Influence of E-Teaching Platforms on Students Academic Performance in Public Senior Secondary Schools in Rivers-East-Senatorial District, Rivers State

Dr. (Mrs.) Catherine U. Osuji
Department of Educational Foundations,
Faculty of Education, Rivers State University,
Nkpolu-Oroworukwo, Port Hartcourt

Edward, Ngozi Orlu
Department of Educational Foundations,
Faculty of Education, Rivers State University,
Nkpolu-Oroworukwo, Port Hartcourt

ABSTRACT

This study is focused on influence of E-teaching platforms on student's academic performance in public senior secondary schools in Rivers-East-Senatorial District, Rivers State. To achieve this, five research questions guided the study and five hypotheses were formulated and tested at 0.05 level of significance. The study adopted the descriptive research design with a population of eighty-three thousand two hundred and sixty-one (83,261) students that constituted the total population. The simple random sampling technique was used to draw a sample of three hundred and ninety-two (392) students that participated in the study. A self-structured questionnaire titled "Influence of E-teaching platforms on Students Academic Performance in public senior secondary schools in Rivers East Senatorial District, Rivers State was used as the instrument for data collection. The instrument was validated by two research experts and the test re-test method was used to ascertain the reliability of the instrument. Three hundred and ninety-two (392) copies of the questionnaire were sent out. Data collected were analyzed using mean and standard deviation and the hypotheses were tested using z-test at 0.05 level of significance. The findings of this study shows that e-teaching platforms have great influence on students' academic performance especially for those who have access to electronic tools and media that are used in the teaching/learning process. Based on these findings, it was recommended that teachers should be encouraged to introduce the use of whatsapp e-teaching platform to explain things better to the students and get students reaction, teachers should be encouraged to use zoom cloud e-teaching platform to continue their lessons or build more on what was taught, the education board of the state should provide facilities which can be used for google classroom e-teaching to enable continuation of learning activities during break period, teachers and students should be trained on the use of teleconferencing to communicate and learn and teachers and students should be well introduced to the use of Edmodo and also be encouraged to use them to improve teaching and learning process.

Key Words: *E-Teaching, Platforms, Academic, Performance, Public*

INTRODUCTION

1.1. Background to the Study

Innovation has taken over the educational environment from the nursery, primary, secondary, colleges and tertiary institutions. The contemporary educational environment has made innovation a necessary capability in life. Creativity is the creative flame of innovation. Thus, e-teaching platforms are borne out of creativity education and have become the essence of future education. Developing talents in e-teaching platforms has become an important goal of educational reform and economic development for all countries in the world (Lee, 2011).

E-teaching platforms provide the physical media through which the intents of the curriculum are made available to students through the internet using electronic digital resources or electronic devices. Therefore, e-teaching also called online teaching or online education refers to the delivery of teaching and training through digital resources. Platform on the other hand refers to the type of computer system or the software that is used. Therefore, e-teaching platforms can be referred to computer devices or software that are used in delivering of teaching and training through digital resources. The adoption and utilization of e-teaching platforms makes teaching to take place anytime, anywhere which enables learners to learn within their pace and comfort.

E-teaching platforms assist in putting across information and enable both teaching and learning to be effectively done through a computer or any other digital devices. Looking at the world today with the outbreak of Corona-virus (COVID-19), there have been abrupt changes in almost all areas of human life and the educational sector is not an exemption. Due to the outbreak of this global pandemic, educational institution were shut-down for months giving rise to new (electronic) ways of delivering the curriculum content to the learners. These new methods also called e-teaching platforms include: WhatsApp teaching, use of zoom cloud, teleconferencing, Google classroom, edmodo, teleconferencing, teaching through radio programmes, teaching through television, text message based instruction, teaching through e-mail, udemy, teachable, wiz1Q, education, ruzuku, learn worlds, thinkific, academy of mine, course craft, skillshare etc.

These e-teaching platforms were adopted to ensure that the curriculum contents were effectively delivered to the learners and at the same time protect the learners and the teaching staff from contacting Corona-virus. It is encouraging to observe that educational institutions remain committed to their mission of supporting beneficiaries by adopting and using these e-teaching platforms during this challenging time. Reports has shown that over 1.5 billion students were forced to drop out of school due to the outbreak of this pandemic (Hannaha, 2020). In order to curb the spread this virus, educational institutions suspended the delivery of instructional content to learners through face-to-face interaction as a result, the e-teaching approaches were adopted.

The use of various e-teaching platforms is borne out of the fact that there are different topics to be taught and skills intended to be developed. Many e-teaching platforms were developed by educators with a view to involving learners more in the teaching-learning process. This is considered very important and there is the need to get these platforms into the classrooms (Oyelekan & Omiwale, 2017). For this to be done successfully there is need for teachers not only to be aware of these platforms, but also to learn how to use these platforms appropriately in the classroom. A teacher who is not aware of a variety of such platforms can neither attempt to use them in the first place nor use them appropriately.

Instructional delivery models on the other hand are methods, strategies, approaches or even techniques that a teacher employ to deliver his/her subject matter of a lesson to the learners. It can as well be regarded as a representation of a pattern in which a lesson is to be presented (Nwafor, 2007; Hillary & Akor, 2018). The process of instructional delivery must be based on stated objectives of the lesson, it is based on this that when the process of instructional delivery is over, then the opportunity to determine if the aim of the lesson has been achieved or not comes, which is the evaluation act that will tell if the lesson met stated objectives (Buseri & Dorgu, 2011; Hillary & Akor, 2018). E-teaching platforms allows the students to interact with words, symbols and ideas in ways that develop their abilities in reading, listening, solving, viewing, thinking, speaking, writing, using media and technology.

Various studies have examined the influence of e-teaching platforms for effective teaching and learning. Fidanboylu (2014) noted that the use of visual aids in teaching can motivate the students and reinforce the subject content. According to Inzahuli, Elizabeth, & Lazarus, (2012): media resources are important when it comes to instruction. They also argue that instructional resources are vital to the teaching of any subject. Seth (2009) indicates that lack of wall charts, models and other conventional media to compliment the use of chalkboards and textbooks in the schools pose difficult problem for teachers in offering quality teaching to promote high academic performance for junior high schools pupils in Ghana. Chinooneka & Mupa (2015) conducted a similar study in Zimbabwe and discovered that teachers' failure to use a variety of media in the teaching and learning process resulted into failure in grasping basic skills of reading and writing. This study chooses to join the discourse by determining the influence of e-teaching platforms and students' academic performance in public senior secondary schools in Rivers East senatorial district, Rivers State.

1.3. Purpose of the Study

The aim of this study was to examine the influence of E-teaching platforms on students' academic performance in public senior secondary schools in Rivers East Senatorial District, Rivers State. The specific objectives were:

1. To examine the influence of WhatsApp E-teaching platform on students' academic performance in public senior secondary schools in Rivers East Senatorial District of Rivers State.
2. To find out the influence of zoom cloud E-teaching platform on students' academic performance in public senior secondary schools in Rivers East Senatorial District of Rivers State.
3. To ascertain the influence of Google classroom E-teaching platforms on students' academic performance in public senior secondary schools in Rivers East Senatorial District of Rivers State.

1.4. Research Questions

The objectives of this study were achieved by considering the following pertinent questions.

1. What is the influence of Whatsapp E-teaching platform on students' academic performance in public Senior secondary schools in Rivers East Senatorial District, Rivers State.
2. What is the influence of zoom cloud E-teaching platform on students' academic performance in public senior secondary schools in Rivers East Senatorial District of Rivers State?
3. What is the influence of Google classroom E-teaching platform on students' academic performance in public senior secondary schools in Rivers East Senatorial District, Rivers State?

1.5. Hypotheses

The following hypotheses were raised to guide the study.

1. There is no significant difference in the mean ratings between male and female respondents of WhatsApp E-teaching platform on the academic performance of students in public senior secondary schools in Rivers East Senatorial District of Rivers State.
2. There is no significant difference in the mean ratings between male and female respondents of zoom cloud E-teaching platform on students' academic performance in public senior secondary schools in Rivers East Senatorial District of Rivers State.
3. There is no significant difference in the mean ratings between male and female respondents of google classroom E-teaching platform on students' academic performance in public senior secondary schools in Rivers East Senatorial District of Rivers state.

METHODOLOGY

This chapter is concerned with the method and procedures that was employed in carrying out this research. They include; Research Design, Area of the Study, Population of the Study, Sampling and Sampling Techniques, Instrument for Data Collection, Validation of the Instrument, Reliability of the Instrument, Administration of the Instrument, Method of Data Analysis.

3.1 Research Design

The design for the study was the descriptive survey research design. The descriptive research design is a scientific method which involves observing and describing the behaviour of a subject without influencing it in any way. According to Shona McCombes (2019), a descriptive research aims to accurately and systematically describe a population, situation or phenomenon. It can answer what, where, when and how questions but not why questions. Creswell (2014) defined descriptive research as the scientific procedure involved in the research process; data collection, data analysis and report writing. The descriptive research design was adopted basically because information needs to be obtained in order to systematically describe how e-teaching platform influence students' academic performance in public senior secondary schools in Rivers East-Senatorial District, Rivers State.

3.2. Area of the Study

This study was carried out in Rivers East Senatorial District, Rivers State. Rivers State is one of the thirty-six (36) States in Nigeria and its capital is Port Harcourt, it has twenty three (23) Local Government Areas from which Rivers East Senatorial District occupied eight (8) Local Government Areas namely: Emuoha Local Government Area (EMOLGA), Etche Local Government Area (ELGA), Ikwerre Local Government Area (KELGA), Obio Akpor Local Government Area (OBALGA), Okrika Local Government Area (OKIRIKA), Omuma Local Government Area (OMULGA), Ogu-Bolo Local Government Area (OBOLGA) and Port Harcourt City Local Government Area (PHALGA). Rivers East Senatorial Disrict according to census data released in 2014, has a projected population of one million seven hundred and twenty thousand, seven hundred and ninety (1,720,790) residents in Rivers East Senatorial District, Rivers State.

3.3 Population of the Study

The population of this research comprised of all students in public senior secondary schools in Rivers East Senatorial District, Rivers State. There are eight (8) Local Government Areas and one hundred and five (105) public senior secondary schools in Rivers East Senatorial District Rivers State. From the one hundred and five (105) public senior secondary schools, there are eighty three thousand two hundred and sixty-one (83,261) senior secondary students. Source: (Planning, Research & Statistics Department, Rivers State Senior Secondary Schools Board, Port Harcourt 2020).

3.4 Sample and Sampling Technique

The sample for the study was three hundred and ninety-two (392) Pubic senior secondary school students from Rivers East-Senatorial district, Rivers State. The public senior secondary school students constituted the respondents of the study. The respondents were drawn using simple random sampling technique.

3.5. Instrument for Data Collection

The instruments used for the study is a self-structured questionnaire titled "Influence of E-teaching Platforms and Students' Academic Performance in Public Senior Secondary Schools in Rivers East Senatorial District, Rivers State (IEPSAPIPSSSRESDRS)". The questionnaire was structured into three (3) sections A, B and C. Section A addresses the social demographic factors of the respondents, section B is focused on the predictors' variables and section C is focused on the criterion variables. A modified likert 4 point rating scale of Strongly Agree (SA)=4points, Agree (A)=3points, Disagree (D)=2points, and Strongly Disagree (SD) = 1point was used for rating the questionnaire. The questionnaire was distributed to the three hundred and ninety-two (392) respondents sampled for the study.

3.6. Validity of the Instrument

The research instrument was subject to face and content validity by the dissertation supervisor and two other research experts in the Faculty of Education; Rivers State University Port Harcourt. These experts were urged to evaluate the instrument with respect to research questions, the language used in developing the instrument as well as the content coverage.

Suggestions and comments made by these experts were used to reduce the ambiguity of some items. These comments and suggestions were incorporated in the final draft of the instrument.

3.7. Reliability of the Instruments

To ascertain the consistency of the instrument, the test-retest reliability method was adopted. The instrument was administered to ten (10) students outside the study sample. In an interval of two (2) weeks, the same instrument was re-administered to the same group of students. The reliability test of the two (2) scores was done with the aid of SPSS version 20.0 software. The result showed a reliability score of 0.78 was obtained.

3.8 Administration of the Instrument

The three hundred and ninety-two (392) copies of the structured questionnaire were administered to the respondents by the researcher and three (3) research assistants. From the three hundred and ninety two (392) copies of the structured questionnaire sent out, three hundred (300) were retrieved making it 77% of the questionnaire returned.

3.9 Method of Data Analysis

In presenting and analyzing collected data, mean and standard deviation were used and Z-test were used to test the hypotheses. The mean and standard deviation were used for presenting and analyzing the data collected from the field while Z-test was used for testing the hypotheses.

PRESENTATION, ANALYSIS OF DATA AND DISCUSSION OF FINDINGS

Research Question 1: To What extend does Whatsapp E-teaching platform influence students' academic performance in public senior secondary schools in Rivers East Senatorial District, Rivers State? To answer Research Question 1, the Mean and Standard Deviation were calculated from the frequency distribution of the responses. The result of the computation is shown in Table 4.1

Table 4.1: Respondent's Opinion on the influence of Whatsapp E-teaching platform on students' academic performance in public senior secondary schools in Rivers East Senatorial District, Rivers State

S/N	Item Statement	Male (n = 130)			Female (n = 170)		
		$\bar{X}_1$	SD_1	RMK	$\bar{X}_2$	SD_2	RMK
1	WhatsApp e-teaching platform make class more interactive and interesting	3.32	0.53	HE	3.32	0.52	HE
2	WhatsApp e-teaching platform helps you to understand a lesson with ease.	3.21	1.12	HE	3.33	1.06	HE
3	WhatsApp e-teaching platform helps to clear some doubts or confusion in your minds.	3.11	0.79	HE	3.14	0.81	HE

4	WhatsApp e-teaching platform helps you to learn language better and enhances our English proficiency.	3.36	0.48	HE	3.35	0.48	HE
5	WhatsApp e-teaching platform improves the performance of high and low level learners.	3.23	1.11	HE	3.35	1.06	HE
	Grand Mean/SD	**3.25**	**0.81**	**HE**	**3.30**	**0.79**	**HE**

Source: *Researcher's Field Result, 2020*

Table 4.1 shows the respondent's opinion on the influence of Whatsapp E-teaching platform on students' academic performance in public senior secondary schools in Rivers East Senatorial District, Rivers State. The result shows that the grand mean of the responses of these respondents are higher than the decision criteria mean of 2.5 (that is 3.25, and 3.30,) an indication that all the respondent shared the same opinion that to a high extent Whatsapp E-teaching platform influence students' academic performance in public senior secondary schools in Rivers East Senatorial District, Rivers State.

Research Question 2: What is the influence of zoom cloud E-teaching platform on students' academic performance in public senior secondary schools in Rivers East Senatorial District of Rivers State?

Table 4.2: Respondent's Opinion on the influence of zoom cloud E-teaching platform on students' academic performance in public senior secondary schools in Rivers East Senatorial District of Rivers State

S/N	Item Statement	Male (n = 130)			Female (n = 170)		
		$\bar{X}_1$	SD_1	RMK	$\bar{X}_2$	SD_2	RMK
6	Zoom cloud e-teaching platform attracts your attention.	3.54	0.51	VHE	3.52	0.51	VHE
7	The use of zoom cloud e-teaching platforrm makes you to remember the concept for a longer period of time.	3.33	1.14	HE	3.32	1.13	HE
8	Zoom cloud e-teaching platform provide opportunities for effective communication between teachers and students in teaching.	3.34	0.76	HE	3.35	0.76	HE
9	Zoom cloud e-teaching platform makes learning flexible and more interactive.	3.55	0.50	VHE	3.53	0.50	VHE
10	The adoption and utilization of zoom cloud e-teaching platform encourages team work among you.	3.33	1.14	HE	3.32	1.13	HE

Grand Mean/SD	**3.42**	**0.81**	**HE**	**3.41**	**0.81**	**HE**

Source: *Researcher's Field Result, 2020*

Table 4.2 contains respondent's opinion on the influence of zoom cloud E-teaching platform on students' academic performance in public senior secondary schools in Rivers East Senatorial District of Rivers State. The result shows that the grand mean of the responses of these respondents are higher than the decision criteria mean of 2.5 (that is 3.42, and 3.41), an indication that all the respondents shared the same opinion that to a high extent there is a relationship between zoom cloud E-teaching platform and students' academic performance in public senior secondary schools in Rivers East Senatorial District of Rivers State.

Research Question 3: What is the influence of Google classroom E-teaching platform on students' academic performance in public senior secondary schools in Rivers East Senatorial District, Rivers State?

Table 4.3: Respondent's Opinion on the Influence Of Google classroom E-teaching Platform On students' academic performance in public senior secondary schools in Rivers East Senatorial District, Rivers State

S/N	Item Statement	Male (n = 130) $\bar{X}_1$	SD_1	RMK	Female (n = 170) $\bar{X}_2$	SD_2	RMK
11	Adoption of google classroom e-teaching platform has to a reasonable extent made teaching no longer confined to the four walls of the classroom only.	3.28	0.46	HE	3.31	0.47	HE
12	Adoption of google classroom e-teaching platform eliminates time restriction for teaching due to the fact that the teachers and students can have access to course content of the subject matter from anywhere.	3.21	1.11	HE	3.22	1.10	HE
13	Adoption of google classroom e-teaching platform help you to construct spontaneous teaching situation by discussing knowledge and implications through interface with system, people and technology as they progress through daily life.	3.06	0.79	HE	3.11	0.79	HE
14	Adoption of google classroom e-teaching platform builds creative thinking in your minds.	3.29	0.46	HE	3.31	0.47	HE
15	Google classroom e-teaching platform is easily accessible and you adapt easily to it	3.21	1.11	HE	3.22	1.10	HE

in the teaching/learning process.						
Grand Mean/SD	**3.21**	**0.79**	**HE**	**3.23**	**0.79**	**HE**

Source: *Researcher's Field Result, 2020*

Table 4.3 contains respondent's opinion on the influence of Google classroom E-teaching platform on students' academic performance in public senior secondary schools in Rivers East Senatorial District, Rivers State. The result shows that the grand mean of the responses of these respondents are higher than the decision criteria mean of 2.5 (that is 3.21, and 3.23), an indication that all the respondents shared the same opinion that to a high extent Google classroom E-teaching platform influence students' academic performance in public senior secondary schools in Rivers East Senatorial District, Rivers State.

1.5. Hypotheses

HO_1: There is no significant difference in the mean rating between the male and female student's responses on WhatsApp E-teaching platform and the academic performance of students in public senior secondary schools in Rivers East Senatorial District of Rivers State.

Table 4.7: Z–test Analysis of the mean difference between the male and female student's responses on WhatsApp E-teaching platform on the academic performance of students in public senior secondary schools in Rivers East Senatorial District of Rivers State.

Variable	**N**	$\overline{X}$	**SD**	**Z-cal**	**Z-crit**	α	**Remarks**
Male	130	**3.25**	**0.81**				Accepted
				-0.526	1.96	0.05	H_O
Female	170	**3.30**	**0.79**				

Source: *Researcher's Field Result, 2020*

Table 4.7 contains the Z–test Analysis of the mean difference between the male and female student's responses on WhatsApp E-teaching platform on the academic performance of students in public senior secondary schools in Rivers East Senatorial District of Rivers State. The analysis shows a Z – calculated value of -0.526 which is less than the Z- critical value of 1.96 and since the computed value is less than the table value, it is insignificant which confirms the stated null hypothesis.

Consequently, the null hypothesis which says there is no significant difference between the male and female student's responses on WhatsApp E-teaching platform and the academic performance of students in public senior secondary schools in Rivers East Senatorial District of Rivers State is accepted and the alternative hypothesis is rejected. However, any observed difference can be attributed to sampling error.

HO_2: There is no significant difference in the mean ratings between the male and female student's responses on zoom cloud E-teaching platform and students' academic

performance in public senior secondary schools in Rivers East Senatorial District of Rivers State.

Table 4.8: Z–test Analysis of the mean difference between the male and female student's responses on zoom cloud E-teaching platform on students' academic performance in public senior secondary schools in Rivers East Senatorial District of Rivers State.

Variable	N	$\overline{X}$	SD	Z-cal	Z-crit	α	Remarks
Male	130	**3.42**	**0.81**				Accepted
				0.100	1.96	0.05	H_O
Female	170	**3.41**	**0.81**				

Source: *Researcher's Field Result, 2020*

Table 4.8 shows Z–test Analysis of the mean difference between the male and female student's responses on zoom cloud E-teaching platform on students' academic performance in public senior secondary schools in Rivers East Senatorial District of Rivers State. The analysis shows a Z – calculated value of 0.100 which is less than the Z- critical value of 1.96 and since the computed value is less than the table value, it is insignificant which confirms the stated null hypothesis.

Consequently, the null hypothesis which says there is no significant difference between the male and female student's responses on zoom cloud E-teaching platform and students' academic performance in public senior secondary schools in Rivers East Senatorial District of Rivers State is accepted and the alternative hypothesis is rejected. However, any observed difference can be attributed to sampling error.

HO_3: There is no significant difference in the mean ratings between the male and female student's responses on google classroom E-teaching platform on students' academic performance in public senior secondary schools in Rivers East Senatorial District of Rivers state.

Table 4.9: Z–test Analysis of the mean difference between the male and female student's responses on google classroom E-teaching platform on students' academic performance in public senior secondary schools in Rivers East Senatorial District of Rivers state.

Variable	N	$\overline{X}$	SD	Z-cal	Z-crit	α	Remarks
Male	130	**3.21**	**0.79**				Accepted
				-0.217	1.96	0.05	H_O

Female	170	**3.23**	**0.79**

Source: *Researcher's Field Result, 2020*

Table 4.9 shows the Z–test Analysis of the mean difference between the male and female student's responses on google classroom E-teaching platform on students' academic performance in public senior secondary schools in Rivers East Senatorial District of Rivers state.

The analysis shows a Z – calculated value of -0.217 which is less than the Z- critical value of 1.96 and since the computed value is less than the table value, it is insignificant which confirms the stated null hypothesis.

Consequently, the null hypothesis which says there is no significant difference between the male and female student's responses on google classroom E-teaching platform and students' academic performance in public senior secondary schools in Rivers East Senatorial District of Rivers state is accepted and the alternative hypothesis is rejected. However, any observed difference can be attributed to sampling error.

5.1 Summary

This study investigated the extent to which E-teaching platforms influence students' academic performance in public senior secondary schools in Rivers East senatorial district Rivers State. "The primary purpose of teaching at any level of education is to bring a fundamental change in the learner. To facilitate the process of knowledge transmission, teachers should use appropriate e-teaching platforms that best suit specific objectives and level exit outcomes." In the traditional epoch, many teaching practitioners widely apply teacher-centered techniques to impart knowledge to learners comparative to student-centered techniques. Until today, questions about the effectiveness of e-teaching platforms on students' academic performance have consistently raised considerable interest in the field of educational research.

There is a significant difference between zoom cloud e-teaching, Google classroom e-teaching , teleconferencing e-teaching platform on students' academic performance in public senior secondary schools in Rivers East Senatorial District, Rivers State.

5.2. Conclusion

E-teaching platforms have great influence on teaching especially for those who have access to electronic tools/media that are used for the teaching/learning process. It has been observed that learners learn faster online, this is due to the fact that online teaching requires learners to learn at their own pace, going back and re-reading, skipping or going through concept as they desire. The evidence obtained from this study has shown that "the e-teaching platforms which include whatsapp, zoom cloud, Google classroom, teleconferencing and edmodo influence the academic performance of students in public senior secondary schools in Rivers East Senatorial District, Rivers State."

5.4. Recommendations

Based on the findings, the following recommendations were made:

1. The teachers should be encouraged to introduce the use of whatsapp e-teaching platform to explain things better to the students and get the students reaction.
2. The teachers should be encouraged to use zoom cloud cloud E-eaching platform to continue their lessons or build better on what was taught in class.
3. The Education Board of the state should provide facilities which can be used for Google classroom e-teaching platforms, so that during breaks, teaching and learning can continue.

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