participated in online teaching and learning during Covid-19 pandemic as they considered online platforms a viable means of delivering education at such times. However, there is scope for improvement where online teaching and learning would be acceptable among students at large.

Recommendation
Based on findings from the study, it was recommended that the government and other reputable organizations should endeavour to provide digital technologies, create awareness, knowledge and interaction in the teaching and learning process for students as well as teachers. School media centres and designated centres around communities should be provided for

adequate involvement of students in online teaching and learning. Also, there is need for adequate provision of resources and facilities such as affordable bandwidth and steady power supply. In addition, a review of ICT policy to favour educational institutions, students and teachers towards acquiring ICT infrastructure and making bandwidth affordable for public institutions is necessary.

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