

Availability, Readiness, And Use Of Mobile Devices For Teaching And Learning In Higher Institutions In Rivers State.

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Abstract

This study investigated availability, readiness, and use of mobile devices amongst lecturers and students for teaching and learning in higher education institutions in Rivers State. Six objectives, six research questions and three null hypotheses guided this study. This study adopted the descriptive survey research design. The population of the study consisted of 69873 students and 4231 lecturers from four tertiary institutions (two Universities and two Polytechnics) in Rivers State from which one thousand one hundred respondents (700 students and 400 lecturers) representing 10 percent of the population of students and lecturers using stratified random sampling technique. Two instruments were used to collect data for the study. The instruments were developed by the researcher, a checklist, and a questionnaire titled Availability, Readiness, and Use of Mobile Devices for Teaching and Learning. The reliability of the instruments was ascertained using Cronbach Alpha and a reliability coefficient of 0.82 was obtained. Also mean and standard deviation was used to answer research questions three to six. The null hypotheses one was tested using chi-square while hypotheses 2 and 3 was tested using t-test at 0.05 level of significance. The findings of this study showed that Mobile devices are available to a low extent for teaching and learning. The level of lecturers and students' readiness to use mobile devices for teaching and learning is high and that the lecturers and students perceive the use of mobile devices for teaching and learning to a high extent. Recommendations among others were made that this government should endeavor to keep to their promises by providing ICTs/mobile devices in various educational institutions, they should create an enabling environment for the systems they provide to be used. ICTs/mobile devices should be made accessible to both students and lecturers in the state.

Keywords: Availability, Readiness, Mobile Devices for Teaching and Learning in Higher institutions

Introduction

Education is the driving force that brings about economic and social change and it is a continuous process that shapes and modifies the behaviors of individuals in a society. It also enables them to adjust in the society. Our desire to communicate with others to acknowledge, entertain, inform, instructor persuade has been documented throughout the history of man. Globally, the explosion of smartphones and its related devices has greatly transformed teaching and learning in developed nations, where developing nations are not the exception.

Abdulrahman and Soetan (2018) defined mobile learning as a form of learning using wireless devices that can be used wherever the learner is with unbroken transmission signals. Mobile devices allow a shift away from the industrial era model where the classroom is the central place of learning driven by the teacher and limited to instruction within the school day. Use of mobile devices encourages lecturers and students' interaction, the lecturers is no longer at the centre of the learning process and the instructional time can transcend the school day.

The perspective of lecturers and students regarding the usage of mobile devices may influence their behavior, which is known as attitude. Bada (2017) defined attitude as an umbrella expression covering such concepts as preferences, feelings, emotions, expectations, judgments, appraisals, values, opinions, and intentions. However, Students have also reported wanting to have more options available to make learning tools more convenient so they can study when and where they want to. Typically, the use of Mobile devices affords Students' ownership of learning, which may lead to positive learning experiences (Kukulka-Hulme, 2019).

Literature Review

Higher institutions in Rivers State play a pivotal role in the nation's educational landscape, contributing to the development of skilled professionals and fostering economic growth. These institutions encompass universities, polytechnics, and colleges of education, each with distinct roles and mandates.

The concept of Mobile has to do with the capability of being moved readily from place to place or spontaneous movement while a device an instrumentality invented for a particular or computational purpose. The availability of mobile devices refers to the extent to which mobile devices, such as smartphones, tablets, and laptops, are accessible and usable by individuals, particularly in educational settings.

Readiness refers to the state or condition of an individual that makes it possible for him or her to engage profitably in a given activity (Falode, Gambari, Alabi & Falode, 2018). Ilufoye (2018) described readiness as the mental or physical preparedness of an individual for electronic teaching and learning.

The word use can be defined as put into service; make work or employ for a particular purpose or for its inherent or natural purpose. .

Constructivist Theory

Introduced by Jean Piaget in 1975, is a learning theory that emphasizes active participation and knowledge construction by learners. The theory suggests that learners create their own meaning and understanding through experiences and interactions with their environment.

The Key Principles

1. Active learning: Learners construct their own knowledge and understanding.
2. Student-centred: Learners take an active role in the learning process, with teachers facilitates and guides.
3. Authentic learning: Learning is relevant, meaningful, and connected to real-life experiences.

Implications for Teaching and Learning:

1. Shift from teacher-centered to student-centered: Teachers facilitate learning, rather than transmitting knowledge.
2. Emphasis on problem-solving and critical thinking: Learners engage in authentic, real-world tasks that promote critical thinking and problem-solving.
3. Use of technology: Technology is used to support student-centered learning, promote collaboration, and facilitate knowledge construction.

Connectivism Learning Theory

Proposed by George Siemens in 2004, Connectivity emphasizes the importance of networks and connections in acquiring knowledge. This theory suggests that learning occurs through interactions within networks, rather than in isolated contexts.

Key Principles:

1. Networks and connections: Learning is a process of creating and navigating connections between ideas, people, and resources.

2. Distributed knowledge: Knowledge is distributed across networks, and learning occurs through interactions within these networks.
3. Technology-enabled learning' Technology, such as mobile devices, facilitates the creation and maintenance of connections, enabling continuous learning and communication.

Implications for Teaching and Learning:

1. Shift from traditional teaching methods: Connectivity requires new methods and strategies to keep up with the changing learning landscape.
2. Emphasis on collaboration and communication: Learners engage with content dynamically and collaboratively, using mobile devices to access networks of information and people.
3. Real-time learning: Connectivity enables learners to stay updated with real-time knowledge, facilitating continuous learning and improvement.

Objectives

1. Determine the extent of availability of mobile devices (smartphones, tablets, and laptops) amongst lecturers for teaching.
2. Examine the extent of availability of mobile devices (smartphones, tablets, and laptops etc.) amongst students for learning.
3. Find out the level of readiness of lecturers on the use of mobile devices for teaching in higher education institutions.
4. Ascertain the level of readiness of students on the use of mobile devices for learning in higher education institutions.
5. Investigate the level of usage of the mobile devices among Lecturers in higher education institutions for Teaching.
6. Investigate the level of usage of the mobile devices among Students in higher education institutions for learning.

Research Questions

1. What is the extent of availability of mobile devices amongst lecturers for teaching?
2. What is the extent of availability of mobile devices amongst students for learning?
3. What is the level of Lecturers readiness to use mobile devices for teaching?
4. What is the level of students' readiness to use mobile devices for learning?
5. How do lecturers perceive the use of mobile devices for teaching?
6. How do students perceive the use of mobile devices for learning?

Hypotheses

1. There is no significant difference in the mean ratings of lecturers and students on the availability of mobile devices for teaching and learning.
2. There is no significant difference in the mean ratings of the lecturers and students on level of readiness in the use of mobile devices for teaching and learning.
3. There is no significant difference in the mean ratings of lecturers and students on the perceived ease of use of mobile devices for teaching and learning.

Research Design

The study employed a descriptive survey research design to collect data from a sample of lecturers and students.

Study Area and Population

The study was conducted in higher education institutions in Rivers State, Nigeria, with a population of 69873 students and 4231 lecturers.

Higher Institutions	Names	No of Lecturers	No of Students	Total
Universities	Rivers State University	1870	29939	31809
	Ignatius Ajuru University	774	25000	25774
Polytechnics	Ken Saro Wiwa Polytechnic	978	9084	10060
	Bori			
	Captain Elechi Amadi Polytechnic Port Harcourt	609	5850	6459
	Total	4231	69873	

Source: Individual Institutions official website (2024)

Sample and Sampling Technique

A sample of 1100 respondents (700 students and 400 lecturers) was selected using stratified random sampling.

Instruments for Data Collection

Two instruments were used: a checklist to determine the availability of mobile devices, and a questionnaire to assess the readiness and use of mobile devices.

Validity and Reliability

The instruments were validated by experts and tested for reliability using Cronbach Alpha coefficient ($\alpha = 0.82$).

Method of Data Collection and Analysis

The questionnaires were administered by the researcher and research assistants, and the data was analyzed using frequency, percentage, mean, and standard deviation. Hypotheses were tested using chi-square and t-test at 0.05 level of significance.

Data analysis

Research Question 1: What is the extent of availability of mobile devices amongst lecturers for teaching?

Table 4.1: Frequency and Percentage score representation of the availability of mobile devices (smartphones, tablets, and laptops etc.) for teaching

S/NO	MOBILE DEVICES	Frequencies and percentages			
		AV	%	NAV	%
1	Router / modem	94	24.0	298	76.0
2	smartphone	318	81.1	74	18.9
3	smart watches	-	-	392	100.0%
4	tablets	60	15.3	332	84.7
5	laptop computers	265	67.6	127	32.4
6	Digital Scanners	320	81.6	72	18.4
7	Ipad	95	24.2	297	75.8
8	e-reader	30	7.7	362	92.3
	Average Percentage		43.07%		62.31%

KEY: AV- AVAILABLE:
NAV - NOT AVAILABLE

From table 4.1, the study observed the availability of mobile devices for teaching among respondents. The results showed:

1. 24% of lecturers have modem/router
2. 81% of lecturers have smartphones
3. None have smart watches
4. 15% of lecturers have tablets
5. 67% of lecturers have laptops
6. 81.6% of lecturers have digital scanner
7. 24.2% of lecturers have iPad
8. 7.7% of lecturers have eReader

In the average, only 43% of the lecturers have mobile devices for teaching, indicating a low extent of availability.

Research Question 2: What is the extent of availability of mobile devices amongst students for learning?

Table 4.2: frequency and Percentage score representation of the availability of mobile devices for learning

S/NO	Mobile devices	Frequencies and percentages			
		AV	%	NAV	%
1	Router / modem	83	12.1	604	87.9
2	Smartphone	687	100	0	0
3	smart watches	655	95.3	32	4.7
4	tablets	389	56.3	300	43.7
5	laptop computers	469	68.3	218	31.7
6	Digital Scanners	578	84.1	109	15.9
7	Ipad	234	34.1	453	65.9
8	e-reader	589	85.7	98	14.3
Average Percentage			66.99%		33.01%

**KEY: AV- AVAILABLE:
NAV NOT AVAILABLE:**

Table 4.2, the study observed the availability of mobile devices for learning among respondents. The results showed:

- | | |
|--------------------------|-----------------------------|
| 1. Router/modems (12.1%) | 5. Digital scanners (84.1%) |
| 2. eReaders (85.7%) | 6. Tablets (56.3%) |
| 3. Smartwatches (95.3%) | 7. iPads (34.1%) |
| 4. Laptops (68.3%) | |

All respondents have smartphones

Overall, 66.99% of students have mobile devices for learning, indicating a high extent of availability.

Table 4.3 Mean and standard deviation on the level of lecturer readiness to use mobile devices for teaching

S/N	Items	VHL	HE	LE	VLL	x	STD Dev.	Remark
1.	Most institutions use mobile devices for teaching and learning; therefore, I think that I will use it too.	260	115	11	6	3.61	0.62	Very high level
2.	People who use mobile devices find it beneficial, this will encourage me to use it too.	268	109	10	5	3.63	0.60	Very high level
3.	I will be encouraged to use my mobile device for teaching and learning if the operations of the mobile devices are simple and easy to use.	149	165	72	6	3.17	0.77	High level

4.	I can use my mobile device as a medium of communication/exchange of vital information.	38	221	107	26	2.69	0.74	High level
5.	The availability and accessibility of mobile devices and their associated applications to me will facilitate my decision to accept to use mobile devices for teaching and learning.	172	135	69	16	3.18	0.86	High level
Average Mean						3.26	0.72	High level

Very High level: 3.50 – 4.00 Low level: 2.00 – 2.49
 High level: 2.50 – 3.49 Very Low level: 0.50 – 1.99

Table 4.3 above the respondent agree to all the items 1 to 5 that most institutions use mobile devices for teaching ; therefore, they will use it too, that people who use mobile devices find it beneficial, that they will be encouraged to use their mobile device for teaching if the operations of the mobile devices are simple and easy to use, that they can use their mobile device as a medium of communication/exchange of vital information and that the availability and accessibility of mobile devices will facilitate their decision to accept to use it for teaching with a mean scores of 3.61, 3.63, 3.17, 2.69 and 3.18 which are all greater than the criterion mean of 2.5. A grand mean of 3.26 was obtained this therefore implies that the level of lecturer readiness to use mobile devices for teaching is high.

Table 4.4 Mean and standard deviation on the level of students’ readiness to use mobile devices for learning

S/N	Items	VHL	HE	LE	VLL	X	STD Dev.	Remark
1.	Most institutions use mobile devices for teaching and learning; therefore, I think that I will use it too.	417	175	25	70	3.37	0.96	Very high level
2.	People who use mobile devices find it beneficial, this will encourage me to use it too.	446	202	29	10	3.58	0.65	Very high level
3.	I will be encouraged to use my mobile device for teaching and learning if the operations of the mobile devices are simple and easy to use.	220	320	135	12	3.09	0.76	High level
4.	I can use my mobile device as a medium of communication/exchange of vital information.	74	398	167	48	2.73	0.75	High level
5.	The availability and accessibility of mobile devices and their associated applications to me will facilitate my	253	269	143	22	3.10	0.83	High level

decision to accept to use mobile devices for teaching and learning.				
Average Mean		3.17	0.79	High level

Very High level: 3.50 – 4.00 Low level: 2.00 – 2.49
 High level: 2.50 – 3.49 Very Low level: 0.50 – 1.99

Table 4.4 above the respondent agree to all the items 1 to 5 that most institutions use mobile devices for learning; therefore, they will use it too, that people who use mobile devices find it beneficial, that they will be encouraged to use their mobile device for learning if the operations of the mobile devices are simple and easy to use, that they can use their mobile device as a medium of communication/exchange of vital information and that the availability and accessibility of mobile devices will facilitate their decision to accept to use it for learning with a mean scores of 3.37, 3.58, 3.09, 2.73 and 3.10 which are all greater than the criterion mean of 2.5. A grand mean of 3.17 was obtained this therefore implies that the level of students' readiness to use mobile devices for learning is high.

Table 4.5 Mean and standard deviation on how lecturers perceive the use of mobile devices for teaching

S/N	Items	VHE	HE	LE	VLE	x	STD Dev.	Remark
1.	Mobile devices can assist me in carrying out academic task and can also assist me to retrieve same.	251	117	17	7	3.56	0.66	Very high extent
2.	Mobile devices can assist me to upload educational materials to the internet and can also assist me to download same from the internet	19	104	206	63	2.20	0.76	
3.	Supporting the convectional method of teaching with my mobile device will make teaching and learning more effective since I can have access to relevant materials from any location at any time.	158	156	72	6	3.19	0.78	High extent
4.	I will be willing to install additional software and hardware that will facilitate teaching and learning using my mobile device.	196	146	29	21	3.32	0.83	High extent
5.	I will accept to use mobile devices if the power situation in Nigeria is good.	64	109	168	51	2.48	0.92	Low extent
	Average Mean					2.95	0.79	High extent

Very High Extent: 3.50 – 4.00 Low Extent: 2.00 – 2.49
 High Extent: 2.50 – 3.49 Very Low Extent: 0.50 – 1.99

Table 4.5 above the respondent agree to 1, 3, and 4 to a very high and high extent that mobile devices can assist them in carrying out academic task and can also assist them to retrieve same. It makes teaching and learning more effective since they can have access to relevant materials from any location. at any time, they will be willing to install additional software and hardware that will facilitate teaching and learning using my mobile device, with a mean scores of 3.56, 3.19, and 3.32 which are all greater than the criterion mean of 2.5, but accepting item 2 and 5 to a low extent that Mobile devices can assist them to upload educational materials to the internet and can also assist them to download same from the internet and that they will accept to use mobile devices if the power situation in Nigeria is good with a mean scores of 2.20 and 2.48 which is lower than the criterion mean of 2.50. A grand mean of 2.95 was obtained this therefore implies that lecturers perceive the use of mobile devices for teaching to a high extent.

Table 4.6 Mean and standard deviation on how students perceive the use of mobile devices for learning

S/N	Items	VHE	HE	LE	VLE	X	STDDev.	Remark
1.	Mobile devices can assist me in carrying out academic task and can also assist me to retrieve same.	446	202	29	10	3.57	0.64	Very high extent
2.	Mobile devices can assist me to upload educational materials to the internet and can also assist me to download same from the internet	219	188	214	66	2.82	0.99	High extent
3.	Supporting the convectional method of learning with my mobile device will make teaching and learning more effective since I can have access to relevant materials from any location at any time.	253	269	143	22	3.10	0.83	High extent
4.	I will be willing to install additional software and hardware that will facilitate teaching and learning using my mobile device.	406	224	34	23	3.46	0.74	High extent
5.	I will accept to use mobile devices if the power situation in Nigeria is good.	309	191	149	38	3.12	0.94	High extent
Average Mean						3.21	0.83	High extent

Very High Extent: 3.50 – 4.00
 High Extent: 2.50 – 3.49
 Low Extent: 2.00 – 2.49
 Very Low Extent: 0.50 – 1.9

Table 4.6 above the respondent agree to 1-5 that mobile devices can assist them in carrying out academic task and can also assist them to retrieve same. Mobile devices can assist them to upload educational materials to the internet and can also assist them to download same from the internet. makes teaching and learning more effective since they can have access to relevant materials from any location at any time, they will be willing to install additional software and hardware that will facilitate teaching and learning using my mobile device, and that they will accept to use mobile devices if the power situation in Nigeria is good with a mean scores of 3.57, 2.82, 3.10, 3.46, and 3.12 which are all greater than the criterion mean of 2.5, A grand mean of 3.21 was obtained this therefore implies that students perceive the use of mobile devices for learning to a high extent

Table 4.7: Summary of² analysis of lecturers and students on the availability of mobile devices for teaching and learning

VARIABLE	N	Df	² cal.	p-value	Level of Decision Sig.
availability of mobile devices	1079	7	671.78	0.00	HO1 Rejected

Table 4.7 revealed that the 2cal is 671.78 with df = 7 and p>0.05. The obtained value of 0.00 is lesser than 0.05, therefore the null hypothesis is rejected. This indicates that there is a significant difference in the mean ratings of lecturers and students on the availability of mobile devices for teaching and learning.

Table 4.8: z-test analysis on difference in the mean ratings of the lecturers and students on level of readiness in the use of mobile devices for teaching and learning

Variables	N	Mean	Std. Deviation	Df	Z-cal	Zcrit	Level of Decision Sig.
level of readiness in the use of mobile devices	Students	687	3.17	0.4	10	3.490	1.960
	Lecturers	392	3.26	0.35	77		

Table 4.8 reveals that the mean score of Students and lecturers are 3.17 and 3.26 and that the standard deviations of their scores are 0.4 and 0.35 respectively. However, when this means difference was subjected to independent z-test statistics, it was observed that the calculated z-value is greater than z-critical at 0.05 level of significance, so null hypothesis two is rejected. Hence

there is a significant difference between the mean scores of students and lecturers on the on level of readiness for the use of mobile devices for teaching and learning

Table 4.9: z-test analysis on difference in the mean ratings of lecturers and students on the perceived ease of use of mobile devices for teaching and learning

Variables	N	Mean	Std. Deviation	Df	Z-cal	Zcrit	Level Sig.	ofDecision
Perceived ease of use of mobile devices	687	3.22	0.36	1077	10.607	1.960	0.05	H03 Rejected
Lecturers	392	2.95	0.42					

Table 4.9 indicates that the mean score (3.22) of Students was higher than the lecturers which was = 2.95. The calculated z-value for group (10.607) is greater than z-critical at 0.05 level of significance, so null hypothesis three is rejected. Therefore, there is a significant difference between the mean scores of lecturers and students on the perceived ease of use of mobile devices for teaching and learning

Summary of Findings

Findings of this study is hereby summarized as follows:

- Mobile devices are availability to a low extent for teaching.
- Mobile devices are widely available for learning.
- The level of lecturer readiness to use mobile devices for teaching is high.
- The level of students' readiness to use mobile devices for learning is high.
- Lecturers perceive the use of mobile devices for teaching to a high extent.
- Students perceive the use of mobile devices for learning to a high extent.
- There is a significant difference in the mean ratings of lecturers and students on the availability of mobile devices for teaching and learning.
- There is a significant difference between the mean scores of students and lecturers on the on level of readiness for the use of mobile devices for teaching and learning.
- There is a significant difference between the mean scores of lecturers and students on the perceived ease of use of mobile devices for teaching and learning

Discussion of Findings

Availability of mobile devices for teaching and learning

This theme covered question one and two. The result show that on the average only 43% of lecturer has mobile devices for teaching. This indicates a low extent of availability of mobile devices for teaching. While on the other hand, 66.99% of the students has mobile devices for learning. This indicates a high extent of availability of mobile devices for learning. When this results were further subjected to hypothesis test it revealed that there is a significant difference in the mean ratings of lecturers and students on the availability of mobile devices for teaching and learning. These findings corroborate the findings of Oguchinalu and Sunday (2018) who conducted a study to assess the adoption of mobile devices for teaching and learning in Nigeria. They concluded that, while mobile devices will improve education in Nigeria, it will face a number of challenges. Oyelere, Suhonen, Sutinen (2016) investigated students' preparedness in primary and secondary schools for mobile devices for learning to adopt m-learning and use certain mobile devices. According to the survey, just 12% of respondents did not own a mobile device, and students favor the use of social media forums, blogs, task features, and course material availability on m-learning platforms for education.

Level of readiness to use mobile devices for teaching and learning

The results in question 3 and 4 also show that that the level of lecturer and students readiness to use mobile devices for teaching and learning is high. When this results were further subjected to hypothesis test it revealed that there is a significant difference between the mean scores of students and lecturers on the on level of readiness for the use of mobile devices for teaching and learning. This result was not surprising to the research because if the devices are available for teaching and learning, lecturers and students are well ready to utilized it. According to Kukulska, Pettit, Bradley, Carvalho, Herrington, Kennedy, Walker, (2021) students mostly utilize mobile devices for learning, social connection, amusement, and job. In general, the most common uses in the field of learning are: instant access to information and answers, reading e-books, listening to podcasts, using applications for learning purposes, educational videos, games, accessing documents, participating in online lessons and tutorials, receiving live-streamed lectures, accessing video clips, Reading etc. Findings in the course of this study revealed that there are ICTs such as desktop computers, photocopies, internet facilities, learning tools for testing and assessment, printer etc. but are not readily accessible when needed either as a result of it being outdated, inadequate or in bad condition.

Perceive use of mobile devices for teaching and learning

This theme deals with question 5 and 6, the result show that lecturers and students perceive the use of mobile devices for teaching and learning to a high extent. When this results were further subjected to hypothesis test it revealed that there is a significant difference between the mean scores of lecturers and students on the perceived ease of use of mobile devices for teaching and learning. Mobile gadgets, whether used for communication or as educational and recreational tools, are prevalent in the everyday lives of many individuals, particularly young people. The generation born between 2005 till date is now known as Generation Z (Vakaliuk, Shevchuk and Shevchuk, 2020). These young people are digital natives who seek quick pleasure, use social media and Internet access, expect a lot from themselves, and are under pressure to achieve (Criollo-C and Luján-Mora, 2017). They grew up with Internet and mobile device access, thus they are a possible population for whom m-learning might be an appealing approach in the teaching-learning problem (Kukulska-Hulme and Viberg, 2018).

Summary of Findings

This study investigate the level of readiness and use of mobile devices in teaching and learning in higher education institutions in Rivers state, Nigeria with a view to ascertain the extent of availability of mobile devices for teaching and learning, find out the level of readiness of lecturers and students on the use of mobile devices for teaching and learning in higher education institutions and investigate the level of usage of the mobile devices among Lecturers and students in higher education institutions for teaching and learning.

1. Mobile devices are availability to a low extent for teaching.
2. Mobile devices are widely available for learning.
3. The level of lecturer readiness to use mobile devices for teaching is high.
4. The level of students' readiness to use mobile devices for learning is high.
5. Lecturers perceive the use of mobile devices for teaching to a high extent.
6. Students perceive the use of mobile devices for learning to a high extent.
7. There is a significant difference in the mean ratings of lecturers and students on the availability of mobile devices for teaching and learning.
8. There is a significant difference between the mean scores of students and lecturers on the on level of readiness for the use of mobile devices for teaching and learning.

9. There is a significant difference between the mean scores of lecturers and students on the perceived ease of use of mobile devices for teaching and learning

Limitations

This study is limited to the geographical area of the study which is tertiary institutions in Rivers State. The findings do not apply to lecturers and student populations outside Rivers State and the time constraints as the study period might not be long enough to capture long-term trends or effects.

Conclusion of the Study

It has been scientifically established that mobile devices could be applied by professionals in teaching and learning practice in higher institutions but there seems to be a problem of availability and accessibility.

Stakeholders of Education in Nigeria are faced with the challenge to provide the scientific wherewithal to enhance effective teaching and learning processes that match the 21st technological adoption.

The study, therefore, concludes that the availability, readiness, and usage of mobile devices in public tertiary institutions in Rivers State is not in conformity with the provision of government in its national policy on education.

Recommendations

Based on the findings of this study, the following recommendations are made:

1. The government should endeavor to keep to their promises by providing ICTs/mobile devices in various educational institutions.
2. They should create an enabling environment for the systems they provide to be used.
3. ICTs/mobile devices should be made accessible to both students and lecturers in the state.
4. Both government and stakeholders in education should imbibe a maintenance culture to ensure better conditions of available instructional materials in these institutions.

Contributions to Knowledge

In the broader sense, this study contributes to knowledge by empirically elucidating higher education institution readiness and use of mobile devices in teaching and learning in Rivers State. A study that has not been carried out in the holistic in this part of the World. It has been established through this study that;

1. This study provides empirical evidence that educational institutions in Rivers State lack mobile devices for the teaching and learning process.
2. Within the reviewed literature, no study on higher education institution readiness, availability, and use of mobile devices in teaching and learning has been carried out in Rivers State. Most related research was on another area. Therefore, it fills this gap.
3. However, in a more fluid manner, this study has contributed to knowledge by drawing the attention of the government and educational authorities to the importance and benefits of indoctrinating mobile devices in our educational system. This is to enhance teaching and learning processes in higher institutions.

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