

Media Usage for Effective Teaching and Learning in Public Universities in Rivers State

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Abstract

This study investigated media usage for effective teaching and learning in public universities in Rivers State. Three research questions and three null hypotheses were used for the study. A descriptive research design was adopted for this study. The population for the study was all the 2,985 academic staff in the 3 public universities in Rivers State. The sample was 800 academic staff which represented 26% of the total population of academic staff in the 3 public universities in Rivers State, which was drawn using proportionate sampling technique. Further, the Pearson product moment coefficient of reliability index was 0.87 and therefore, the reliability of the instrument was established. To answer the research questions, Mean and Standard Deviation statistics were used, while t-test inferential tool was used to test the null hypotheses at 0.05 level of significance. The findings of the study indicated that to a high extent the use of laptop, Zoom and email enhances effective learning in public universities in Rivers State. The findings of the study revealed that the use of laptops encourages students to improve on their typing speed and makes them acquire typing skills. Also, made known from the study is that the feedback gotten from utilization of zoom reveals to the lecturer the weakness and strength of the students for immediate attention. The study concluded that the use of e-teaching media enhances effective learning in public universities in Rivers State. The study recommended among others that lecturers should encourage the use of laptops by students to improve the knowledge of students in typing and formatting. Also, University management should promote the use of zoom to enhance effective distance learning, especially during periods of pandemic and insecurity.

Keywords: E-teaching, Media usage, Effective learning, Public Universities, Rivers State.

Introduction

The term media is derived from the German word 'medium', which means carrier or mode. Media denotes an item specifically designed to reach a large audience or viewers. The term, according to Preeti (2014), was first used with the advent of newspapers and magazines. However, with the passage of time, the term broadened by the inventions of radio, television, cinemas and internet in the world of today, media is playing an outstanding role in strengthening the society. Its duty is to inform, educate and entertain the people. It helps

to know the current situation around the world. It has a strong cultural and social impact on the society because of its inherent ability to reach large number of public.

This study identifies media tools to include digital tools that may be used or adopted by lecturers to convey teaching items to students. Such media tools include zoom, email and laptops. The study would therefore use media interchangeably with the listed tools such as zoom, email and laptops. Such teaching and learning process as contemplated in this study include students' assignments, teaching proper, tests, or even exams. School administration may also from time to time deploy such media tools in its students' enrollment process. The idea of adopting media tools in teaching and learning is captured in Nweke, (2018), stating that the use of the term educated-person now wears a different meaning. Any 'educated' person who can't use digital media tools is today regarded as illiterate). Media comes in different forms and each affects the ways student learn and interpret information.

It has brought the world closer (globalism) so that students from different universities in different parts of the world are connected through a mere internet connection. Media plays an important role in education as they enable educators share experiences with other educators for professional development and to combat the sense of professional isolation. Student can enroll in universities round the world to take online classes even when they are not regular students. The internet enables lecturers research on subject they lecture and access materials that will aid them do better as such, they will not only have confidence in themselves to discharge their duties but will increase the confidence their students have in them, (Nweke, 2021).

The Federal Government has made several efforts towards integrating the e-teaching into the university education but an observation in the Universities in Rivers State appears that the schools and lecturers are yet to adopt complete e-teaching media usage in teaching and learning. The use of whiteboards, markers, textbook and constant interfacing between lecturers and students are still prevalent. Submission of assignments and seminar papers are still done in hard copies which cause lecturers' offices to be littered with papers some of which even get misplaced. It is against this background that the study examines e-teaching media usage and effective learning in public universities in Rivers State.

Statement of the Problem

The university is established in Nigeria with the general goals of contributing to national development through different ways. In today's fast spreading world of technology, it has become very pertinent for lecturers to include e-teaching media in instructions because the university students who range between the ages of sixteen and twenty-five are digitally inclined. As the world changes, so the teaching methods and instructional facilities are also changing. The obvious advantages of e-teaching media usage and its effect on learning has been debated and as such, systematic research is needed to confirm necessity of the use of e-teaching and its effect on learners in the universities in Nigeria and in Rivers State in particular. Many lecturers still use chalk board and markers and always insist on face to face

learning even when the government has made several provisions for e-teaching and learning. Learning is more inclusive than ever and it is pertinent to note that the use of e-learning tools motivates learners and has the capacity to enrich learning effectiveness thereby making learning student-centered. The use of e-teaching enables the lecturers to lecture with ease, save more time energy, and connect globally with other lecturers and students. Lack e-learning will pose a serious threat to time management.

This study, therefore has become necessary to investigate the usage of e-teaching media and its effect on learning in public universities in Rivers State. This is with the view to identify the problems of e-teaching and effective learning and proffer lasting solutions.

Aim and Objectives of the Study

The aim of the study is to investigate e-teaching media usage for effective learning in public universities in Rivers State, in specific terms the study will seek to examine the following objectives:

1. To ascertain the extent to which the use of laptops as teaching media enhance effective learning in Public Universities in Rivers State.
2. To determine the extent to which the use of zoom as teaching media enhance effective learning in public universities in Rivers State.
3. To ascertain the extent to which the use of e-mails as teaching media enhance effective learning in Public universities in Rivers State.

Research Questions

The following research questions guided the study:

1. To what extent does the use of laptops as e-teaching media enhance effective learning in public universities in Rivers State?
2. To what extent does the use of zoom as e-teaching media enhance effective learning in public universities in Rivers State?
3. To what extent does the use of e-mails as e-teaching media enhance effective learning in public universities in Rivers State?

Hypotheses

The following hypotheses that were postulated guided the study and were tested at 0.05 level of significance:

H₀₁: There is no significant difference between the mean ratings of male and female lecturers on the extent the use of laptops as e-teaching media enhance effective learning in public universities in Rivers State.

H₀₂: There is no significant difference between the mean ratings of male and female lecturers on the extent the use of zoom as e-teaching media enhance effective learning in the public universities in Rivers State.

H03: There is no significant difference between the mean ratings of male and female lecturers on the extent the use of e-mails as e-teaching media enhance effective learning in public universities in Rivers State.

Literature Review

Theoretical Framework

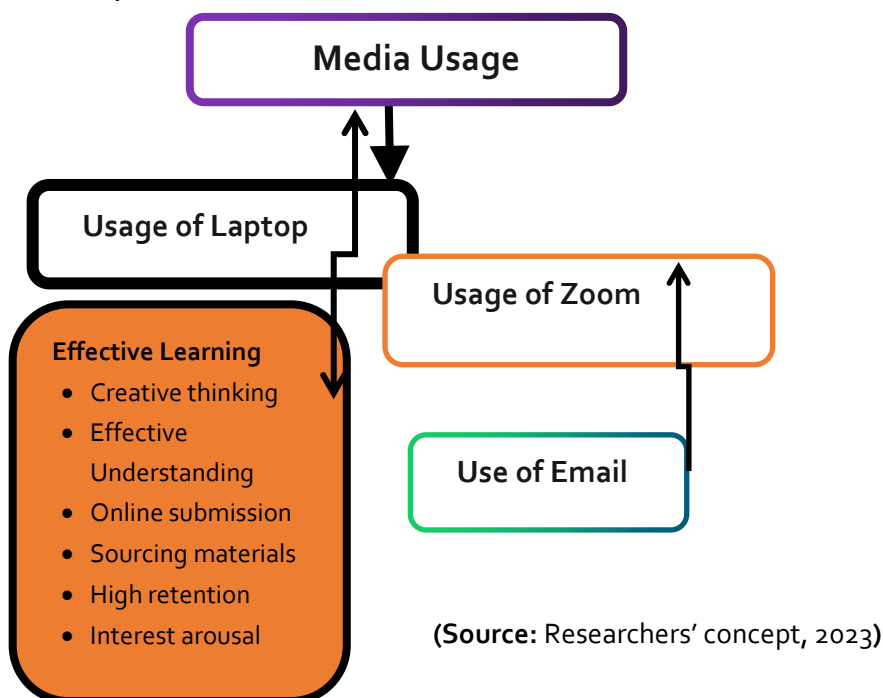
The study anchored on Modernization theory by Max-Weber in (1864-1920) as cited in Wemen (2020).

Modernization theory by Max-Weber in 1890

Modernization theory was established to explain a progressive transition from a pre-modern, traditional, rural and agrarian to a secular, urban, industrial or modern society. The theory was originated from the idea of German sociologist Max-Weber (1864-1920) which provided the basis of the modernization paradigm developed by Harvard sociologist Talcott Parsons (1902-1979). An American economist Walt Whitman Rowston in 1960 established and suggested that development should be seen as an evolutionary process in which countries progress up 5 stages of a development ladder.

Based on modernization theory which suggests that traditional societies will develop as they adopt more practices. Kendell, (2007) the economic progress of countries originated from technological changes. According to this theory, increased technological development can make a country more modernized. This theory tried to explain why some countries had success and why some did not. It maintained that as long as traditional customs and culture prevents individuals and societies from gaining achievement, they would remain underdeveloped (Soheila, 2015).

Conceptual Framework



Media Usage

The term media usage defines technology mediated and digitally empowered learning that utilizes hardware (e.g., PCs, tablets, printer, digital camera, digital videos, overhead projector; OHP, and OHP screen), software (operating systems, cloud technologies, applications (apps), writing, editing, MS Office) and (CD textbooks that fall in the category of courseware, OERS, e-content) and others (e.g., USB drives, CD-ROM), whether from a distance or face-to-face classroom setting (PC helped learning), to empower teacher to student interactions. Actually, it moves the citadel of learning from traditional to module-driven, ICT-based customized, adaptable and synergistic learning that involves learners, instructors, facilitators, and specialists (Falana, 2015). Olojo et al., (2012) had it to say that while the traditional was teacher focused, the learner focus is facilitated by technology affordance which empowers learners in sharing and receiving contents regularly.

According to Okai (2019), the use of Information Communication Technology (ICT) as the modern tool for management of organization in which educational organization is inclusive has become the norm particularly for the advanced world. Patterson (2005), cited in Okai (2019) asserted that just as no organization can survive without adequate financial backing, so also educational institutions may find it difficult to the challenges of this era of globalization if the capacity to adopt the modern Information technology is not there. Okai (2008) cited in Okai (2019) stated that no matter how policies and well-intended educational policy may be, the realization of these goals always depends largely on the availability of facilities for modern information and technology. The relevance to embrace information technology in teaching and learning is due to many factors such as the amount of time and effort required to properly integrate technology into curriculum, persistent doubts about the pedagogical benefits being utilized.

Use of Laptops as Media Tool for Effective Learning in Public Universities in Rivers State

Laptops bring many functionalities and advantages to a university classroom. Students bring them to class to connect with the lecture, take notes and generally engage in class activities. They provide note-taking applications (e.g., Microsoft OneNote, Evernote, Apple Notes), note storage, and constant access to class materials. Laptops, have become standard equipment in higher education as the number of universities instituting laptop initiatives continues to grow (Weaver & Nilson, 2005). There does seem to be a developing feud between those who want to promote laptop use and those who are resistant to it. For the past few years, many educational innovators have publicized technological advances in general and laptops with wireless connectivity more specially as the next great educational innovations. Brown and Petitto, (2003) have long advocated the benefits of universal and constant access to laptops on college campuses. He added that much attention has been paid to finding ways of roll out laptop programs and get faculty to adopt and adapt to such programs. Brown and Petitto (2003) have coined the term ubiquitous computing to describe a campus where all students and faculty have laptops and all buildings have rare access to wi-fi technology, but recently there has been a backlash against such programs,

with faculty banning laptop use in their classrooms due to concerns about the negative impact they have on student learning (Melerdiercks, 2005).

Young (2006) observed that students are aware of the usefulness of the laptop as enhancing their own participation in the course. However, students use laptops not only for course-related activities but also for off-task or non-course-related (NCR) activities. In an online survey, 59% of students brought their laptops to class, mostly to take notes and engage in off-task activities such as social media or surfing the web. While laptops provide many advantages for class time, they also present a major source of distraction. Kay, et al (2007) in a study asked their students to rate the frequency in which they engaged in distracting activities during class. About two-thirds of the students stated that they most frequently engage in emailing and web surfing, closely followed by social media activities, instant messaging (IM), and playing games. This distracting nature of laptops in class not only leads to increased multitasking but also to potentially lower academic performance. Aguilar-Roca, et al., (2008) found a performance difference between students who took notes on their laptops and those who used paper, showing that the latter scored significantly better in tests and received significantly more A grades. Sana, et al., (2006) used an experimental setting to analyze the consequences of laptop use for NCR tasks in class and found that students who were asked to engage in NCR activities in a lecture scored 11% lower than their peers did, even though there was an evidence that unrestricted use of laptops and tablets had a negative impact on academic performance.

Fried (2006) in her study on whether in-class laptop use aid or hinder the learning process, showed that students spent a large percentage of classroom time to tasks unrelated to class which hindered their understanding of course material, as well as, lowering their performance in class. It also showed that the laptop use posed a significant distraction to not only users, but fellow students as well. The results of that research suggest that laptop use hindered the students' attention span, thus lowering their test scores. Respectively, Sana, et al., (2013) and Lindroth and Bergquist (2010) reported that laptops in the classroom hinders the personal learning situation for both users and nearby peers.

Use of Zoom as E-teaching Medium for Effective Teaching and Learning in Public Universities

Zoom is a video-chatting tool similar to Skype and Google Hangouts which can be used to hold online classes, visit virtually with friends and relatives, and even join remote events like birthday parties. For teachers, the free version of Zoom provides a suite of useful features, including the ability to host meetings with up to 100 participants, and to allow students to wordlessly signal to the teacher that they have a question, brainstorm on a virtual whiteboard, and collaborate on projects by annotating documents on other students' screens. However, an upgraded version of Zoom, ideally managed by the school or technology team will provide additional options and control, including the ability to record, an admin dashboard, managed domains, single sign-on, and more.

A zoom session is one of the types of synchronous learning. Synchronous Learning is a modern notion derived from online learning which focuses on integrating technology with teaching methodologies as a means of delivery within educational institutions for the sake of making the learning process easier for students and lecturers. This concept is characterized by a combination of many traits such as a technological device connected to a network (zoomlocation), a suitable timing for both teachers and students, different locations, real time communication, online participants, and instantaneous feedback through video, voice or text chat interaction between participants (Hrastinski, 2007).

Presently, many schools are training teachers to integrate the use of technologies like zoom to bridge the learning gap between the students and the teachers in terms distance. Blended learning tools are becoming universally used during instruction within education system because of its rapid acceptance in facilitating communication which leads to the widespread popularity of distance learning (Romoszowski & Mason, 2004). This blended learning tool comes as a solution for educational researchers who are constantly trying to develop innovative means to enhance the interactivity of the learning process in order to stimulate students' motivation and engagement in discussions for knowledge exchange, which also leads to developing general language learning (Tanti, 2012). On the other hand, lecturers integrate these tools into language instruction process to make the material easily comprehensible whether it is used on individual or group level of communication.

Various researchers proposed that a zoom session (a synchronous learning strategy) can have a direct link with positive impact on students' academic performance and motivation towards the learning process. Kleskova (2013) suggested that the designing and implementation of activities involved in a zoom session setting should help students to attain what the lesson design aims to achieve for the sake of motivating students through the instructional process. McLoughlin and Lee (2010) believed that using zoom sessions (a synchronous learning strategy) can facilitate students' acquisition of syntactic and semantic cognition with respect to sentences through the process of writing and rewriting before sharing these sentences due to the feeling of vulnerability of sharing them with their classmates and child care which encourages them to structure correct statements.

During the zoom session, students ask questions to help them structure their sentences or do their assignments before posting them; they may be exposed to listening input to increase their schemata that develops their error correction system which is directly linked to conscious learning of a language. At the same time students receive the essential feedback on their work from their teacher and classmates which can decrease the anxiety levels felt when sharing with others (Chen & Lee, 2011). Furthermore, according to Pérez (2013), when students are given the freedom to choose between synchronous and asynchronous learning strategies, they prefer the synchronous learning strategies more with respect to discussions and elaboration of the content material. That is because synchronous learning strategies are more communication oriented towards language teaching in its use of video, text, and voice chats (zoom sessions) to supply instantaneous

corrections and elaborations that help students to enhance the acquisition of basic language skills. (Keegan et al., 2005).

Email Utilization as an E-teaching Medium for Effective Teaching and Learning in Public Universities

Electronic mail (e-mail) can be a useful educational tool that can enhance learning in any curriculum. This article will provide instructors with a conceptual framework and several examples of how e-mail can be integrated into a variety of classroom and independent learning situations. As a cost effective and accessible communications tool, e-mail makes a significant impact on communications within and across college and university campuses and has become a vehicle for finding and using information resources. While the use of e-mail for all communications is growing rapidly, few materials are readily available for faculty who want to use e-mail as an educational tool. Thus, we have not yet realized the potential of e-mail to enhance learning and to integrate this type of computing into the whole curriculum.

Smith, et al., (2004), posited that although computing in general, and e-mail in particular, are well established in undergraduate education, they are not fully integrated into the curriculum. We often limit computing to courses in which it is the primary focus or a necessary tool, such as computer programming or statistics courses.

The notion of integrating e-mail into the undergraduate curriculum as an instructional tool is still relatively new, but introducing e-mail into any curriculum has many potential benefits. Students and faculty both benefit from using e-mail. Students learn a communication tool that is used throughout academia and industry. Using e-mail is the first step in using the Internet, the international research and education network that our students can navigate by using network searching tools. Students who use e-mail find that faculty are accessible for more than posted office hours. E-mail extends office hours to virtually any time and place, to the mutual convenience of faculty and students. Students also can discover and learn to use educational resources that exist beyond the boundaries of the campus. E-mail allows students and faculty to join other learners of all ages, from all over the globe, in discussions of mutual educational interest. This enlarged "peer group" brings together people from other cultures, religions, educational systems, and political systems, enriching students on the local campus. Finally, students are encouraged to learn independently and are rewarded for doing so. The educational networks are so enticing that students often explore them beyond the requirements of a particular course.

Methodology

The research design for this study was descriptive research design; which was used to gather the opinions of the respondents in public universities in Rivers State. The descriptive research design helped to describe, show and the summarize data gathered in respect to the opinions of the respondents. Thus, the opinions were interpreted without manipulation.

The population of this study consists of all the 2,985 academic staff in the 3 public universities in Rivers State. There are 1,462 academic staff in University of Port Harcourt; 1,099 academic staff in Rivers State University and 424 academic staff in Ignatius Ajuru University of Education, Rumuolumeni, Port Harcourt. (University Academic Unit, 2021).

The sample size for this study comprised 800 academic staff which represented 26% of the total population academic staff in the 3 public universities in Rivers State. The sample size was drawn from the total population using proportionate sampling technique. Thus, 392 academic staff was selected from university of Port Harcourt, 294 from Rivers State University and 114 staff from Ignatius Ajuru University of Education.

The instrument of the study that was used was a self-constructed 4-point likert questionnaire instrument titled "E-teaching Media Usage for Effective Learning in Public Universities Questionnaire (EMUELPUQ)". It was constructed in line with the modified four-point Likert scale Questionnaire. The questionnaire was divided into three sections of A, B and C. Section A elicited information on the demographic variables of the respondents while section B contained statements addressing the raised research questions of the study, while section C. It was constructed in line with the modified 4-point Likert rating scale of Very High Extent (VHE)- 4points, High Extent (HE) - 3points, Low Extent (LE) - 2points, Very Low Extent (VLE) - 1 point. In scoring the questionnaire responses, the weighted point was added as $4+3+2+1=10/4=2.5$. Thus 2.5 is the Criterion Mean. Therefore, the remarks for any item below 2.5 was agreed as Low Extent disagreed and agreed for any item of 2.5 and above.

The instrument was given to experts in Measurement and Evaluation to assess as well as to validate both the face and contents of the instruments.

The mean and standard deviation statistics were used as the statistical tools to answer the research questions while t-test inferential statistics was used to test the formulated null hypotheses at 0.05 level of significance. In respect to the mean the weight points were summed up; thus $4 + 3 + 2 + 1 = 10/4 = 2.50$, this is the criterion mean. Based on this any mean value above 2.5 were agreed as High Extent, while Low Extent for any value below 2.50.

Results

Research Question One: To what extent does the use of laptops as e-teaching media enhance effective learning in public universities in Rivers State?

Table 1: Mean ratings and standard deviation on the extent the use of laptops as e-teaching media enhance effective learning in public universities in Rivers State.

Extent the use of laptops as e-teaching media enhance effective learning in public universities in Rivers State								
Male Lecturers = 428			Female Lecturers = 335					
S/ N	Items	$\bar{X}$	S.D	$\bar{X}$	S.D	$\bar{X}_1\bar{X}_2$	Rank Order	Remark
1	Lecturers use laptops to prepare for classes before coming to teach the students.	2.57	1.11	2.83	1.05	2.7	5 th	High Extent
2	Laptop helps students to take down notes.	2.91	1.04	2.97	1.03	2.94	4 th	High Extent
3	Through the use of laptops, students get source for information about concepts taught in the classroom.	2.88	1.03	2.9	1.02	2.89	3 rd	High Extent
4	The use of laptops encourages students to improve on their typing speed and makes them acquire typing skills.	2.89	1.06	3.03	0.96	2.96	2 nd	High Extent
5	Laptops usage enables the students to always revise previous lesson before coming for class.	2.1	1.04	2.03	1.02	2.06	6 th	Low Extent
6	Lecturers use laptops to store information and retrieve them when necessary for easy preparation for class.	3.05	1.05	3.03	1.04	3.04	1 st	High Extent
Grand mean		2.73	1.06	2.80	1.02	2.77		High Extent

Legends:

$\bar{X}$: Mean

S.D: Standard Deviation

n : Number

Scales:

1.00 - 2.49: Low Extent

2.50 - 4.00: High Extent

Data on Table 1 show the mean ratings and standard deviation of the respondents on the extent the use of laptops as e-teaching media enhance effective learning in public universities in Rivers State. The Table shows that both male and female lecturers agreed that lecturers use laptops to prepare for classes before coming to teach the students, laptop helps students to take down notes, through the use of laptops, students get source for information about concepts taught in the classroom, the use of laptops encourages students to improve on their typing speed and makes them acquire typing skills, lecturers use laptops to store information and retrieve them when necessary for easy preparation for

class to a high extent as seen on items , 1, 2, 3, 4, and 6 with the mean set scores of 2.7, 2.94, 2.89, 2.96, 3.04 respectively which were all above the criterion mean scores of 2.50. However, the majority of the respondents agreed that laptops usage enables the students to always revise previous lesson before coming for class to a low extent as seen on item 5 with the mean set rating of 2.06.

From the ranking order, item 5 came highest with the mean score of 3.04, while item 6 came lowest with the mean score of 2.06. More also, the grand mean score for male lecturers was 2.73, while the grand mean for female lecturers stood at 2.80, which indicated that more of the female lecturers agreed to a high extent on the items raised above than the male lecturers. Again, the overall mean set score of 2.77 shows that to a high extent the use of laptops as e-teaching media enhances effective learning in public universities in Rivers State.

Research Question Two: To what extent does the use of zoom as e-teaching media enhance effective learning in public universities in Rivers State?

Table 2: Mean ratings and standard deviation on the use of zoom as e-teaching media enhance effective learning in public universities in Rivers State

Extent the use of zoom as e-teaching media enhance effective learning in public universities								
		Male Lecturers = 428				Female Lecturers = 335		
S/ N	Items	$\bar{X}$	S.D	$\bar{X}$	S.D	$\bar{X}_1\bar{X}_2$	Rank Order	Remark
7	The use of zoom enhances virtual teaching and learning between the teacher and the students.	2.93	1.02	2.88	0.95	2.90	5 th	High Extent
8	The use of zoom enhances effective interaction that leads to wider understanding.	2.98	1	3.24	0.95	3.11	1 st	High Extent
9	It also improves learners writing and speaking skills for a better academic performance.	2.98	1.01	3.13	0.87	3.05	2 nd	High Extent
10	The use of zoom App improves students language and communicates effectively to students during distance learning.	2.92	1.04	3.01	0.95	2.97	4 th	High Extent
11	The feedback gotten from utilization of zoom reveals to the lecturer the weakness and strength of the students for immediate attention.	2.14	0.94	2.1	1.00	2.12	6 th	Low Extent

12	The use of zoom enhances students engagement and participation, hence students feel free to ask questions.	2.99	1.00	2.97	0.95	2.98	3 rd	High Extent
Grand Mean		2.82	1.20	2.89	0.95	2.86		High Extent

Data on Table 2 show the mean ratings and standard deviation of the respondents on the extent the use of zoom as e-teaching media enhance effective learning in public universities in Rivers State. The table show that majority of the respondents to a high extent agreed that the use of zoom enhances virtual teaching and learning between the teacher and the students, enhances effective interaction that leads to wider understanding, improves learners writing and speaking skills for a better academic performance, improves students language and communicates effectively to students during distance learning, enhances students engagement and participation, hence students feel free to ask questions as indicated on items 7, 8, 9, 10 and 12 with the mean set scores of 2.9, 3.11, 3.05, 2.97, and 2.98 respectively. But the respondents agreed to a low extent that the feedback gotten from utilization of zoom reveals to the lecturer the weakness and strength of the students for immediate attention as seen on item 11 with the mean set value of 2.12.

From the ranking order, item 8 came 1st and item 11 came last, this implies that more of the respondents agreed that to a high extent the use of zoom enhances effective interaction that leads to wider understanding. Further, the overall grand mean set score of 2.86 shows that to a high extent the use of zoom as e-teaching media enhance effective learning in public universities in Rivers State.

Research Question Three: To what extent does the use of e-mails as e-teaching media enhance effective learning in public universities in Rivers State?

Table 3: Mean ratings and Standard deviation on the extent the use of e-mails as e-teaching media enhance effective learning in public universities in Rivers State

Extent the use of e-mails as e-teaching media enhance effective learning in public universities in Rivers State								
		Male Lecturers = 428			Female Lecturers = 335			
S/N	Items	$\bar{X}$	S.D	$\bar{X}$	S.D	$\bar{X1\bar{X}2}$	Rank Order	Remark
13	The use of e-mails by lecturers promote the effective sending of message and feedback from the students.	3.03	0.96	3.27	0.75	3.15	1 st	High Extent

14	The lecturers implore the use of e-mails for sending assignment to students.	2.83	1.04	3	1.01	2.91	5 th	High Extent
15	The students also implore the utilization of e-mails to give feedback to their lecturers.	2.94	1.01	3.23	0.78	3.08	2 nd	High Extent
16	The information sent and received by students in the course of teaching and learning can be recalled and reviewed from time to time.	2.06	1.05	1.83	0.93	1.95	6 th	Low Extent
17	e-mails are also utilized by students and lecturers alike as a medium to administer questionnaire during project work.	2.93	1.05	3.15	0.88	3.04	3 rd	High Extent
18	The utilization of e-mails promotes the effective interaction between the lecturers and students in the act of teaching and learning processes.	3.03	0.95	2.94	0.94	2.98	4 th	High Extent
Grand Mean		2.8	1.01	2.9	0.88	2.85		High Extent

Table 3 shows the Mean ratings and Standard deviation on the extent the use of e-mails as e-teaching media enhance effective learning in public universities in Rivers State. The table reveals that the majority of the respondents agreed that, the use of e-mails as e-teaching media promote the effective sending of message and feedback from the students, lecturers implore the use of e-mails for sending assignment to students, the students also implore the utilization of e-mails to give feedback to their lecturers, e-mails are also utilized by students and lecturers alike as a medium to administer questionnaire during project work, The utilization of e-mails promotes the effective interaction between the lecturers and students in the act of teaching and learning processes to a high extent as seen on item 25, 26, 27, 29 and 30 with the mean set scores of 3.15, 2.91, 3.08, 3.04 and 2.98. But to a low extent that the information sent and received by students in the course of teaching and learning can be recalled and reviewed from time to time as seen on item 28 with the mean set score of 1.95.

In this same vein, from the ranking order item 25 came 1st with the mean value of 3.15 and item 28 came last with the mean score of 1.95, indicating that, majority of the respondents agreed that the use of e-mails by lecturers promote the effective sending of message and

feedback from the students.to a high extent. From the foregoing, the grand mean set score of 2.85 shows that the use of e-mails as e-teaching media enhance effective learning in public universities in Rivers State to a high extent.

Test of Hypotheses

Hypothesis One: There is no significant difference between the mean ratings of male and female lecturers on the extent the use of laptops as e-teaching media enhance effective learning in public universities in Rivers State.

Table 4: Summary of t-test analysis of mean ratings of the opinions of male and female lecturers on the extent the use of laptops as e-teaching media enhance effective learning in public universities in Rivers State

Groups	N	$\bar{x}$	S.D	Df	Sig 2- (tailed)	Cut off P-value	Decision
Male Lecturers	428	2.73	1.06	798	.402	0.05	Accepted
Female Lecturers	335	2.80	1.02				No Significance
N=	763						

Level of significance = 0.05

Legends:

n	:	Number of respondents
$\bar{x}$	:	Mean
S.D	:	Standard Deviation
0.05	:	Level of significance
df	:	Degrees of freedom

Data on Table 6 shows summary of subjects mean, standard deviation and t-test of difference between the mean ratings of male and female lecturers on the extent the use of laptops as e-teaching media enhance effective learning in public universities in Rivers State. The calculated significant value used in testing the hypothesis stood at .402 at the p-value 0.05 level of significance using 798 degrees of freedom. This shows that .402 is greater than 0.05 level of significance, hence there is a significant difference between the mean rating of male and female lecturers on the extent the use of laptops as e-teaching media enhance effective learning in public universities in Rivers State. Based on the foregoing, the researcher accepted the null hypothesis, and confirmed that there is no significant difference between the mean rating of male and female lecturers on the extent the use of laptops as e-teaching media enhance effective learning in public universities in Rivers State.

Hypothesis Two: There is no significant difference between the mean ratings of male and female lecturers on the extent the use of zoom as e-teaching media enhance effective learning in the public universities in Rivers State.

Table 5: Summary of t-test analysis of mean ratings of of male and female lecturers on the extent the use of zoom as e-teaching media enhance effective learning in the public universities in Rivers State

Groups	N	$\bar{x}$	S.D	Df	Sig 2- (tailed)	Cut off P-value	Decision
Male Lecturers	428	2.82	1.20	798	.381	0.05	Accepted No Significance
Female Lecturers	335	2.89	0.95				
N=	763						

Level of significance = 0.05

Data on Table 5 show summary of subjects mean, standard deviation and t-test of difference between the mean ratings of male and female lecturers on the extent the use of zoom as e-teaching media enhance effective learning in the public universities in Rivers State.

The calculated t-value, used in testing the hypothesis stood at 0.381 at the p-value 0.05 level of significance using 798 degrees of freedom. At 0.05 level of significance and 798 degrees of freedom, the calculated t-value .381 is greater than p-value of 0.05 alpha level, hence there is no significant difference between the responses of the opinions of male and female lecturers on the extent the use of zoom as e-teaching media enhance effective learning in the public universities in Rivers State.

Based on the foregoing, the researcher fails to reject the null hypothesis and confirmed that there is no significant difference between the mean ratings of the opinions of male and female lecturers on the extent the use of zoom as e-teaching media enhance effective learning in the public universities in Rivers State.

Hypothesis three: There is no significant difference between the mean ratings of male and female lecturers on the extent the use of e-mails as e-teaching media enhance effective learning in public universities in Rivers State.

Table 6: Summary of t-test analysis of mean ratings of the opinions of male and female lecturers on the extent the use of e-mails as e-teaching media enhance effective learning in public universities in Rivers State

Groups	N	$\bar{x}$	S.D	Df	Sig 2- (tailed)	Cut off P-value	Decision
Male Lecturers	428	2.90	0.88	967	.462	0.05	Accepted
Female Lecturers	335	2.85	2.80				No Significance
N=	763						

Level of significance = 0.05

Data on Table 6 shows summary of subjects mean, standard deviation and t-test of difference between the mean ratings of male and female lecturers on the extent the use of e-mails as e-teaching media enhance effective learning in public universities in Rivers State. The calculated significant value used in testing the hypothesis stood at .462 at the p-value 0.05 level of significance using 798 degrees of freedom. This shows that .462 is greater than 0.05 level of significance, hence there is a significant difference between the mean rating of male and female lecturers on the extent the use of e-mails as e-teaching media enhance effective learning in public universities in Rivers State. Based on the foregoing, the researcher accepted the null hypothesis, and confirmed that there is no significant difference between the mean rating of male and female lecturers on the extent the use of e-mails as e-teaching media enhance effective learning in public universities in Rivers State.

Summary of Findings

The following are the summary of findings from the study:

1. To a high extent the use of laptops as e-teaching media enhance effective learning in public universities in Rivers State.
2. To a high extent the use of zoom as e-teaching media enhance effective learning in public universities in Rivers State.
3. To a high extent the use of e-mails as e-teaching media enhance effective learning in public universities in Rivers State.
4. There was no significant difference between the mean ratings of male and female lecturers on the extent the use of laptops as e-teaching media enhance effective learning in public universities in Rivers State.
5. There was no significant difference between the mean ratings of male and female lecturers on the extent the use of zoom as e-teaching media enhance effective learning in the public universities in Rivers State.
6. There was no significant difference between the mean ratings of male and female lecturers on the extent the use of e-mails as e-teaching media enhance effective learning in public universities in Rivers State.

Discussion of Findings

Extent the Use of Laptops as E-Teaching Media Enhance Effective Learning in Public Universities in Rivers State

The findings of the study revealed that lecturers use laptops to prepare for classes before coming to teach the students, laptop helps students to take down notes, through the use of laptops, students get source for information about concepts taught in the classroom, the use of laptops encourages students to improve on their typing speed and makes them acquire typing skills, lecturers use laptops to store information and retrieve them when necessary for easy preparation for class to a high extent.

This finding is in line with Brown and Petitto, (2003), having long advocated the benefits of universal and constant access to laptops on college campuses. They equally noted that much attention has been paid to finding ways of roll out laptop programs and get faculty to adopt and adapt to such programs. The use of laptops provides an array of information at the disposal of the lecturers and students alike for optimum academic performances. Laptops accept teachers input which can easily be retrieved and analyzed and also help teachers and students to review and modify their work to improve the teaching-learning processes in various institutions of learning.

However, the findings of the study is in contradiction with Fried (2006) in her study on whether in-class laptop use aid or hinder the learning process; showed that students spent a large percentage of classroom time to tasks unrelated to class which hindered their understanding of course material, as well as, lowering their performance in class. Thus, the distraction of students through the use of laptop may be as a result of adequate orientation and guidance from the school management. It therefore means that the use of laptops should be strictly on educational purposes.

Extent the Use of Zoom as E-Teaching Media Enhance Effective Learning In Public Universities In Rivers State.

The findings of the study revealed that to a high extent the use of zoom enhances virtual teaching and learning between the teacher and the students, enhances effective interaction that leads to wider understanding, improves learners writing and speaking skills for a better academic performance, improves students language and communicates effectively to students during distance learning, enhances students engagement and participation, hence students feel free to ask questions.

The finding is in line with (Hrastinski, 2007), who is of the opinion that zoom is characterized by a combination of many traits such as a technological device connected to a network, which is a suitable timing for both lecturers and students, different locations, real time communication, online participants, and instantaneous feedback through video, voice or text chat interaction between participants. The use of zoom is constantly on the increase as many schools are training lecturers to integrate the use of zoom alongside other technologies to bridge the learning gap between the learners and the teachers in terms distance.

This finding also gained the support of Romoszowski and Mason, (2004), when they posited that the use of Zoom as online learning tool, is becoming generally used during instruction within education system because of its capacity to facilitate effective communication which leads to the widespread popularity of distance learning. This online learning tool makes it possible for more people to be connected in a virtual classroom for effective teaching and learning across globe. On the other hand, lecturers integrate these tools into language instruction process to make the material easily comprehensible whether it is used on individual or group level of communication (Blau & Barak, 2012).

Extent the Use of E-Mails as E-Teaching Media Enhance Effective Learning in Public Universities in Rivers State

The findings of the study revealed that that the majority of the respondents agreed that, the use of e-mails as e-teaching media promote the effective sending of message and feedback from the students, lecturers implore the use of e-mails for sending assignment to students, the students also implore the utilization of e-mails to give feedback to their lecturers, e-mails are also utilized by students and lecturers alike as a tedium to administer questionnaire during project work, The utilization of e-mails promotes the effective interaction between the lecturers and students in the act of teaching and learning processes to a high extent.

The findings are in agreement with Debard and Guidara (2004), having found out and extoled the need for better and more frequent use of asynchronous communication such as email in the higher education classroom. They found that asynchronous communication, such as email, can be adopted to meet lecturers' effective teaching. Thus, the use email can increase faculty-student contact resulting in improved student involvement and motivation.

Conclusion

This study has established the extent to which the use of laptops enhance effective learning outcome, the extent to which the use of zoom enhance effective learning, the extent to which the use of projectors enhance effective learning, the extent to which the use of You-tube enhance effective learning and the extent to which the use of e-mail enhance effective learning outcome in public universities in Rivers State. The study revealed that the use of laptops encourages students to improve on their typing speed and makes them acquire typing skills. Also, made known from the study is that the feedback gotten from utilization of zoom reveals to the lecturer the weakness and strength of the students for immediate attention. It is encouraged for the utilization of zoom application in public universities in Rivers State. In addition, the use of projectors by lecturers during instructional delivery ensures that they hear listen as they also visualize for effective learning to take place.

Recommendations

Based on the findings of this study, the researcher itemized the following recommendations:

1. Lecturers should encourage the use of laptops by students to improve the knowledge of students in typing and formatting.
2. University management should promote the use of zoom to enhance effective distance learning, especially during periods of pandemic and insecurity.
3. University lecturers should utilize email as a tool for sending and receiving assignment, and distributing questionnaires throughout project work.

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