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IMPACT OF COVID-19 ON ONLINE CLASSROOM LEARNING AMONG THE SENIOR SECONDARY SCHOOL STUDENTS IN IFE CENTRAL LOCAL GOVERNMENT AREA OF OSUN STATE, NIGERIA

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Abstract

The study assessed the impact of Covid-19 online classroom learning among the senior secondary school students in Ife Central Local Government Area of Osun State. The study employed correlational survey research design. The population comprised all students and teachers in Ife Central LGA of Osun State. The sample consisted of 100 students and 20 teachers who were purposively selected from five schools in the study area. Research instruments titled Students Attitudes towards Virtual Learning Questionnaire; Online Classroom Interaction Questionnaire; Teachers' Attitudes towards Virtual Learning Questionnaire and Students Online Learning Performance Test were used for data collection. Data collected were analysed using mean and Pearson Product Moment Correlation. The result revealed that the teachers had positive attitudes towards virtual learning and there was a significant positive relationship between teacher-students' online classroom interaction and their attitudes towards virtual learning. The result also showed a positive non-significant relationship between teacher-students' online classroom interaction and their academic performance. The study concluded that there was a significant relationship between teacher-student online classroom interaction and the students' attitude. Finally, it concluded that there was no significant relationship between teacher-student online classroom interaction and their academic performance.

Keywords: Online Learning, Academic Performance, Attitude, Learning Interaction.

Introduction

Education has been seen as the greatest force that can be used to bring about changes. Fuandai, Shiaki and Gbari, (2007), observed that the greatest investment a nation can make for the development of its economic, sociological and human resources is that of education. Education provides us with people possessing the necessary knowledge and skills to win a nation's state and to even export brains. Education is not only an end in itself. It is a key instrument for bringing about changes in knowledge, values and behaviours and lifestyles required to achieve sustainability and

stability within and among countries (Bajaj & Chiv, 2009). According to UNESCO (2000), "education refers to the total process of developing human ability and behaviours". It is an organized and sustained instruction designed to communicate a combination of knowledge, skills and understanding values of all activities of life. Education delivers knowledge of equality among everyone in society and encourages the growth and improvement of the nation. Nowadays, everyone can get education using modern technology-based platforms, and also various distance education programmes are available for the same. And such a modern education system is completely proficient in discussing social problems of illiteracy and inequality among everyone of various castes and religion.

The birth of Coronavirus Disease 2019 (COVID-19) has posed serious challenge to the educational sector worldwide. COVID-19 was declared as a pandemic by the World Health Organization on March 11th 2020 mainly due to the speed and scale of the transmission of the diseases. The etiologic agent of COVID-19 was isolated and identified as a novel coronavirus, initially designed as 2019-nCoV. Later, the virus genome was sequenced and because it was genetically related to the coronavirus outbreak responsible for the SARS outbreak of 2003, the virus was named as severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) by the International Committee for Taxonomy of Viruses. One of the strategies adopted in the bid to curb the Covid-19 pandemic was the lockdown of states and nations (Nigeria Centre for Diseases and Control [NCDC], 2020). In Nigeria, the full lockdown was between March and June 2020 while the partial lockdown lasted till September 2020 (NCDC, 2020). Conceptually speaking, lockdown has been referred to as an emergency response imposed by the government, mandating people to stay indoors in the event of an outbreak. In the case of Covid-19, the ultimate goal of a lockdown measure is to flatten the curve of the novel virus and the exercise entails the closure of all activities-based centers such as schools, hotels, clubs and religious houses that could make a sizeable number of people come together (Saxena, Baber & Kumar, 2020). This apart, directives such as social distancing, banning of congregations of more

than 20 people, and compulsory usage of face masks, particularly in public places were all forcefully enforced (NCDC,2020; CDC,2020; WHO,2020).

Globally, over 1.2 billion students between elementary up to university level are off school. While countries are at different points in their COVID-19 infection rates, there are currently more than 188 countries affected by school closure due to the pandemic (UNICEF, 2020). The sudden closure of schools meant that education policy makers, school principals and teachers had to find alternatives to face-to-face instruction in order to guarantee children's right to education. Many systems had adopted online teaching and learning on an unprecedented scale, often in combination with widespread remote learning materials such as television or radio. The sudden shift to online learning took a huge toll on students as it took a great while before they could adapt to the concept of online learning. Although secondary schools were quick to replace face-to-face lectures with online learning, these closures affected learning and examinations as well as the safety and legal status of international students in their host country (UNICEF, 2020). Perhaps most importantly, the crisis raises questions about the value offered by secondary school education which includes networking and social opportunities as well as educational content. To remain relevant, secondary schools will need to reinvent their learning environments so that digitalisation expands and complements student-teacher and other relationships.

Online learning uses computer software, the Internet or both to deliver instruction to students (Holmes & Gardner, 2006). This minimizes or eliminates the need for teachers and students to share a classroom (Naaj, Nachouki & Ankit,2012). Online learning does not include the increasing use of e-mail or online forums to help teachers better communicate with students and parents about course work and student progress; as helpful as these learning management systems are, they do not change how students are taught. Online learning is a learning experience that is enhanced through utilizing computers and/or the internet both outside and inside the facilities of the educational organization (Keeton, 2004). According to Alquarashi, (2018) online instruction most commonly takes place in an online environment and the teaching activities are carried out online whereby the teacher and learners are physically separated (in terms of place, time, or both). Student assessments are carried out online, with a lot of trial and error, uncertainty and confusion among the teachers, students and parents (Dhawan, 2020). The approach adopted to conduct online examination varies as per the convenience and

expertise among the educators and the compatibility of the learners.

During Covid-19 Period, the students who are at rest at home rarely attended classes, because of the non-opening of their Colleges and Universities (Dhawan, 2020). The Government of Nigeria also supported online learning classes in the secondary school field. It has been found that all the students are interested in learning online (Adewole-Odeshi, 2014). It has been found that even the introvert students had good interaction as there is no face-to-face interaction (Adewole-Odeshi, 2014). He further stated that they are very comfortable as they are seated in a very comfortable place at home and all the study materials in hand. Online learning is not a substitute for classroom teachers; it cannot do visual experiences of field trips and the social and cultural programs of academic activities in regular mode of school life (Oliver, Osborne, & Brady, 2009).

Technology has proven its major influence on everybody in the world. In fact, life is almost dependent on technology now a day. Everything was moving with its own pace. But as the circumstantial lockdown took place perspective of education has been changed and almost all educational institutions all over the world have evolved new means to reach the students (Huang, Tlili, Chang, Zhang, Nascimbeni, & Burgos, 2020). The concepts of online classes are not new as it has been a part of many academic courses since a long time (Buzetto-More & Sweat-Guy, 2006). Evidences indicate that worldwide many schools are offering online courses for the learners (Karaca, Can & Yildirim, 2013). But it is a new concept that overall education either it be primary education or secondary education are shifted or relied on online classes. Online classes are nothing but playing a supplementary role in present situation. This pandemic has left no options in front of schools other than temporarily shut the doors or shift to online classes. Though online classes are adopted as an alternative for traditional classes but they must be the part of futuristic education so that students must be acquainted with technological skills (Huang, Wang, Zhang, Burgos & Tlili, 2020).

Moreover, successes of online classes are dependent on learner's ability, their interest in technology and some essential tools required. Beyond the student's attitude, facilitator's attitude is also important to make online learning more interesting. Undoubtedly web-based learning has captured the education globally and it make learning more convenient but country like Nigeria does not have online classes as a routine part of their curriculum (Ajadi, Salawu, & Adeoye, 2008).

Affordability, availability and less knowledge of technology are some important issues which make online classes unsuitable for students. WhatsApp, zoom and Google meet are some of the apps used for conducting online classes (Aina & Olanipekun, 2018). Some schools have also developed their own software for online classes (Keeton, 2004). It is almost a new notion for the students to take online classes on regular basis so they were never being evaluated for their attitude towards online classes in this context. Current study is a novice idea on online classes rather than e-learning which is more popular for pursuing different short term courses by the learners. To develop the interest of students in online classes, schools must focus on providing guidance regarding initial instructions, proper time frame, technical assistance, interactive sessions and motivation among the students (Liaw, 2008). For making online classes more fascinating instructors must be trained to control the large groups and equipped with the technical knowledge to manage the disturbing noises from students by instructing them to off the mike and cameras (Qureshi, Ilyas & Yasmin, 2012). Study also explored that students living in rural area had poor internet bandwidth and less availability of computers at their home place, which leads to unfavourable attitude towards online classes (Bali & Liu, 2018).

Many schools adopt web-based learning systems for their online learning. However, there is a limited empirical examination of the factors underlying the adoption of web-based learning systems (Abbad, Morris & Nahlik, 2009). Successful implementation of a system and adoption by learners requires a solid understanding of user acceptance processes and ways of persuading students to engage with these technologies (Chien, Wu, & Hsu, 2014)). Measuring attitudes has an important role in analysing consumer behaviour because it is a known fact that there is a strong connection between attitude and behaviour. Specialists have discovered that attitude indicates in a certain degree, the possibility of adopting certain behaviour (Bertea, 2009). Talking about online learning, a favourable attitude shows a greater probability that learners will accept the new learning system. Factors such as patience, self-discipline, easiness in using software, good technical skills, abilities regarding time management impact on students' attitude towards e-learning. Thus, the attitude can be positive, if the new form of education fits the students' needs and characteristics, or negative if the student cannot adapt to the new system because he does not have the set of characteristics required (Bertea, 2009). Strong attitudes can guide behaviour and positive attitudes towards learning can contribute to the effective employment of learning strategies

(Maio & Haddock, 2018).

Prior experiences in the present study comprised prior Information and Communication Technology experiences and prior subject knowledge. Some researchers reported that students' prior experiences of ICT usage could influence their attitudes toward online learning (Stephens & Creaser, 2004; Spiceland & Hawkins, 2002). However, other researchers reported that no significant impact of prior ICT experiences on students' attitudes in online learning (Buzetto-More & Sweat-Guy, 2006). Meanwhile, students' prior familiarity with the subject areas could have an impact on their perception of the online courses (Hong, Ridzuan, & Kuek, 2003). Students' familiarity with the subject area can help students reduce their anxiety and perceived difficulty level in an online course (Gunnarsson, 2001). Students' prior attitudes consisted of their prior attitudes toward ICT usage, the subject area, and online learning. The findings by Wang, Kanfer, Hinn, and Aran (2001) and An and Levin (2003) indicated that the students' prior attitudes toward ICT usage could influence their attitudes toward online learning. Gunnarsson (2001) reported the significant relationship between the students' subject attitudes and their online learning attitudes when they took an online course. Alquarashi, (2018) found that the students, who preferred online learning method, showed significantly higher level of course satisfaction than those who did not. However, Roberts and Dyer (2005) found that the participants' confidence in online learning prior to the course could not predict their attitude toward online learning after the course.

According to Akçayl and Doymuş (2014), the selection of appropriate teaching methods and techniques are vital to ensure students' understanding of issues and concept at the highest level. Teachers and learners no longer have to rely exclusively on printed books, other physical media material available in libraries, and materials in limited quantities for their educational needs (Holmes & Gardner, 2006). Literature has consistently suggested e-learning to be the best alternative to managing constraints to accessing education (Clarke, 2008; Weller, 2007). However, successful implementation of e-learning in education relies much on teachers' attitudes towards it (Avidov-Ungar & Eshet-Alkarakay, 2011; Salmon 2011; Teo 2011; Teo & Ursavas 2012). Liaw, Huang & Chen, (2007) argued that "no matter how advanced or capable the technology is, its effective implementation depends upon users having a positive attitude toward it". Teachers' attitude towards technology development, adoption, and implementation defined attitudes toward technology

as an affective or evaluative judgement about technology in question (Avidov-Ungar, & Eshet-Alkarakay, 2011). Thus, it is a degree to which an individual perceives technology with the intention to use it (Chen, & Tseng, 2012). Technology, which is believed to be both important and personally relevant, is more likely to create people's positive attitude towards it (Rogers, 2003; Teo, 2011). Ferdousi (2009) contended that teachers' attitudes have a significant impact on their decisions making on how they will use e-learning systems".

Although, there have been overwhelming challenges and problems for students, educators, schools, institutes and the government regarding online education from a different angle, there are several opportunities created by the COVID-19 pandemic for the unprepared and the distant plans of implementing e-learning system. Problems of online teaching and learning for students, moving from conventional classroom and face-to-face teacher training to computer-based training in a virtual classroom makes the learning process radically different (Campbell, Floyd&Sheridan, 2011). However, compatibility problems (with operating systems, browsers or smartphones) sometimes arise, the courses never get off the ground or the student does not know how to proceed. Owing to the lack of human interaction, the absence of a teacher and an inability to discuss it with their peers, students may often get upset. After conventional classroom learning, students find it hard to adapt to an online learning world immediately (Huang & Liaw, 2005). Once they encounter difficulties in online learning, students start losing hope. Few studies highlighted Covid-19 in relation to educational studies (Huang, Tlili, Chang, Zhang, Nascimbeni, & Burgos, 2020; Saxena, Baber & Kumar, 2020). Covid-19 has a profound impact on senior secondary school students' academic activities. However, literature has not shown much evidence on the impact of Covid-19 on online classroom learning among senior secondary school students in Ife Central Local Government Area of Osun State, hence this study.

Purpose of the Study

The objective of this study is to investigate the impact of covid-19 on online classroom learning among Senior Secondary School students in Ife central Local Government Area of Osun State. Specifically, the objectives of the study are to;

- i assess the teachers' attitude towards virtual learning in senior secondary school in the area;
- ii examine the influence of online classroom interaction on students' attitudes in senior secondary school in the area; and

- iii determine the influence of online classroom interaction on students' academic performance in Ife central Local Government Area.

Research Question

One research question was raised to guide the study

- i What are the teachers' attitudes towards virtual learning in senior secondary school in Ife central Local Government Area

Hypotheses

Two hypotheses were formulated to give direction to the study.

- H₀₁: There is no significant influence of online classroom learning on students' academic performance in Ife Central Local Government Area.
- H₀₂: There is no significant influence of online classroom on students' attitudes in Ife Central Local Government Area.

Methodology

The study employed the correlational survey research design. Correlation survey research design was used to determine the extent to which two or more variables are related among a single group of people. It is also a type of non-experimental research in which the researcher measures two variables and assess the statistical relationship i.e. the correlation between them with little or no effort to control extraneous variables. The population for this study comprised of all the students and teachers in Ife Central LGA of Osun State. The sample consisted of 100 students and 20 teachers. In the Local Government, five schools were selected using purposive sampling techniques. These schools were purposively selected because they engage in virtual learning during Covid-19. In each of the selected school, one intact class of Senior Secondary School students was selected using simple random sampling techniques and teachers that engaged in online teaching were selected using purposive sampling techniques.

Four research instruments were used for this study namely; Students' Attitudes towards Virtual Learning Questionnaire (SAVLQ), Online Classroom Interaction Questionnaire (OCIQ), Teachers' Attitudes towards Virtual Learning Questionnaire (TAVLQ) and Students Online Learning Performance Test (SOLPT). SAVLQ was used to assess the students' attitudes towards virtual learning. It was divided into two parts which are section A and B. Section A contains the demographic characteristics of the student which include Gender and Age. Section B contains twenty (20) items on student attitudes towards virtual teaching. OCIQ was used to observe the interaction between the teachers and the students

using online classroom during Covid-19. It was divided into two sections. Section A contains the demographic information of the student which include Gender and Age. Section B contains twenty (25) items on the interaction between the teachers and the students using online classroom during Covid-19. TAVLQ was used to assess the teachers' attitudes towards virtual learning during Covid-19. It was divided into two sections. Section A contains the demographic features of the teacher which include Gender, Age, Marital status, and Educational level. Section B contains fifteen (15) items on teachers' attitudes towards virtual learning. SAVLQ, OCIQ and TAVLQ items were rated on 4-point Likert type rating scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). SOLPT was used to measure the students' knowledge on concepts taught during virtual learning session during Covid-19. It was divided into two sections. Section A contains the demographic information of the student which include Gender and Age. Section B contains 25 items of 4-option structured multiple choice questions based on concepts taught during online classroom.

The validation was carried out by the supervisor and an expert in test and measurement from OAU Ile-Ife. They read through the response in the instruments and the suitability of the response was

Results

Research Question: What are the teachers' attitudes toward online learning in the schools?

To answer this research question, data generated on teachers' attitude toward online learning in the schools were analysed using frequency count, simple percentage and mean.

Table 1: Descriptive Analysis Teachers' Attitude Toward Online Learning in the Schools (N=18)

Item Description	SA f(%)	A f(%)	D f(%)	SD f(%)	Mean
1. I talk enthusiastically about my subject during the online teaching	9(45.0)	9(45.0)	1(5.0)	1(5.0)	3.60
2. I trust the students during online class	5(25.0)	9(45.0)	3(15.0)	3(15.0)	2.89
3. I explain things clearly during the online teaching	10(50.0)	6(30.0)	2(10.0)	2(10.0)	3.47
4. I am willing to explain things again during the online teaching	2(10.0)	4(20.0)	5(25.0)	9(45.0)	2.22
5. I am a good leader during the online classroom	6(30.0)	9(45.0)	3(15.0)	2(10.0)	3.33
6. I act confidently during the online classroom	3(15.0)	2(10.0)	5(25.0)	10(50.0)	1.90
7. I let students get away with a lot in the online classroom	8(40.0)	9(45.0)	2(10.0)	1(5.0)	3.44
8. I am strict during the online teaching	9(45.0)	8(40.0)	1(5.0)	2(10.0)	3.44
9. Student have to be silent in my online class	3(15.0)	12(60.0)	3(15.0)	2(10.0)	2.89
10. I am someone students can depend on in the online class	5(25.0)	6(30.0)	2(10.0)	7(35.0)	2.39
11. I hold students' attention during the online class	8(40.0)	6(30.0)	2(10.0)	4(20.0)	2.78
12. I give students a lot of free time in the online class	7(35.0)	9(45.0)	3(15.0)	1(5.0)	3.44

ascertained. Based on their assessments and suggestions, corrections were made on the instruments which was used in order to provide evidence to support the interpretation of the analysed data. The reliability of the instrument was done by administering the instrument on some selected students outside the scope of the study but having the same similar characteristics with the students used for the study. The reliability coefficient of the instruments was obtained using Cronbach Alpha. For SAVLQ, Cronbach Alpha value of 0.76 was obtained; for OCIQ, Cronbach Alpha value of 0.72 was obtained; for TAVLQ, Cronbach Alpha value of 0.84 was obtained and SOLPT yielded a 0.72 using Pearson Product Moment Correlation.

The researcher went to the selected schools and took permission from the school authority to be able to use both the students and teachers for the research work. The instruments were then administered to the selected students and teachers. The instruments were retrieved immediately from the respondents after completion to avoid waste of time, late returning and improper filling of questionnaires. Data collected were analysed using mean and Pearson Product Moment Correlation analysis techniques.

Item Description	SA f(%)	A f(%)	D f(%)	SD f(%)	Mean
13. I value students' opinion during online teaching	9(45.0)	6(30.0)	2(10.0)	5(15.0)	3.10
14. I realize when students do not understand during the online teaching	4(20.0)	11(55.0)	3(15.0)	2(10.0)	3.17
15. I am too quick to correct students when they make mistake during the online teaching	9(45.0)	6(30.0)	2(10.0)	3(15.0)	3.15
Cluster Mean					3.05

Results in Table 1 showed the mean value of items 1 to 15 which are 3.60, 2.89, 3.47, 2.22, 3.33, 1.90, 3.44, 3.44, 2.89, 2.39, 2.78, 3.44, 3.10, 3.17 and 3.15. The result showed that items 1, 3, 5, 7, 8, 12, 13, 14 and 15 were rated above cluster mean of 3.05 and thus accepted; while items 2, 4, 6, 9, 10, and 11 were rated below it and thus rejected. Moreover, the cluster means of 3.05 was found to be above the criterion mean of 3.00. This indicated that the respondents have positive attitude towards online classroom instruction in Ife Central Local Government Area.

Table 2: Pearson Product Moment Correlation of the Relationship Between Teacher-students' Online Classroom Interaction and their Attitudes towards virtual learning

Variables	N	Mean	S.D	r	Sig.(2-tailed)
Classroom Interaction	100	52.58	7.77	.560**	.000
Attitude to Virtual Learning	100	54.60	6.84		

($r=0.560$, $**p<0.01$)

Results in Table 2 showed that there is significant positive relationship between teacher-students' online classroom interaction and their attitudes towards virtual learning in the study area ($r = .560$, $p < 0.05$). Thus, the null hypothesis that states that there is no significant relationship between teacher-students' online classroom interaction and their attitudes towards virtual learning in the study area is hereby rejected.

Table 3: Pearson Product Moment Correlation of the Relationship Between Teacher-students' Online Classroom Interaction and their Academic Performance in Virtual Learning

Variables	N	Mean	S.D	r	Sig.(2-tailed)
Classroom Interaction	100	52.58	7.77	.048	.634
Academic Performance	100	54.88	14.37		

($r = .048$, $p > 0.05$)

Results in Table 3 showed that there was no significant relationship between teacher-students' online classroom interaction and their academic performance in virtual learning in the study area ($r = .048$, $p > 0.05$). Thus, the null hypothesis that states that there is no significant relationship between teacher-students' online classroom interaction and their academic performance in virtual learning in the study area is not rejected.

Testing of Hypotheses

Hypothesis One: *There is no significant relationship between teacher-students' online classroom interaction and their attitudes towards virtual learning in the study area.*

In order to test this hypothesis, data collected on teacher-students' online classroom interaction and their attitudes towards virtual learning were subjected to Pearson moment product correlation and the results are presented in Table 4.3.

Hypothesis Two: *There is no significant relationship between teacher-students' online classroom interaction and their academic performance in virtual learning in the study area.*

In order to test this hypothesis, data collected on teacher-students' online classroom interaction and their academic performance in virtual learning were subjected to Pearson moment product correlation and the results are presented in Table 4.4.

Discussion of Findings

The discussion of findings of this study was presented according to the research question and the hypotheses, which were considered in order to guide this study. The result of teachers' attitude towards virtual learning in senior secondary school in the study area showed that the teachers had positive attitudes towards virtual learning. This can be attributed to their opinions about web-based activities, computer-assisted learning and

the perceived added value of e-learning environments. The finding is in line with Keeton (2004) and Bakr (2011) who found out that teachers have positive attitudes towards online instructional resources which they believe that online environment creating atmosphere that stimulates learning to the students. The finding also corroborated Murithi and Indoshi (2011) who reported that teachers had positive attitude towards the use of computer in relation to the computer studies curriculum.

In addition, the results of hypothesis one showed that there was a significant positive relationship between teacher-students' online classroom interaction and their attitudes towards virtual learning in the study area. It can be deduced from this result that interaction between teacher-student online classroom interaction in virtual learning improve students' attitudes towards the using of online learning techniques and materials in diversity of activities. The result agreed with Huang and Liaw (2005), who stated that the positive attitudes of teachers towards their competence in using computers will affect how they deliver knowledge to the students. The finding also corroborated Gasaymeh (2009) that established significant positive correlation between faculty members' attitudes toward internet-based distance education and computer internet access; time commitments; computer internet skills and perceived value.

Lastly, the results of hypothesis two showed that there was nosignificant relationship between teacher-students' online classroom interaction and their academic performance in virtual learning in the study area. The finding is not in conformity with Gasaymeh (2009) who revealed that there was a negative correlation between faculty members' attitudes toward internet-based distance education and their provided institutional support. The finding validated Oyinloye and Imenda (2019) and Koli (2010) who opined that classroom interactions between teachers and learners with enough interactive opportunities, then students' academic performance is bound to be magnified.

Conclusion

The study concluded that the teacher had positive attitude towards online teaching and learning. It also revealed that there was a significant relationship between teacher-student online classroom interaction and the students' attitude and there was no significant relationship between teacher-student online classroom interaction and the students' academic performance.

Recommendations

Based on the findings of the study, the following recommendations are made:

1. The government and the school heads should ensure that online platforms are available in schools.
2. Secondary school's administrators should encourage teachers to master the use of computers in teaching and learning.
3. Workshop, conferences and seminars should be organised on how to use online platforms for effective dissemination of information.
4. School heads should supervise their teachers more closely to ensure that the available online platforms are effectively utilized.

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