



Utilization of Mobile Platforms for Learning Effectiveness among Undergraduate Students of Library and Information Science in Rivers State Universities

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ABSTRACT

This paper assessed the extent of utilization of mobile platforms for learning effectiveness among undergraduate students of Library and Information Sciences in Rivers State Universities. Descriptive survey design was adopted for the study. Four Research questions and four hypotheses guided the study. The population of the study comprises of 460 students (2024/2025 session) across year one to year four from the Department of Library and Information Sciences of Rivers State University, Nkpolu-Oroworukwo; and 3000 students (2024-2025 session) from the Department of Library and Information Sciences, of Ignatius Ajuru University of Education, Rumuolumeni. Quota sampling technique was used to sample 552 students and Krejcie and Morgan (1970) table of sample size was used to sample 210 (101 male and 109 Female) and 342 (189 male and 153 female) students from Rivers State University, Nkpolu – Oroworukwo and Ignatius Ajuru University of Education Rumuolumeni respectively. Self-developed Questionnaire titled Mobile Platform Inventory (MPI) was used to collect data, the questionnaire was given face validation and reliability index of 0.75 was obtained using Cronbach Alpha Statistic. Research questions were answered using descriptive statistics while the hypotheses were tested using t-test. The findings of the study revealed that students utilized mobile platforms for effective learning to a high extent and that there were challenges that mitigated its usage. Therefore, the researchers recommend that lecturers should engage students through mobile platforms for effective learning.

Keywords: Utilization, Mobile-Platform, Learning, Effectiveness

INTRODUCTION

The use of mobile platforms to enhance learning effectiveness has become a significant driver of digital transformation in tertiary education globally. For undergraduate students in Library and Information Science (LIS), these platforms provide flexible opportunities for self-paced learning, and avenues for collaboration that foster academic engagement and improve learning outcomes. (Mbaba, 2024; Godpower & Egbunefu, 2024; Onisoaya & Mbaba, 2024). Given the unique access to mobile platforms in many universities campuses in Rivers State, it is important to examine how Undergraduate students are using them for learning and how platforms such as WhatsApp, Open Educational Resources(OER) and Telegram influence their learning effectiveness, particularly in relation to information seeking, evaluation, organization and sharing.

Many students sign up on Facebook primarily for social interaction, yet it remains a significant mobile platform for learning despite ongoing debates about its suitability for formal instruction. Its combination of groups, pages, events and multimedia support makes it a convenient space for posting lecture summaries and building communities of practice that bridge campus and professional networks (Manca & Ranieri, 2016). In recent time, WhatsApp is widely used among students for collaborative learning. Its group chat, broadcast lists and multimedia sharing makes it well suited for collaborative tasks, quick queries about readings, peer feedback and teacher announcements among others (Bouhnik & Deshen, 2014). WhatsApp groups can act as informal spaces where students share

links to cataloguing resources, discuss assignment clarifications, and coordinate group projects. Students' use of Open Education Resources OER was based on its affordability, reusability and adaptability (Mbaba, 2024). OER align closely with the information- sharing ethos of library studies and support practice-oriented learning. Same way, Telegram is an emerging mobile platform in many higher-education settings because of its support for large channels, file storage, bots and more structured threaded discussions than some social apps allow. These technical features make Telegram attractive for sharing large datasets, PDFs, course repositories and automated learning prompts.

Generally, mobile applications contributes to learning effectiveness by way of access to numerous information (Estrella, 2021). Mobile platforms are fast becoming the biggest source of information for both learners and teachers. Atah, et al., (2023) posits electronic platforms have raised the bar for information distribution, converting it from a simple medium of sociability as well as knowledge seeking to something much more. The ease of using internet- enabled devices, including phones, laptops, and Personal computers, has recently led to an increase in students' engagement with social networks. Godpower and Egbunefu, (2024) re-echoed that the utilization of electronic platforms among students is becoming more vocal than expected. With the recent global pandemic that never gave way for conventional or traditional classroom learning to take place in the various higher institutions in the world, many universities in the world were compelled to engage the use of web and mobile platforms in their learning process. This experience has exposed many more to the utilization of web-based and mobile platforms for teaching and learning.

Mobile platforms for education are developed and uploaded for the use of teachers and learners. Some of the platforms are free while others need to be subscribed before they can be accessed. Mayhew and Wagle (2019) described mobile platform as a set of online application of information and communication tool that provides avenue that facilitate social interaction among digital users, create knowledge, share and transfer a monologue into a dialogue. Similarly, other authors described mobile platforms technologies, such as blogs, video-sharing platforms (such as YouTube), presentation-sharing platforms (such as SlideShare), social networking platforms (such as Facebook and LinkedIn), instant messaging platforms (such as Skype), and groupware platforms as mobile platforms used for education (Onisoya & Mbaba, 2024). It is worth mentioning that most of these platforms are not home grown and does not have home grown input, yet many teachers and learners have found these interesting and reliable for teaching and learning. With the growing recognition of relevance of mobile platforms in education, there has been a rising demand for alternative learning approaches alongside an increased advocacy for students' access to electronic resources to support their learning (Nwachukwu, & Fomsi, 2023). This can be observed in numerous studies carried out to ascertain students and teachers' technology skills for the use of mobile platforms.

Godpower and Egbunefu, (2024) studied utilization of electronic platforms for effective distance learning among Business Education Postgraduates' students in Rivers state, Atah, et al., (2023) equally study analysis of e-learning platform utilization and Business Education curriculum content delivery in Rivers State universities. These and other studies have shown positive outcomes regarding how students and teachers use both web and mobile platforms for learning. Hussain (2024) conducted a study titled 'Facebook consumption and Academic Performance: An Empirical Study on Addictive Patterns and Their Effects on Students' Academic Performance ' Similarly, Alasman (2019) examined use of WhatsApp in collaborative learning to improve the reading skills among university students., using Saudi students of English at the University of Jeddah as a case study. The findings revealed that the use of WhatsApp in instructional delivery is effective and promotes meaningful learning. Again, in the study of Mbaba and Yorkpara, (2025) exploring influence of social media on collaborative learning among senior secondary students in Port Harcourt metropolis, this work reported that Facebook, X, Tiktok, WhatApp and Instagram positively influenced students' collaborative learning. Collectively, these studies affirm that mobile resources have become an integral part of modern education and their utilization continues to attract scholarly analysis.

Statement of the Problem

Access, availability and use of digital technologies offer numerous benefits to university communities as they have the potential to enhance teaching-learning process and address research concerns. Ogono, and West (2024) asserted that the use of innovative technologies has significantly boosted library services enabling many librarians to maximise their technological potentials in reaching out to library users. In recent times, students' access to digital technologies for learning purposes has become increasingly important, given the rising demand for alternative modes of teaching and learning. (Nwachukwu, & Fomsi, 2023).

The growing engagement of students through mobile platforms is largely due to their relevance in supporting effective teaching and learning. Across the globe, several schools and institutions of higher institutions have integrated technology into their curricula, making it easier for both teachers and learners to adopt the digital tools of their choice. The integration of technology in education has further enhanced the use of social media platforms, blended learning approaches, Zoom, and other digital tools. It is worth noting, however, that while these technologies are beneficial, they also present unique challenges that extend beyond issues of accessibility. From the available data there appears to be insufficient documentation on use of mobile platforms for effective learning among students of Library and Information Science in Rivers State Universities. Although these universities have frameworks that allow teachers to introduce technology when necessary, it remains unclear whether students are able to effectively utilize mobile platforms for learning, and whether they possess the requisite digital skills to do so. Hence, there is a compelling need to examine students' utilization of mobile platforms for effective learning in Rivers State universities.

Purpose of the study

The purpose of this study is to examine students' utilization of mobile platforms for effective learning. Specifically the study seeks to:

1. Determine the extent to which students of Library and Information Science in Rivers State Universities; utilize mobile platforms for effective learning.
2. Assess the effectiveness of Mobile platforms for learning among students of Library and Information Science in Rivers State Universities;
3. Examine the challenges students of Library and Information Science in Rivers State Universities face in using mobile platforms for effective learning.
4. Investigate the extent to which male and female students of Library and Information Science in Rivers State Universities utilized mobile platforms for effective learning

Research Questions

The following research questions guided the study;

1. To what extent do students of Library and Information Science in Rivers State Universities utilize mobile platforms for effective learning?
2. To what extent are Mobile platforms effective for learning among students of Library and Information Science in Rivers State Universities?
3. What challenges do students of Library and Information Science students in Rivers State Universities face in using mobile platforms for effective learning?
4. To what extent do male and female students of Library and Information Science in Rivers state universities differ in their utilization of mobile platforms for effective learning?

Hypotheses

The following hypotheses guided the study:

1. There is no significant difference between students of Rivers State University and Ignatius Ajuru University in the utilization of mobile platforms for learning effectiveness.
2. There is no significant difference between Rivers State and Ignatius Ajuru University students, opinion on the effectiveness of mobile platforms for learning effectiveness.
3. There is no significant difference between the challenges of River State University and Ignatius Ajuru University students in mobile platforms utilization for learning effectiveness.
4. There is no significant difference between male and female students' utilization of mobile platforms among Library and Information Science students in Rivers State universities.

RESEARCH METHOD

Descriptive survey design was adopted for the study, the population of the study comprises of second year 460 students of 2024/2025 session of Library and Information Sciences from Rivers State University Nkpolu-Oroworukwo; and 3000 students of Library and Information Sciences (2024-2025 session) across year one to year four from Ignatius Ajuru University of Education, Port Harcourt. Krejcie and Morgan (1970) table of sample size was used to determine the sample of 210 (101 male and 109 Female) and 342 (189 male and 153 female) students from Rivers State University Nkpolu-Oroworokwo, Port Harcourt and Ignatius Ajeru University of Education Rumuolumini, Port Harcourt respectively. The sampling table was used to sample quota of each population and 552 students were sampled for the study. The questionnaire was made up of five point liket scale titled Mobile Platform Inventory. The questionnaire was developed with five items statements for each variable under study. The questionnaire had five point liket scale of: very high extent(5), high extent (4), undecided (3), less extent (2) and very less extent(1), only question 3 adopted strongly agreed (5), agreed (4), undecided (3) disagree (2) and strongly disagree (1). The questionnaire was given face validation and reliability by two experts of Educational Technology and one of Measurement and Evaluation from Rivers State University Port Harcourt. The instrument was further tested among 30 students from the Department of Educational Management Rivers State University, the data collected was analyzed using Cronbach Alpha Statistic and it yielded 0.75 index. This score indicates that the instrument is reliable to use. Research questions were answered using descriptive statistics while the hypothesis were tested using t-test.

RESULTS AND DISCUSSION

Research Questions1: To what extent do students of Library and Information Science in Rivers State Universities utilize mobile platforms for effective learning?

Table 1: Mean response among students of Rivers State Universities on the extent of utilization of mobile platforms for education purposes.

S/N	Statement Item	VHE	HE	UD	LE	VLE	Mean	S.D	Decision
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1	Utilize Facebook mobile									
2	platforms to support my									
3	studies									
4	Depend on Open									
	Education Resource									
	(OER) platform to									
	support their studies.									Agree
	Use WhatSapp platform									Disagree
										Agree
	to collaborate in tackling	43								Agree
	the difficulties areas of									
	studies	3	89	143	126	151	2.54	1.26		
	Uses Telegram platform	351	126	165	84	174	2.46	1.17		
	for sharing education		89	31	16	65	4.17	1.36		
	videos to enhance	14	113	304	38	83	2.89	0.98		
	learning.									
5	Use mostly WhatSapp,									
	and Telegram platforms to	349	43	42	54	64	4.01	1.47	Agree	
	guide private study.									
	Grand mean						3.21	0.94	Agree	

Table 1 shows the mean response on the extent of utilization of mobile platforms for effective learning among students of Rivers State Universities. The result shows the mean of item 1, 3, 4, 5 which are 2.54, 4.17, 2.89 and 4.01 were above the decision mean (2.50) while the mean score of item 2 being 2.46 is less than the decision mean (2.50). Based on this submission, the students agreed that they utilize mobile platforms such as Facebook, WhatsApp and Telegram to support and enhanced their collaboration and private studies. This means: Students' utilize Facebook mobile platforms to support studies, Use WhatsApp platform to collaborate in tackling the difficulties areas of their studies, Uses Telegram platform for sharing education videos to enhance learning and Use mostly WhatsApp, and Telegram platforms to guide private study. Furthermore, the grand mean score is 3.21. The grand mean being above the decision mean shows that there is high extent of utilization of mobile platforms for education purposes among students of Rivers State Universities.

Research Question 2: To what extent are Mobile platforms effective for learning among students of Library and Information Science in Rivers State Universities?

Table 2: Mean response on the extent of Mobile platforms' effectiveness for effective learning among students of Rivers State Universities

S/N	Statement Item	VHE	HE	UD	LE	VLE	Mean	S.D	Decision
1	The Loading speed of mobile platforms are optimum	43	109	155	137	108	2.71	1.21	Agree
2	Mobile platforms are accessible 24 hours per day	3	136	191	90	132	2.62	1.11	Agree
3	Mobile platform guide users in its usage	385	91	33	28	15	4.45	1.00	Agree

4	The existing mobile platform sever response time is good	24	71	219	25	213	2.40	1.24	Disagree
5	Mobile platform keep memory of what have been learnt.	385	59	42	54	12	4.36	1.11	Agree
Grand mean							3.31	0.65	Agree

Table 2 presents the mean response on the extent of Mobile platforms' performance for effective learning among students of Rivers State Universities. Since the mean score item 1, 2, 3 and 5 were above the decision mean (2.50), it indicates that the students agreed that mobile platforms loading speed is optimum (Mean = 2.71), mobile platform are accessible 24 hours per day (Mean = 2.62), the existing mobile platform sever response time is optimum (Mean = 4.45), and Mobile platform keep memory of what have been learnt. (Mean = 4.36). On the other hand, the students in their responses disagreed that the existing mobile platform sever response time is good (Mean = 2.40). The grand mean score (3.31) being above the decision mean (2.50) indicated that to a high extent of Mobile platforms performance for effective learning among students of Rivers State Universities are good.

Research Question 3 What challenges do students of Library and Information Science students in Rivers State Universities face in using mobile platforms for effective learning?

Table 3: Mean response on the challenges of mobile platforms faced by students of Rivers State Universities for effective learning

S/N	Statement item	SA	A	UD	D	SD	Mean	SD	Decision
1	Lack support when there are technical problems.	39	192	211	35	75	3.15	1.10	Agree
2	Cost of internet services influence how long and what platform to engage	14	237	136	103	62	3.07	1.08	Agree
3	Most of the platforms are not developed based on the curriculum of our departments	17	257	134	60	84	3.11	1.14	Agree
4	Some of the platforms are expensive to register	8	174	226	97	47	3.00	0.94	Agree
5	Some of the platform is design for specified hardware, so without the recommended hardware one cannot accessed.	25	227	127	53	120	2.97	1.25	Agree
Grand mean							3.06	0.86	Agree

Table 3 shows the mean response on the challenges of existing web and mobile platform used by Rivers State University students for education purposes. From the table, the mean score for item

1-5 were higher than the decision mean score (2.50). Specifically, the students agreed that they Lack support when there are technical problems (mean = 3.15), Cost of internet services influence how long and what web site and platform to engage (Mean = 3), most of the platforms are not developed based on the curriculum of our department (Mean = 3.11), Some of the platforms are expensive to register (Mean = 3.00) and Some of the platform is design for specified hardware, so without the recommended hardware one cannot accessed (Mean = 2.97). Furthermore, the grand mean (3.06) greater than the decision mean indicates that existing web and mobile platform used by Rivers State University students for education purposes have challenges.

Research Questions 4: To what extent do male and female students of Library and Information Science in Rivers State Universities differ in their utilization of mobile platforms for effective learning?

Table 4: Mean response on the extent of male and female students utilization of mobile platforms for effective learning among students of Rivers State universities

S/N	Statement Item	Male (n=290)		Female (n = 262)		Mean set (n = 552) Mean	Decision
		Mean	S.D	Mean	S.D		
1	Utilize mobile platforms support my studies						
2	Depend on platforms for verifying	2.66					
3	information	2.53	1.20	2.42	1.32	2.54	Agree
4	Use web platform to crosscheck areas of		1.13	2.37	1.21	2.46	Disagree
5	difficulties in my studies	4.41	1.06	3.90	1.58	4.17	Agree
	Mobile platforms for education are		0.87	2.77	1.08	2.89	Agree
	available for learning on the go	2.99	1.31	3.81	1.59	4.01	Agree
	Use mobile platform in my studies to guide						
	my private learning	4.19					
	Grand mean	3.36	0.75	3.05	1.09	3.21	Agree

Table 4 shows the mean response on the extent of utilization of existing web and mobile platforms for education purposes among Rivers State university students based on gender. From the table, the mean response of the male students (Mean=3.36, SD=0.75) is slightly higher than the mean response of the female students (Mean=3.05, SD=1.09). Furthermore, the grand mean (3.21) indicates that the extent of utilization of mobile platforms for effective learning among students of Rivers State universities is high.

Hypotheses

1. There is no significant difference between students of Rivers State University and Ignatius Ajuru University in the utilization of mobile platforms for learning effectiveness

Table 5: Summary of t-test on the difference between students of Rivers state University and Ignatius Ajuru University in the utilization of mobile platforms for effective learning

Variables	N	Mean	S.D	df	t-test	Sig	Decision
Rivers State University	342	3.26	1.00				

				550	1.359	.175	NS
Ignatius Ajuru	210	3.14	0.82				

NS = Not Significant

Table 5 shows the summary of t-test on the difference between students of Rivers State University and Ignatius Ajuru University in the utilization of mobile platforms for learning effectiveness. The mean responses of the students in Rivers State University is 3.26 with standard deviation of 1.00 while the mean of Ignatius Ajuru University of education is 3.14 with the standard deviation of 0.82. The t-test calculated value is 1.359 with the corresponding significance value of 0.175 which is greater than 0.05 alpha level. Hence, it is concluded that there is no significant difference between students of Rivers state University and Ignatius Ajuru University in the utilization of mobile platforms for effective learning.

1. There is no significant difference between Rivers State and Ignatius Ajuru University students, opinion on the effectiveness of mobile platforms for learning effectiveness.

Table 6: Summary of t-test on the difference between Rivers State and Ignatius Ajuru University students, opinion on mobile platforms effectiveness for learning

Variables	N	Mean	S.D	df	t-test	Sig	Decision
Rivers State University	342	3.45	0.60	550	6.819	.000	Significant
Ignatius Ajuru University	210	3.08	0.65				

Table 6 shows the summary of t-test on the difference between Rivers State and Ignatius Ajuru University students, opinion on existing platform performance for education purpose. From the above result, the mean responses of the Rivers State University students is 3.45 with the standard deviation of 0.60 while the mean of Ignatius Ajuru University of education students is 3.08 with the standard deviation of 0.65. The t-test calculated value is 6.819 with the corresponding significance value of 0.000 which is less than 0.05 alpha level. This result therefore indicates that there is significant difference between Rivers State and Ignatius Ajuru University students, opinion on existing platform performance for education purpose.

2. There is no significant difference between the challenges of River State University and Ignatius Ajuru University students in mobile platforms utilization for learning effectiveness.

Table 7: Summary of t-test on the difference between the challenges of River State University and Ignatius Ajuru University students on web and mobile platform

Variables	N	Mean	S.D	df	t-test	Sig	Decision
Rivers State University	342	3.10	0.85	550	1.296	.196	NS
Ignatius Ajuru University	210	3.00	0.87				

NS = Not Significant

Table 7 shows the summary of t-test on the difference between the challenges of River State University and Ignatius Ajuru University students on web and mobile platform. From the above result, the mean responses of the Rivers State University students is 3.10 with the standard deviation of 0.85 while the mean of Ignatius Ajuru University of education students is 3.00 with the standard deviation of 0.87. The t-test calculated value is 1.296 with the corresponding significance value of 0.196 which is greater than 0.05 alpha level. This result therefore shows that there is no significant difference between the challenges of River State University and Ignatius Ajuru University students on web and mobile platform.

3. There is no significant difference between male and female students' utilization of mobile platforms among Library and Information Science students in Rivers State universities.

Table 8: Summary of t-test on the difference between male and female students' utilization of mobile platforms in Rivers State universities

Gender	N	Mean	SD	Df	t-test	Sig	Decision
Male	342	3.36	0.75	550	3.826	.000	Significant
Female	210	3.05	1.09				

Table 8 shows the summary of t-test on the difference between male and female students' utilization of web and mobile platforms in universities in Port Harcourt metropolis. From the above result, the mean responses of the Rivers State University students is 3.36 with the standard deviation of 0.75 while the mean of Ignatius Ajuru University of education students is 3.05 with the standard deviation of 1.09. The t-test calculated value is 3.826 with the corresponding significance value of 0.000 which is less than 0.05 alpha level. This result therefore shows that there is significant difference between male and female students' utilization of web and mobile platforms in universities in Port Harcourt metropolis.

Discussion of Findings

This study showed that students in River State Universities utilized mobile platforms in their studies. From research question one, the result showed students utilized three platforms namely; WhatsApp, Facebook and Telegram, the findings revealed that to a large extent, students do not utilize Open Education Resources (OER). This study is in agreement with Godspower and Egbunefu (2024) whose study on the utilization of electronic platforms for effective distance learning among Business Education postgraduate students in Rivers State confirmed high usage of electronic platforms. It is also in support of the findings of Mbaba, (2024) whose study on YouTube competencies, frequency of use and relevance revealed high competencies, high frequency of YouTube use among teachers. It can be said that access to mobile platforms played a significant role in students' engagement. The study also tested the hypothesis seeking to determine the significant difference in the utilization of mobile platforms among Rivers state university and Ignatius Ajuru University of Education and showed no significant difference in students' engagement of these facilities and programmes in their studies.

In determining the effectiveness of mobile platforms for learning, the study showed that the platforms effectiveness is to high extent in the following areas: loading speed, accessibility, providing guide to users and keeping memory of what have been studied. It also revealed that server response time is good but to a very low extent. Hypothesis two was tested and the result is that there is significant difference between Rivers State University and Ignatius Ajuru University students' opinion on mobile platforms effectiveness for learning. However, poor server response timing created the issues that hindered platforms effectiveness.

Challenges of mobile platform usage was analyzed, among the challenges identified were: lack of support services, cost of internet services and hardware. The study identified these problems as part of the hindrances to effective utilization of mobile platform in Rivers state universities. This result is also in agreement with Hultqvist, (2021) who identified cost of soft and hardware, training, lack of motivation and interest as hindrances to engaging in mobile platforms usage. Testing the hypothesis, the result indicate no significant difference between Rivers state University and Ignatius Ajuru University of Education in the challenges of mobile platforms for learning effectiveness. Reasons for the result is because both universities are owned by Rivers State and terrain is same so there seem to be no difference in students' opinion.

This study also tested the significant difference between male and female in the utilization of mobile platforms for learning effectiveness. The results showed no significant difference in the utilization of these platforms based on gender, thus supporting other studies that gender has no influence on the utilization of technologies in teaching and learning (Mbaba, 2024).

CONCLUSION

The use of mobile platforms platforms in teaching and learning has become an integral part of modern education. Both teachers and students increasingly rely on these technologies to support and enhance the learning process. Findings from the study revealed that students in Rivers State Universities actively utilize mobile platforms for effective learning. However, the study also identified several challenges associated with their utilization which must be addressed to maximise their educational benefits.

RECOMMENDATIONS

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

1. Lecturers should engage students through mobile platforms for effective teaching and learning.
2. Internet facilities should be made available in all Rivers State Universities with unlimited access to students.
3. Government should subsidize the cost of hardware and software to ensure they are affordable for students.
4. Students should be given more training to improve their skills in mobile platforms utilization.

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