



Attitude towards E-Learning among Teachers in Senior Secondary Schools in Port Harcourt Metropolis, Nigeria

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ABSTRACT

The study investigated the attitude of male and female senior secondary school teachers in Port Harcourt metropolis towards e-learning. The main objective of the study is to determine the level of positive attitude towards e-learning among the teachers. Two research questions were posed in line with the objective of the study and one hypothesis formulated to guide the study. A descriptive design was used for the study, using a sample size of 320 from a population of 1,807 teachers, spread across 39 public schools. A cluster random sampling technique was used to select the sample for the study. A research questionnaire titled "E-Pedagogical Readiness Questionnaire (E-PRQ)" was used for data collection with its face and content validated with a Pearson Product-Moment Correlation reliability coefficient value of 0.89. The research instrument was administered using Google forms by focal persons in each school who shared the link to the participants in their schools via Whatsapp. Mean determinant Software was used to analyse the research questions while the hypothesis was tested using Z-test and Mann Whitney U statistical tools. The study found that there was a high level of positive attitude towards e-learning among the teachers although male teachers had a higher level of positive attitude than female teachers. A statistically significant difference between male and female teachers' attitude towards e-learning was found. The study therefore recommended that in-service training should be carried out frequently for the teachers in order to boost their self-efficacy with technology tools thereby assuaging their fears that introduction of e-learning may be a threat to their jobs.

Keywords: Teachers' Attitude, E-learning, Senior Secondary Schools.

INTRODUCTION

The outbreak of the Severe Acute Respiratory Syndrome (SARS) also known as CoronaVirus Disease (COVID 19) in December 2019 led to a global pandemic which caused a sudden suspension of schools, colleges, universities and other institutions of learning across the world. March, 2020, all institutions of learning in Nigeria were closed as part of preventive measures to curb the spread of the deadly virus. According to UNESCO (2020), It was estimated that over a billion students and 64 million educators in about 188 countries around the world were affected by the closure of educational institutions to prevent the spread of the COVID 19 and were forced to adjust their face-to-face mode of instruction. In response to this shutdown, educational institutions around the world utilized e-learning platforms to continue to provide educational opportunities for their learners. With isolation and social distancing regulations in many countries, the use of technology was considered the most appropriate alternative to keep

educational systems in operation, with teaching and learning continuing in many parts of the world during the period of the pandemic (Duraku, 2020).

Although moving learning to an online format has since been embraced in many educational systems around the world, the extent of using technology to deliver teaching and learning online varies between regions and countries. The degree of variance depends on many factors related to cost, accessibility and usability (Duraku, 2020). Like most processes in the field of education, the transition to online learning depends on the development of capabilities of the elements involved, ranging from the institutions in charge to all the individuals in the educational system that would use the system. In this case teachers' readiness is paramount because most teachers in all levels of education, from pre-primary schools to universities, may be expected to teach using an e-learning system at some point in their careers. This implies that if the implementation of an e-learning system is to be successful, then the teachers should be ready to use the system. This readiness includes their attitudes towards technology mediated learning or moving teaching and learning online, the training they receive as well as the competences required to teach online which include skills needed to facilitate learning in online classrooms.

Unfortunately, teaching online is a new and yet to be understood experience for the majority of school teachers in Nigeria and some teachers are still not passionate about the integration of e-learning technology in teaching. If teachers show positive attitudes towards e-learning systems and technology, the tendency of them showing interest in acquiring the skills needed to use the technology/system becomes high but when they show negative attitudes toward e-learning technology/systems, they become less likely to motivate themselves to acquire the skills needed to use technology (Behera, 2012). This negative attitude therefore becomes a readiness barrier and poses a threat to its acceptance and use. Consequently, if teachers are not ready to use or accept e-learning systems, this will be unfavourable for the students because there will be an underutilization of the system with little or no positive outcomes for the students (Allen & Seaman, 2013; Behera, 2012). Moreover, teachers' poor attitudes towards e-learning technologies/systems pose a threat to the survival of online learning, which obviously, is the future of online education because teachers who are not ready for online learning will retard the growth of online education. (Allen & Seaman, 2013).

Statement of the Problem

The advancement of technology in almost every aspect of society suggests that online learning may be the future of education. With globalisation in view and the increasing rate of inter-community transmission of diseases as well as increased violence and negative effects of climate change such as floods being experienced across the world, the need to shut down physical schools at one point or another may be inevitable. The closure of schools across the world as a response to the COVID 19 pandemic which led to a sudden and massive transition from face-to-face to online learning modes for many educational institutions around the world presented a need for educational institutions to consider the urgency of institutional and user preparedness for transition to fully online or hybrid learning. Despite the fact that e-learning, to different degrees, is already now accepted as an integral part of many educational institutions around the world, teaching online is a new and yet to be understood experience for the majority of institutions and school teachers in Nigeria and some teachers are still not passionate about the integration of e-learning technology in teaching. This is further influenced by teachers' demographic factors such as age, gender, experience, educational qualifications, among others. (Caballes & Panol, 2021). This study therefore identified gender differences relating to attitude towards e-learning among senior secondary school teachers in Port Harcourt metropolis.

Purpose of the Study

This study aimed primarily to investigate the attitude of senior secondary school teachers in Port Harcourt metropolis towards e-learning. Specifically, it sought to;

1. determine the attitude of senior secondary school teachers in Port Harcourt. metropolis towards e- learning
2. determine the difference between male and female senior secondary school teachers' attitudes towards e-learning.

Research Questions

The following research question guided the study:

1. Do senior secondary school teachers in Port Harcourt metropolis have positive attitudes towards e-learning?
2. Is there a difference between male and female senior secondary school teachers' attitude towards e-learning?

Hypothesis

This study formulated the following hypothesis that was tested at a 5% level of significance:

H₀₁: There is no significant difference in the attitude of male and female senior secondary school teachers in Port Harcourt metropolis towards e-learning.

LITERATURE REVIEW

Concept of E-learning

The concept of e-learning has been described by many authors in diverse ways and scenarios; using diverse terms but what unifies all definitions and descriptions of e-learning is that they all depend on Information and Communication Technology (ICT) to function. Oye, Salleh and Lahad (2011) opined that the development of telecommunications technology and personal computers provided the foundation for e-learning. As innovations in technology advanced, new products were developed to change the modes and strategies of learning which has resulted in the advancement of e-learning technologies, implying that ICTs are the backbone of any e-learning technology or system. Almarashdeh, Ashaari, Mat Zin, and Alsmadi (2011) stated that "An e-learning system provides instructors a platform to create and deliver their course contents, assess learners' performance and monitor learner involvement", enabling learners to access learning content from different locations thus providing opportunities for learners to learn despite the distance between them and the learning environment.

Although machines and other learning tools have been used as tools in education in the past, one of the first instances of online learning in the world can be traced back to 1960, at the University of Illinois, USA (Sarkar, 2020). Despite the internet not being invented back then, computer terminals that were interlinked to form a network were used to facilitate teaching and learning. The first-ever entirely online course was offered in 1984 by the University of Toronto while in 1989, the University of Phoenix became the first educational institution in the world to launch a full online collegiate institution that offered degrees both bachelors and masters levels. This became the beginning of a revolution in education whose potential was blurry, but would evolve to make learning greatly accessible across geographical and social spaces (Sarkar, 2020). Although early adopters of online learning were thought to be tampering with the quality of education by offering instructional materials in non-traditional settings, the implementation of online learning has experienced tremendous growth in recent years due to globalisation and technology dependent lifestyles.

Many authors have highlighted the importance of e-learning in education as they provide flexible and easy access to learning resources as well as diverse features that enable teachers and learners to save time and cost thereby making teaching and learning more effective (Wordu & Chinda, 2019). As a result, the e-learners can readily have access to the learning process without the barriers of time and place, leading to increased students' learning productivity and efficacy (Vidyashree & Kumar, 2016). Other benefits identified include; opportunities for teachers to create well designed, learner-centred, engaging, interactive, affordable, efficient, easily accessible, flexible and meaningful distributed and facilitated e-learning environments Khan (2004); fast advancement of digital education, that in the usual traditional teaching settings, would take many years to accomplish (Lurvnik 2020); collaboration, active learning, and lifelong learning, increased students' motivation and more in-depth understanding of concepts with easy and better access to information and collaborative resources thereby promoting critical thinking, creativity, collaboration and communication which are the core 21st century learning skills (Khan, Hasan & Clement, 2012). Other advantages of e-learning identified include; ability to serve large number of students at low cost and distribution of quality materials virtually. According to Khan, Hasan & Clement, (2012), the application of e-learning in schools may also provide a good opportunity for teachers to

develop or improve their Information Technology (IT) skills to continue to remain relevant in the fast-changing digitalised education world. E-learning is therefore critical in developing a new generation of teachers, while upgrading the skills of the existing teaching force to use 21st century tools and pedagogies for learning.

Concept of Attitude

Vargas-Sánchez and Porrás-Bueno (2016) defined attitude as, “The way in which a person views and evaluates something or someone, a predisposition or a tendency to respond positively or negatively toward a certain idea, object, person, or situation”. They opine that attitude is ‘traditionally structured along three dimensions: cognitive (perceptions and beliefs), affective (likes and dislikes, feelings, or evoked emotions), and behavioural (actions or expressed intentions toward the object based upon the “cognitive” and “affective” responses)’. Attitude therefore deals with thoughts, feelings, and actions. In the case of teachers’ attitude towards e-learning, it is therefore their thoughts and feelings which lead to their actions of acceptance or non-acceptance of the e-learning system.

Attitudes are seen to have a powerful influence over behaviour and affect how people act in various situations, may change when new experiences and are often the result of experience or upbringing (Cherry, 2023), implying that they differ among individuals based on the experiences they or other people they know may have had or the upbringing they may have received from family and society at large. In the context of this study, upbringing plays a major role in determining the attitude of teachers towards e-learning, having been raised in a slow technology advanced society and for females in particular, a society that is gradually recovering from a mindset that the technology space was a ‘man’s world’.

Teachers’ Attitude Towards E-learning

The successful implementation of changes in education relies heavily on the teachers’ attitudes towards the change. Teaching online, which is different from teaching in the traditional classroom setting, requires teachers to adjust their attitudes towards technology and online teaching in order to make it successful. It also requires teachers to change their attitude towards moving from the traditional face-to-face pedagogy to e-pedagogy. If teachers show negative attitudes towards e-learning technology, their readiness and acceptance to use them will be negatively affected. If teachers believe that integration of technology in their practice or moving learning to an online mode would not meet their needs or those of their learners, they will most likely not support its implementation. On the other hand, if they perceive that they and/or their students will benefit from the implementation of technology-driven learning or moving learning to the online setting, there will be more willingness on their part which will result in tremendous engagement with their learners and thereby positively impacting learning outcomes (Buabeng-Andoh 2012).

Despite setbacks such as insufficient availability of technology tools, teachers sometimes show positive attitudes towards technology when they perceive its usefulness, which to a large extent determines the adoption and application of the system into institutions (Demirci, 2009). However, if teachers are undecided about the usefulness of technology in teaching and do not have confidence in their abilities to teach with computers, they develop a negative attitude towards it. This may lead to a high level of computer anxiety and further, lack of confidence which in turn leads to poor readiness and acceptance levels. The pressure that institutions exert on the faculty members with respect to the implementation of e-learning has been seen to be demoralising to them and made them show negative attitudes and resistance to change their work routines thereby failing to fully appreciate the benefits of the e-learning system (Al-alak & Alnawas, 2011). This is mostly prevalent in developing countries where most teachers are still not enthusiastic about transiting from the traditional face to face to online pedagogy. Nwagwu (2020) confirmed that lecturers in Nigerian universities considered e-learning as an add-on and were unenthusiastic to integrate e-learning into their current work load and emphasised that they had limited time to do so.

Considering gender differences in teachers' attitudes towards e-learning, some studies have shown that while there is a generally good attitude towards e-learning, this attitude does not differ significantly with instructors' personal variables such as gender, implying that there is no significant difference between male and female instructors' views regarding their attitudes that affect the implementation of e-learning, (Xhaferi, Bahiti & Farizi, 2022; Chandwani, Singh & Singh, 2021; Vidyashree & Kumar, 2016; Wong, Teo, & Russo, 2012). However, Gómez-Trigueros and Yáñez de Aldecoa (2021) among others, argue that men have a more positive attitude to technology and using them in their practice, while women present a negative attitude towards them.

METHODOLOGY

A descriptive research design was used for this study which was carried out within Port Harcourt metropolis, focusing on Port Harcourt City and Obio/Akpor Local Government Areas of Rivers State (PHALGA and OBALGA). Port Harcourt is the capital and largest city in Rivers State, Nigeria. Being the hub of economic activities in the state, these local government areas host a high percentage of private and public schools in Rivers State, with a total of thirty nine (39) public Senior Secondary Schools (Rivers State Ministry of Education, 2021). A total of 1,807 teachers, spread across these 39 schools formed the population of the study, with a sample size of 320. A cluster random sampling technique was used for the study, using each local government area as a cluster. The sample was randomly distributed among 12 Senior Secondary Schools using the ratio of Senior Secondary Schools in PHALGA to OBALGA.

A questionnaire titled 'E-Pedagogical Readiness Questionnaire (E-PRQ) was used in this study. It consisted of twenty three (24) items: The first part consisted of eight (8) multiple choice and Yes/No questions with single answers about background information such as age, gender as well as teaching and computer experiences. The second part consisted of sixteen (16) close-ended questions, using Likert scales, 1-5 (1-Strongly Disagree (SD); 2- Disagree (D); 3 – Neutral (N); 4 – Agree (A); 5 – Strongly Agree A). Based on a five-point Likert scale, a criterion mean (\bar{x}) of 3.0 was established. Mean values less than 2.0 were considered 'Very Low Level' (VLL), between 2.0 and 2.99, 'Low' (LL), 3.0 -3.5, 'Moderate Level' (ML), 3.51- 4.0, 'High Level' (HL) and greater than 4.0 considered 'Very High Level' (VHL). The instrument was validated by experts in Educational Technology and Statistics. The validated instrument was administered twice within two weeks using 30 respondents (teachers outside the study area) in each batch. Data collected was analyzed using Pearson Product Moment Correlation statistical tool and a reliability coefficient of 0.89 was obtained. The research instrument was administered to the participants through an online survey using Google Forms. Focal persons were used in each school to share the link to the participants in their schools. The use of digital means of questionnaire administration enabled a maximum return of responses. Out of the 320 (100%) responses that were expected, 301 (94%) were received by the time the survey was closed. A period of two (2) weeks was used for the survey, after which the form was closed to receiving responses.

Statistical Package for the Social Sciences (SPSS) version 23 was used in analysis of the data. Mean and standard deviation statistical tools were employed to ascertain the teachers' level of teachers' positive attitude towards e-learning for both male and female teachers using a criterion mean of 3.0. Z-test was employed to test the hypothesis of the study which was to ascertain whether or not there was a significant difference between male and female teachers' mean responses on their attitudes towards e-learning. This was further confirmed using Mann Whitney U test at a 0.05 significance level.

RESULTS

4.1. Background Information of Respondents

Characteristics	Category	Frequency and Percentage in the Study		Frequency and Percentage within Category			
		N	%	Male	%	Female	%
Gender	Male	124	41.2				
	Female	177	58.8	124	100	177	100
Age	25 - 35 Years	96	31.9	43	34.7	53	29.9
	36 - 45 Years	130	43.2	49	39.5	81	45.8
	46 - 55 Years	47	15.6	19	15.3	28	15.8
	More than 55 Years	28	9.3	13	10.5	15	8.5
Teaching Experience	1 - 2 Years	8	2.7	9	7.3	8	4.5
	3 - 5 Years	29	9.6	6	4.8	23	13.0
	6 - 10 Years	142	47.2	62	50.0	80	45.2
	11 - 15 Years	43	14.3	19	15.3	24	13.6
	16 - 20 Years	33	11.0	12	9.7	21	11.9
	More than 20 Years	24	8.0	16	12.9	8	4.5
Area of Specialization	Science	157	52.2	80	64.5	77	43.5
	Arts	118	39.2	30	24.2	88	49.7
	Social Science	26	8.6	14	11.3	12	6.8
Ownership of computer or Android phone	Yes	272	90.4	115	92.7	157	88.7
	No	29	9.6	9	7.3	30	11.3

(Source: Field Survey, 2023)

Research Question 1: *What is the level of senior secondary school teachers' positive attitude towards e-learning?*

Table 4.2 Summary of results of attitude of senior secondary school teachers in Port Harcourt metropolis towards e-learning

Statements of Positive Attitude towards E-learning	\bar{x}	SD	Remark
My cultural beliefs support e-learning	3.04	1.234	ML
My religious beliefs support e-learning	3.07	1.300	ML
I am positive towards e-learning	4.04	1.034	VHL
I enjoy using e-learning technologies/systems	3.95	1.076	HL
Using e-learning technologies/systems would enable me complete my tasks on time than in the traditional classroom	3.91	1.174	HL
Using e-learning technologies/systems would enable me complete my tasks more effectively than in the traditional classroom	3.92	1.103	HL
Using e-learning technologies/systems would improve the quality of learning for my learners	4.01	1.088	VHL
Using e-learning technologies/systems would have positive effects on my job performance	4.05	1.056	VHL
My learners would enjoy using e-learning technologies/systems	4.16	0.955	VHL
Using e-learning technologies/systems will require a lot of effort	3.43	1.336	ML
Learning to operate e-learning technologies/systems will be easy	3.79	1.035	HL
Introduction of e-learning is not a threat to my job	2.58	1.298	LL
I want to use e-learning technologies/systems because people who are important to me (family and friends) expect me to use them	3.33	1.395	ML
I want to use e-learning technologies/systems because other teachers around me are already using e-learning technologies/systems	3.57	1.293	HL
Using e-learning technologies/systems would improve my status within my social network	4.08	0.966	VH
Grand Mean/Standard Deviation	3.63	0.778	HL

(Source: Field Survey, 2023)

Table 4.1 shows the results for different dimensions of positive attitude towards e-learning among senior secondary school teachers in Port Harcourt metropolis. Using the criterion mean of 3.0, all variables except "Introduction of e-learning is not a threat to my job" ($\bar{x} = 2.58$) had $\bar{x} > 3.0$. A grand mean (\bar{x}) of 3.63, therefore indicates a high level of positive attitude towards e-learning among senior secondary

school teachers in public secondary schools in Port Harcourt Metropolis. The mean score ($\bar{x} = 2.58$) for “Introduction of e-learning is not a threat to my job’ is however low.

Research Question 2: *What is the difference in attitude of male and female senior secondary school teachers in Port Harcourt Metropolis towards e-learning?*

Table 4.3 **Summary of Results of Attitude of Male and Female Senior Secondary School Teachers towards E-learning**

Statements of Positive Attitude Towards E-learning	Male (N=124)			Female (N=177)		
	\bar{x}	SD	Remark	\bar{x}	SD	Remark
My cultural beliefs support e-learning	3.09	1.26	ML	3.00	1.22	ML
My religious beliefs support e-learning	3.14	1.33	ML	3.02	1.28	ML
I am positive towards e-learning	4.22	0.92	VHL	3.91	1.09	HL
I enjoy using e-learning technologies/systems	3.98	1.06	HL	3.94	1.09	HL
Using e-learning technologies/systems would enable me complete my tasks on time than in the traditional classroom	4.20	1.01	VHL	3.71	1.24	HL
Using e-learning technologies/systems would enable me complete my tasks more effectively than in the traditional classroom	4.10	0.88	VHL	3.80	1.22	HL
Using e-learning technologies/systems would improve the quality of learning for my learners	4.42	0.80	VHL	3.72	1.17	HL
Using e-learning technologies/systems would have positive effects on my job performance	4.39	0.83	VHL	3.81	1.13	HL
My learners would enjoy using e-learning technologies/systems	4.59	0.49	VHL	3.85	1.08	HL
Using e-learning technologies/systems will require a lot of effort	3.55	1.45	HL	3.34	1.25	ML
Learning to operate e-learning technologies/systems will be easy	3.91	1.02	HL	3.71	1.04	HL
Introduction of e-learning is a threat to my job	2.50	1.33	LL	2.64	1.27	LL
I want to use e-learning technologies/systems because people who are important to me (family and friends) expect me to use them	3.45	1.47	ML	3.24	1.34	ML
I want to use e-learning technologies/systems because other teachers around me are already using e-learning technologies/systems	3.88	1.04	HL	3.36	1.40	ML
Using e-learning technologies/systems would improve my status within my social network	4.27	0.74	VHL	3.94	1.08	HL
Grand Mean/Standard Deviation	3.85	0.69	VHL	3.49	0.09	ML

(Source: Field Survey, 2023)

Table 4.2 shows the results for different dimensions of measurement of attitude of male and female secondary school teachers in Port Harcourt metropolis towards e-learning. Using the criterion mean of 3.0, all indicators except 'Introduction of e-learning is not a threat to my job' (\bar{x} = 2.50 for males and \bar{x} = 2.64 for females), had mean values higher than the criterion mean, 3.0. With a grand mean of 3.85 and 3.49 for male and female teachers respectively, male teachers are seen to have a higher positive attitude towards e-learning than females, having a moderate attitude towards e-learning.

Test of hypothesis

Hypothesis: There is no significant difference in the attitude of male and female senior secondary school teachers in Port Harcourt metropolis towards e-learning for application of e-pedagogy.

Table 4.4: T-test of Significance of Attitude towards E-Learning of Male and Female Teachers

Attitude Towards E-Learning	N	\bar{x}	SD	Df	Sig	Z-cal	Z-crit	Decision
Male	124	3.85	0.69	2.99	0.05	4.06	1.96	Reject H ₀
Female	177	2.76	0.81					

(Source: Field Survey, 2023)

Table 4.5: Mann-Whitney U Hypothesis Test Summary

	Null Hypothesis	Test	Sig	Decision
1	The distribution of Attitude towards E-learning is the same across categories of Gender	Independent- Samples Mann-Whitney U Test	.000	Reject the null hypothesis

Asymptotic significance are displayed. The significance level is .05

Table 4.9 and 4.10 present the test of significance for attitude of male and female teachers towards e-learning. Using the T-test, the stable shows that at a0.05 significance level the calculated value (Z-cal =4.06 > Z-crit =1.96). Mann-Whitney U test used to confirm the result also shows a statistically significant difference ($P < 0.05$: = 0.000). Therefore, the null hypothesis is accepted. This means that there is a significant difference in the attitude of male and female senior secondary school teachers in Port Harcourt metropolis towards e-learning for the application of e-pedagogy.

DISCUSSION OF FINDINGS

This study investigated teachers' attitude towards e-learning in public senior secondary schools in Port Harcourt metropolis. It found the teachers to have a high positive attitude towards e-learning (with a grand mean of 3.65). The study found some constructs ranking highest in raising the level of positive attitude of the teachers towards e-learning. They include; 'My learners would enjoy using e-learning technologies/systems', 'using e-learning technologies/systems would improve my status within my social network', 'using e-learning technologies/systems would improve the quality of learning for my learners', 'using e-learning technologies/systems would enable me complete my tasks more effectively than in the traditional classroom', and 'using e-learning technologies/systems would enable me complete my tasks on time than in the traditional classroom' The study however found that the teachers' rating was lowest on the construct, 'E-learning is not a threat to my job'. This suggests that although overall there is a high level of positive attitude towards e-learning, the teachers are concerned that e-learning may pose a threat to their jobs, probably with respect to their self-efficacy with handling e-learning technologies/systems.

This study also measured male and female teachers' attitude towards e-learning. It found a positive attitude among both male and female teachers with a grand mean of 3.85 and 3.49 respectively, although male teachers showed better attitudes towards e-learning than females. This implies that the teachers are attitudinally ready to implement e-learning in their schools, although male teachers are shown to be better prepared attitudinally than the female teachers. It is believed that if teachers perceive that they and/or their students will draw benefit from the implementation of technology-driven learning or moving learning to the online setting they will show more willingness to adopt it which will result in good support for the system, thereby positively impacting learning outcomes (Buabeng-Andoh 2012). The study also found a statistically significant difference between male and female teachers' attitude towards e-learning. These findings agree with Gómez-Trigueros, and Yáñez de Aldecoa (2021) who found that men have a more positive attitude to ICTs and using them in their practice, while women present a negative attitude towards them. It however is at variance with the findings of some researchers who found no significant difference in the attitude of male and female teachers towards e-learning, suggesting that teachers' gender does not influence their attitude with respect to online teaching (Vidyashree & Kumar, 2016; Chandwani, Singh and Singh, 2021, Wong, Teo, & Russo, 2012).

CONCLUSION/RECOMMENDATIONS

Based on the findings of the study, it is concluded that senior secondary school teachers in Port Harcourt metropolis have a high level of positive attitude towards e-learning, although there was a significant difference in this attitude, in favour of male teachers. This positive attitude may increase their acceptance of e-learning programmes in the schools when introduced, thereby leading to better students' engagements and better learning outcomes. The following recommendations are therefore made:

1. Regular in-service training to support the integration of technology in instruction should be organised for existing teachers in public schools in Rivers State to boost their self-efficacy with handling e-learning technology thus improving their attitude towards e-learning and assuaging the fears that introduction of e-learning may be a threat to their jobs.
2. Motivation packages such as pay rise and allowances should be provided for teachers to integrate technology in their teaching and also incorporate e-learning in their practice. This will motivate teachers, especially female teachers to develop positive attitudes towards e-learning.

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