



Teachers awareness of the use of online teaching methods for students' participation in a post Covid-19 era in Rivers state, Nigeria

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Abstract

This paper investigated extent of teachers' awareness of the use of online teaching methods in a post covid-19 era in Rivers State. Three research questions and three hypotheses in line with the objectives guided the study. It was a descriptive survey design with the population of 6,956 teachers from 278 public secondary schools in Rivers state. The sample of 200 teachers (100 rural and 100 urban), were selected using purposive and stratified random sampling techniques. A questionnaire titled 'Teachers' Awareness in the Use of Online Teaching Methods Questionnaire' (TAUOTMQ), constructed on a four-point scale was used. Research questions were answered using mean and standard deviation while z-test was used to test the hypotheses at 0.05 level of significance. The findings among others showed that teachers' awareness of the use of online teaching methods is very low, that there are challenges against secondary school teachers in the use of online methods of teaching among which is not being trained in the use of ICT, and that there is significant difference between rural and urban teachers on their awareness of the use of online methods of teaching. It was concluded that secondary school teachers' awareness of the use of online methods of teaching is very low. Based on the findings it was therefore recommended among others that government should begin the training of teachers on how to use e- learning facilities to conduct teaching and learning process in digital classroom environment so that teachers can face any emergency without fear in this post Covid-19 era.

Keywords: Covid-19, online teaching, Rivers state, hypotheses

Introduction

Covid-19 was a newly discovered disease that emerged in Wuhan in China in December 2019. The virus came with a whole lot of challenges to humanity including schools specifically. People all over the world kept dying in good number due to the virus. According to the World Health Organisation (2020) ^[10] some major facts about the virus are that; covid-19 is a virus that spreads from person to person and primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes. The best ways therefore to prevent oneself against COVID-19 are; washing of hands regularly, avoiding contact with people who are sick, maintaining physical and social distancing with anybody etc.

To be able to maintain social distancing and to help reduce rate of contract and subsequent deaths during the first outbreak, people were locked down at home for many months until death rate started decreasing. The lock down has come and gone, people have started going about their businesses, schools have resumed and the effect of the virus is still felt among people leading to continuous deaths. While people have also got a little release of the effect of the lock down as students have started going about their academics, there is still the fear of both students and teachers interacting one on one that they would catch the virus. Apart from that there is still information of the second outbreak of the virus known as Delta virus. What is going to be the state of the nation if this second outbreak of virus continues? What is going to be fate of students? Will they also stay back at home? People have been advocating for online method of teaching as an alternative so that students should continue to learn and students will participate without physical interaction in the school. A lot of these methods as advocated by authors among which are; blended

learning, zoom application, flip approach, google classroom, web question, Imo application, computer assisted learning, radio and television assisted learning etc.

Blended learning is the concept that includes framing teaching learning process that incorporates both face to face teaching and learning supported by ICT. According to Bonke (2006) ^[2], blended learning includes accessing e-library, virtual classroom, webinars, viewing experts' lectures in YouTube, the use of videos and audios and the use of virtual laboratories.

Flipped classroom approach or method according to Bergmam, Overmyer and Willie (2011) is an approach of learning that transfers learning responsibility from teacher to student. In this case the students watch theoretical part of the lesson via multiple equipments such as online videos, presentations and taking of notes, preparing questions about the part they do not understand.

Zoom application on the other hand is communication software that allows videos conferencing from the perspective of a student and an instructor. Zoom has a screen share option which enables instructors to share their desktops with entire class. When that is done students can read along with instructor using their own laptops, as such students will be able to stay on track even when they are not physically in the room with instructor (Jack and Nzokurum, 2020) ^[4]. With zoom application distance is no longer a barrier to learning as students can now connect to virtual and online classes from the comfort of their homes and without fear of contracting the covid-19 pandemic.

Google classroom is an educational portal and internet-based software that enables teachers to organise and collaborate with students in conduction of instructional activities. The application is online software introduced by Google in 2014 which provides educational services to

teachers and students in online platform (Sadarsana, Anggra, Astawa & Yogantara, 2019) ^[6]. By this method, teachers have to develop classes and add learners to them. After that the teacher will request learners to login to access the classroom. In the Google classroom the teacher acts as site administrator. He can make announcement to the class, upload curriculum materials, disseminate audio and video contents, collate and grade assignment and test with ease and also receive information from the learners. According Zhang & Liu (2016) ^[11] Google classroom is an excellent tool for blended learning especially in this era of prolonged covid-19 pandemic where social distancing is a necessary strategy for avoiding the contraction of the virus.

The extent to which teachers are aware of these online methods by which students can be taught without physically coming together but to maintain the social distancing is the focus of this research. Teachers need to be aware of these methods and to be able to know how to use them in a time of emergency such as the time of covid-19. What is the level of teachers' awareness especially those in the rural areas about the use of these methods? If this second outbreak come and there is an emergency in this post covid-19 era, and this alternative is needed can these teachers surmount the challenge? Can anything be done to improve teachers' awareness in the use of online methods to teach and to get students' participation without necessarily coming together in face to face classroom? These questions bothered the researcher to investigate teachers' awareness in the use of online method of teaching especially if there is any emergency in post covid-19 era.

Statement of Problem

The challenges COVID-19 posed to humanity and in Nigeria specifically cannot be overemphasized. It came with lots of health challenges leading to lots of deaths which gave room for lock down of various economic activities and educational institutions particularly. No doubt students have unlearned what took them months and years to learn. Shortly after the ease of the lock down for various activities to start and schools finally reopened that fears of second outbreak of corona virus started looming around. What if it had come, would school activities for the second time be closed down? In this era of post covid-19, there is need for school managers to proffer alternative ways by taking advantage of technologies to continue formal education deliveries to students using online methods if there is unforeseen emergency such as in the era of covid-19. Various authors have advocated for such methods like Google classroom, zoom application, blended learning, flipped approach, etc. If this alternative is given and supported by the appropriate authority it will go a long way to solve such an emergency situation. The issue therefore is whether these teachers are aware of the use of these online methods of teaching? Can teachers use these methods and if not what should be done before it is too late? These are the issues that bother the researcher.

Aim and Objectives of the Study

The aim of this study was to investigate the extent of teachers' awareness and readiness in the use of online teaching methods that will enhance social distancing in case of emergency in a post covid-19 era in Rivers State, Nigeria. Specifically, the objectives were to;

1. Examine the extent of teachers' awareness on the use of online teaching methods for students' participation in a post covid-19 era in Rivers state
2. Examine the challenges affecting teachers' awareness of the use of online methods of teaching for students' participation in a post covid-19 era in Rivers State.
3. Determine the strategies to enhance teachers' awareness on the use of online methods of teaching in a post covid-19 era in Rivers state.

Research Questions

The following research questions guided the study.

1. What is the extent of secondary school teachers' awareness on the use of online methods of teaching for students' participation in post covid-19 era in Rivers State?
2. What are the challenges affecting secondary school teachers' awareness of the use of online methods of teaching students' participation in a post covid-19 era in Rivers State?
3. What strategies can be adopted to enhance teachers' awareness on the use of online methods of teaching in a post covid-19 era in Rivers state?

Hypotheses

The following null hypotheses were formulated to guide the study

1. There is no significant difference between the mean ratings of rural and urban teachers on the extent of secondary school teachers' awareness in the use of online methods of teaching for student participation in a post covid-19 era in Rivers State.
2. There is no significant difference between the mean ratings of rural and urban teachers on the challenges affecting secondary school teachers' awareness of the use of online method of teaching for students' participation in a post covid-19 era in Rivers State.
3. There is no significant difference between the mean ratings of rural and urban teachers on the strategies that can be adopted to enhance teachers' awareness on the use of online method of teaching in a post covid-19 era in Rivers state.

Methodology

The descriptive survey design was adopted for the study to examine the opinion of the respondents (teachers) on the level of their awareness on the use of online teaching methods in this post covid-19 era in Rivers State. The population consist of all 6,956 public secondary school teachers from 278 schools in 23 local government areas in Rivers state. Purposive and Stratified random sampling technique were used to select four local government areas out of the 23, two of the local government areas from rural area and the other two from urban areas. From each of the sampled local government 50 teachers were randomly selected thereby resulting in a total of 200 respondents (100 from rural and urban respectively) giving 3 percent of the population. The instrument used was a self-structured questionnaire titled 'Teachers' Awareness in the Use of Online Teaching Methods Questionnaire' (TAUOTMQ), constructed on a four-point scale of Strongly Agreed (SA), Agreed (A), Disagreed (D) and Strongly Disagreed (SD). Research questions were answered using mean and standard deviation while z-test was used to test the hypotheses at 0.05 level of significance.

Results

Research question one: What is the level of secondary school teachers’ awareness and readiness on the use of

online teaching methods for student participation in a post covid-19 era in Rivers state?

Table 1: Mean analysis of the extent of secondary school teachers’ awareness and readiness on the use of online teaching methods for student participation in a post covid-19 era in Rivers state?

S/N	ITEMS	Rural mean	Urban mean	Mean set	Rmks
1.	Zoom application	1.34	2.36	1.85	VLE
2.	Google classroom	1.78	2.45	2.12	VLE
3.	Flipped classroom	1.46	2.16	1.81	VLE
4.	Blended learning	1.39	2.56	1.96	VLE
5	Computer assisted learning	1.58	2.66	2.12	VLE
6.	Radio and television Assisted learning	2.27	2.51	2.39	LE
	Aggregate	1.64	2.45	2.04	VLE

In Table 1 the mean –sets of all the items are 1.85, 2.12, 1.81, 1.96, 2.11 2.39 and 2.04 which fell below the criterion mean of 2.50. This indicates that the respondents disagreed with all the items which implies that teachers’ awareness of the use of online teaching methods which are zoom

application, Google classroom, flipped classroom blended learning is to a very low extent.

Research Question Two: What are the challenges affecting secondary school teachers’ awareness of the use of online method of teaching students’ participation in a post covid-19 era in Rivers State?

Table 2: Mean analysis on the challenges affecting secondary school teachers’ awareness of the use of online teaching to enhance students’ participation in a post covid-19 era in Rivers state

S/N	ITEMS	Rural mean	Urban mean	Mean set	Rmks
1.	Not having computer system	3.58	3.67	3.63	Agreed
2.	Lack of ICT skills	3.72	3.21	3.47	Agreed
3.	Not knowing how e-learning works	3.25	2.85	3.05	Agreed
4.	Lack of access to internet data	3.56	2.65	3.11	Agreed
5.	Expensiveness of the cost of internet data	3.42	3.25	3.34	Agreed
6	Lack of ICT facilities	3.82	3.38	3.60	Agreed
7.	Not trained in the use of ICT	3.73	2.94	3.34	Agreed
	Aggregate	3.58	2.75	3.17	

Table 2 indicates that items 1, 2, 3, 4, 5, 6, and 7 with mean set scores of 3.63, 3.47, 3.05, 3.11, 3.34, 3.60, 3.34 and 3.17 respectively above the criterion mean of 2.50. This indicates that the respondents agreed with all the items as the challenges against secondary school teachers of the use of online methods in teaching which are; not having computer system, lack of ICT skills, not knowing how e-learning

works, lack of access to internet data, expensiveness of the cost of internet data, lack of ICT facilities, not trained in the us ICT

Research question 3: What strategies can be adopted to enhance teachers’ awareness on the use of online teaching methods in a post covid-19 era in Rivers state?

Table 3: Mean analysis on the strategies that can be adopted to enhance teachers’ awareness of the use of online teaching methods in a post covid-19 era in Rivers state

S/N	ITEMS	Rural mean	Urban mean	Mean set	Rmks
1.	Mounting a strong campaign to orientate teachers	2.83	3.56	3.20	Agreed
2.	Capacity building of teachers to be conversant with the use online teaching	3.21	3.39	3.30	Agreed
3.	Provision of ICT facilities to both teachers and students	3.31	2.94	3.13	Agreed
4.	Provision of internet access in rural areas	3.07	3.48	3.28	Agreed
5.	Provision of enabling environment necessary for both teachers and students	3.43	3.10	3.29	Agreed
6.	Data allowance to be paid to secondary school teachers	3.61	3.59	3.60	Agreed
	Aggregate	3.24	3.34	3.29	

Table 3 indicates that items 1, 2, 3, 4, 5 and 6 with mean set scores of 3.20, 3.30, 3.13, 3.28, 3.29 and 3.60 respectively are above the criterion mean of 2.50. This indicates that the respondents agreed with all the items as the strategies to improve secondary school teachers’ awareness on the use of online methods in teaching, which are; amounting strong campaign to orientate teachers, capacity building of teachers to be conversant with the use of online method of teaching,

provision of ICT facilities, data allowance to be paid to teachers etc.

Hypothesis 1: There is no significant difference between the mean ratings of rural and urban teachers on the level of secondary school teachers’ awareness and readiness in the use of online teaching methods for student participation in a post covid-19 era in Rivers state.

Table 4: z-test analysis of the difference between the mean ratings of rural and urban teachers on the level of secondary school teachers' awareness and readiness in the use of online teaching methods for student participation in a post covid-19 era in Rivers state.

S/N	Descriptions	N	Mean	SD	D/F	z-cal.	z-crit.	Sig level	Remarks
1.	Rural teachers	100	1.65	0.82					
					198	8.53	1.96	0.05	Rejected
2.	Urban teachers	100	2.45	0.68					

Data in table4 showed that the summary of z-test on the difference between the mean scores of rural and urban teachers on the extent of awareness in the use of online teaching methods for student participation in the era of covid-19 in Rivers state. The result showed the z-calculated value is 8.53 which is less than the z-critical value of 1.96 indicating that the null hypothesis was rejected. Therefore, there is significant difference between the mean ratings of rural and urban teachers on the level of secondary school

teachers' awareness and readiness in the use of online teaching methods for student participation in a post covid-19 era in Rivers state.

Hypothesis 2: There is no significant difference between the mean ratings of rural and urban teachers on the challenges affecting secondary school teachers' awareness of the use of online methods of teaching for students' participation in a post covid-19 era in Rivers state.

Table 5: Z-test analysis of the difference between the mean ratings of rural and urban teachers on the challenges inhibiting secondary school teachers' awareness in the use of on line teaching methods for student participation in the post covid-19 era in Rivers state.

S/N	Descriptions	N	Mean	SD	D/F	z-cal.	z-crit.	Sig level	Remarks
1.	Rural teachers	100	3.58	1.05					
					198	6.19	1.96	0.05	Rejected
2.	Urban teachers	100	2.75	1.03					

Data in table5 showed that the summary of z-test on the difference between the mean scores of rural and urban teachers on the challenges inhibiting teachers on the use of teaching methods for student participation in the era of covid-19 in Rivers state. The result showed the z-calculated value is 6.19 which is more than the z-critical value of 1.96 indicating that the null hypothesis was rejected. Therefore, there is significant difference between the mean ratings of rural and urban teachers on the challenges inhibiting

secondary school teachersin the use of online teaching methods for students' participation in the post covid-19 era in Rivers state.

Hypothesis 3: There is no significant difference between the mean ratings of rural and urban teachers on the strategies that can be adopted to enhance teachers' awareness on the use of online teaching methods in the post covid-19 era in Rivers state.

Table 6: z-test analysis on the difference between the mean ratings or rural and urban teachers on the strategies that can be adopted to enhance teachers' awareness of the use of online teaching methods in the post covid-19 era in Rivers state

S/N	Descriptions	N	Mean	SD	D/F	z-cal.	z-crit.	Sig level	Remarks
1.	Rural teachers	100	3.24	0.45					
.					198	-0.002	1.96	0.05	Accepted
2	Urban teachers	100	3.34	0.25					

Data in table 6showed the summary of z-test on the difference between the mean scores of rural and urban teachers on the strategies that can be adopted to enhance teachers' awareness on the use of online teaching methods in the era of covid-19 in Rivers state. The result showed the z-calculated value -0.002 which is less than the z-critical value of 1.96 indicating that the null hypothesis was accepted. Therefore, there is no significant difference between the mean ratings of rural and urban teachers on the strategies that can be adopted to enhance teachers' awareness on the use of online teaching methods in the post covid-19 era in Rivers state.

Discussion of findings

The findings of research question 1 revealed that the extent of teachers' awareness of the use of online teaching methods which are zoom application, Google classroom, flipped classroom blended learning is to a very low. This agrees with Osaat (2020) [5] who posits that students and teachers are not conversant with online teaching and learning. Hypothesis one tested revealed that there is significant difference between rural and urban teachers of their awareness in the use of online method of teaching in the

post covid-19 era. The result showed that teachers in rural areas are more disadvantaged than the urban. This means that urban teachers are somehow exposed to some of these methods. This could be the reason why there is significant difference between them.

The finding in research question 2 revealed that not having computer system, lack of ICT skills, not knowing how e-learning works, lack of access to internet data, expensiveness of the cost of internet data, lack of ICT facilities, not trained in the use of ICT are all challenges inhibiting secondary school teachers of the use of on-line method of teaching in this post covid-19 era. In terms of lack of ICT facilities, the result agrees with Ukaigwe and Igbozuruike (2020) [7, 8] who posit that many families do not have computers, laptops and televisions.

The test of hypothesis 2 showed that there is significant difference between the mean ratings of rural and urban teachers on the challenges inhibiting secondary school teachers in the use of online teaching methods for students' participation in the era of post covid-19 in Rivers state. Based on the result, the challenge again is felt more in the rural areas than the urban. There is no doubt the challenge

of digital divide in Nigeria is a known fact, as only 69 and 226 out of every 1000 persons in the nation have access to television and radio respectively (World Almanac Education Group as cited in Ukaigwe, 2020) [7, 8]. Usman and Igbozuruike (2019) [9] remarked that low ICTs penetration into the rural areas presents frontal challenges to e-learning integration into secondary schools. Many rural communities do not have access to third generation (3G) network and students living in such areas may not have access to communication instructional approaches.

Research question 3 revealed the strategies that can be adopted to improve teachers' awareness on the use of online method in the era of post COVID -19 which are; amounting strong campaign to orientate teachers, capacity building of teachers to be conversant with the use of online method of teaching, provision of ICT facilities, data allowance to be paid to teachers etc. This finding agrees with Adavbiele (2017) [1] who found out that inadequate facilities posed resistance to adoption of e-learning in the secondary schools.

Conclusion

Based on the findings it has been shown that the extent of secondary school teachers' awareness on the use of online methods of teaching in this era of post covid-19 is very low. Not having computer system, lack of ICT skills, not knowing how e-learning works, lack of access to internet data, expensiveness of the cost of internet data, lack of ICT facilities, not trained in the use of ICT are all challenges inhibiting secondary school teachers' awareness of the use of on-line methods of teaching. To orientate teachers, capacity building of teachers to be conversant with the use of online method of teaching, provision of ICT facilities, data allowance to be paid to teachers etc. were seen as the strategies to be employed to improve teachers' awareness in the use of online method of teaching and learning. When teachers are aware of the use of online teaching methods to involve students participation then there will be no any emergency such as in the period of covid-19 that they may not overcome.

Recommendations

Based on the findings of this study the following recommendations were made;

1. Government as a matter of fact should begin the training of secondary school teachers on how to use e-learning facilities to conduct teaching and learning as well acquire ICT skills they require to perform teaching tasks in digital classroom environment so that teachers can face any emergency without fear.
2. Government should provide ICT facilities to various schools for both teachers and students.
3. The government should give proactive thought and also make it mandatory the provision of internet access in the rural areas of the state.
4. Principals should ensure that ICT and computer studies in secondary schools are taught in schools to enable both students acquire computer skills and knowledge pertaining to the use of computer software.
5. Teachers also should go for personal upgrading of acquiring computer skills and knowledge to help them in the use and application of ICT.

References

1. Adavbiele JA. Challenges to e-learning in public secondary schools in Edo State in the 21st century. *International Journal of Education and practice*,2017:5(7):110-117.
2. Bonke CJ. *The handbook of blended learning environments: Global perspectives, local designs*, 2006.
3. Bergmam J, Ovemyer J. *The flipped class. Myths vs Reality*. Retrieved, 2021. from the Daily riff. <http://www.thedailyriff.com/articles/the-flipped-conversation-689.php>
4. Jack IF, Nzokurum JC. Managing teaching methods of online learning in Nigeria Universities in the era of covid-19. In C. M. Uche, S. O. Oluwuo&N. M. Abraham (eds). *Management of education in the era of covid-19, social distancing and social connections. Challenges and prospect in Nigeria*. University of Port Harcourt Press, 2020.
5. Osaat DS. Managing secondary schools in the face of Covid-19 in Nigeria: Issues, challenges and the way forward. In C. M. Uche, S. O. Oluwuo&N. M. Abraham (eds). *Management of education in the era of covid-19, social distancing and social connections. Challenges and prospect in Nigeria*. University of Port Harcourt Press, 2020, 215-226.
6. Sadarsana K, Anggara IBM, Astawa P, Yogantara WL. The use of google classroom in the learning process. *Journal of Physics*, 2019. <https://journal.unimus.ac.id/index.php/ELLIC/article/view/4704>
7. Ukaigwe PC. Managing secondary education in the era of covid-19: trends, challenges and prospects in Nigeria. In C. M. Uche, S. O. Oluwuo&N. M. Abraham (eds). *Management of education in the era of covid-19, social distancing and social connections. Challenges and prospect in Nigeria*. University of Port Harcourt press: Port Harcourt, 2020, 227-141.
8. Ukaigwe PC, Igbozuruike IU. Planning and integration of technologies for effective implementation of blended learning in universities in rivers state, Nigeria. *Advances in social sciences Research Journal*,2020:7(1):452-462.
9. Usman H, Igbozuruike IU. Integration of e-learning in secondary education and imperatives of planning for sustainable improvement in students' achievement in Port Harcourt Metropolis. *Knowledge Review*,2019:38(1):101-109.
10. World Health Organisation (WHO) (2020). *Corona virus disease 2019 (COVID-19) situation report-94*. <https://www.who.int/publication-detail/infection-prevention-and-control-duringhealth-care-when-novel.coronavirus-infectionis-suspected>.
11. Zhang K, Liu W. Preliminary exploration and management analysis of the impact of the avian influenza epidemics from the point view of Chinese animal farmers. *Global journal of Health Science*,2016:9(1):233.
12. In Tondano City there is a private school managed by the Adventist Education Foundation, namely Tondano Adventist Middle School. This school is located in the center of Tondano city and students come from different backgrounds. This school is a school managed by the Church, but those who attend this school are not only Adventists but also from various other Christian denominations.