Digital Literacy Skills and Utilization of Online Platforms for Teaching by LIS Educators in Universities in Rivers State, Nigeria

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ABSTRACT

The study investigated digital literacy skills and utilization of online platforms for teaching by LIS educators in universities in Rivers State, Nigeria. The study was undertaken as a descriptive survey design. Three research questions and three hypotheses guided this study. The population of the study was twenty-six Lecturers from the three universities in Rivers State where library and information science are offered. The twenty-six constitute the sample size. Census sampling technique was adopted for the study. The instrument titled Digital Literacy Skills and Utilization of Online Platform for Teaching Questionnaire (DLSOPUQ) was used to elicit information from the respondents. Twenty-six copies of the questionnaire were administered and retrieved. Mean ($\bar{x}$) was used to analyze the research questions and the null hypotheses was tested with t-test at 0.05 level of significance. The study revealed that there is no significant difference between digital literacy and utilization of online platforms for teaching by LIS educators in universities in Rivers State. Further findings revealed that LIS educators do not have the necessary skills to navigate the online environment for teaching without assistance. In conclusion LIS educators should be innovative and update their skills to meet up with global practice. It was recommended among others that LIS educators should be trained and retrained by the university management to cope with online teaching and provision of the right infrastructure by governments for effectives teaching and learning process.

1. Introduction

The 21st century contemporary demands that we go beyond traditional practices of teaching and learning and incorporate facilities with new genres of media and information communication technolog y. Digital literacy is based upon digital competences, the ability to solve various task in the domain of ICT. Digital literacy skills include media literacy skills, information literacy skills and information and communication technology skills (Tsekeris, 2019). These skills constitute a strong and integral

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part of the new framework for the twenty first century learning paradigm. Digital technology has shown their value by powering a level of continuity in life and education during crisis like the COVID 19 pandemic era.

However, digital literacy skills, helps in enhancing online activities for positive outcomes from internet use, and for the entire process of access and information inequality (DeBoer, Deursen, & Rompay, 2019). The importance of these skills to fulfil the demands for education in the modern society has been well established. Research has identified that comprehensive knowledge of these skills are lacking (Voogt & Robin, 2012). Inculcating digital content in the classroom is an important and effective methods of enhancing educators teaching methods. LIS educators are expected to be digitally literate, to create and consume digital content in the classroom. We are in an era that is marked by much technology advancement virtually on every field in a contemporary society.

Also, digital literacy is very vital to every LIS educator because a digitally literate lecturer will employ these skills in classrooms, which will in turn foster a strong sense of digital citizenship in our students and also assist them to take advantage of the new tools. In other, to effectively deliver teaching process, they need to be ICT complaint. Educators should prepare programs to enable candidates design learning environments and experience that leverage digital tools and resources that maximize student's outcome. (Borthwick & Hansen 2017). They have to be independent and confidence in using this technology.

According to Lloyds Bank (2016), economic employ ability interventions aim at increasing digital literacy competences for accessing services, benefits training and 21st century work place practices. This will however enhance their ability to exploit the opportunities offered by ICT, and use them critically and innovatively in education. More so, LIS educators should be able to utilize the various digital tools to teach Nacimbeni (2018). Posit that digital literacy has two dimensions, The functional and critical dimension. The functional dimension involves competencies and skills that helps every person to write and read, and communicate using digital tools among platforms, developing digital literacy and maintaining, educational online relationship while critical dimension recognizes the non-neutral natural of digital tools and environment. The proficient in the use of the digital tools enhances online teaching effectiveness for LIS educators. The various digital tools are computers, laptops, tablets clickers, smart board, projectors and smart phones. Technology has not only influenced the ways of human communication but also changed the way of learning (Soroya, et al., 2021). Educators need to develop their digital literacy skills in order to consider themselves competent to use adequately technologies in teaching on the various platforms like the Whova, Google meet, learning management system, zoom, and WhatsApp etc. Educators must stay current with practices that optimizes students learning.

Digital literacy skills are vital skills that educators should acquire in order to function effectively in teaching in the online platforms. This will however make them to be active users of digital technologies that will in turn be inculcated into the learning environment, thereby producing digital literate students that will fit into the digital era. Therefore, the emphasis of this study was to assess the digital literacy skills of LIS educators and utilization of online platforms for teaching in universities in Rivers State, Nigeria.

1.1 Statement of the Problem

LIS educators need to be digitally literate to navigate the online platforms effectively for teaching. This will enable the digital age readiness which is now a global practice. Educators must stay current with practices that optimize student learning. During the COVID 19 pandemic Ignatius Ajuru University, University of Port Harcourt and Rivers State University offer virtual learning in order to avoid large gathering of students during lectures, in obedience to social distancing. The question is how many lecturers were able to utilize the online platforms independently and effectively for teaching. Most universities pay huge amount towards the establishment of ICT infrastruct ure, digital capacity building and training for lecturers. Despite all these efforts there is low utilization of these online platforms for teaching. They still prefer the traditional mode of teaching. It is against this back drop this study attempt to assess the digital literacy skills and utilization of online platform for teaching by LIS educators in Universities in Rivers State, Nigeria.

1.2 Objectives of the Study

The main objective of this study is to examine digital literacy skills and utilization of online platforms for teaching by LIS educators in Universities in Rivers State, Nigeria.

(a) To assess the digital literacy skills of LIS educators and utilization of online platforms for teaching in Universities in Rivers State, Nigeria.
(b) To ascertain the digital tools utilized by LIS educators for teaching in online platforms in universities in Rivers State, Nigeria.
(c) To determine the various online platforms utilized by LIS educators for teaching in Universities in Rivers State, Nigeria.

1.3 Research Questions

(a) How does digital literacy skills enhance utilization of online platforms for teaching by LIS educators in Universities in Rivers State, Nigeria?
(b) What are the digital tools utilized for teaching by LIS educators in Universities in Rivers State, Nigeria?
(c) What are the various online platforms utilized for teaching by LIS educators in Universities in Rivers State, Nigeria?

1.4 Hypothesis

(a) Ho1: There is no significant difference between the mean ($\bar{x}$) score of digital literacy skills and utilization of online platforms for teaching by LIS educators in Universities in Rivers State, Nigeria.
(b) Ho2: There is no significant difference between the mean ($\bar{x}$) score of digital tools and utilization

of online platforms for teaching by LIS educators in Universities in Rivers State, Nigeria.

(c) Ho3: There is no significant difference between utilization of WhatsApp, Whova, Google meet, Zoom, LMS for teaching by LIS educators in Universities in Rivers State, Nigeria.

2. Literature Review

Digital literacy is the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computer. (Glister, 1997). The implementation of digital content in the classroom is an important and effective method of enhancing educators teaching method (Bakkeries, Vernci, & Wubbles, 2010). This however, would enable them to enhance the 21st century skills that students are expected to master.

Educators are to be digitally literate, to create and consume digital content in the classroom. This could also increase their engagement and make them digitally literate which will in turn encourage the development of skills needed for a technological society. Digital literacy is the ability to effectively and critically navigate, evaluate and create information using a range of digital technology. It requires one to recognize and use that power to manipulate and transform digital means to distribute pervasively and to easily adapt them to new forms (Jenkins, 2009). Digitally literate educators possess a wide range of digital skills which includes knowledge of the basic principles of computer networks, having the ability to find, capture and evaluate information in understanding societal issues raised by digital technologies and possess thinking skills (Gui & Argentina, 2011). David-west and Alice (2018), asserts that without adequate computer skills students cannot utilize electronic resources. It is the ability to use computers and related technology effectively with the range of skills covering levels of elementary use to programs and advanced problem solving. It is the proficiency in the use of digital tools, interactive digital skills, critical tools, ability to attend to ethical responsibilities required in complex environment, one should be able to handle and integrate the ICT tools effectively in classrooms (Davis, 2001). It is necessary that educators develop themselves to be digitally literate in order to successfully use methods in the learning environment.

Ata and Yıldırım (2019) suggested that digital literacy courses should be included in all educators' programs, alongside theoretical courses and practical activities useful for the development of educators. Teaching and learning where educators apply digital devices and resources will improve their teaching, and it will guide students to acquire 21st century skills which is very essential to the education of today's learner. The American Library Association (2013) defined digital literacy as the ability to use information and communication technologies to find, evaluate, create, communicate information, requiring both cognitive and technical skills. Jongsermtrakoon and Nasongkhla (2015) defined digital literacy as the ability to use digital materials including the skills to define, access, evaluate, integrate, create and communicate. Alamsyah (2017) conducted a study on digital literacy among Sniwijaya Universities, lecturers, 30 lecturers were randomly selected as sample for the study. The study revealed that digital literacy competency among Sriwijaya Universities lecturers is in very high position.

A study conducted by Sen (2017), investigate the concept of digital literacy as a set of competencies

required for full participation in a knowledge. society which includes devices, such as smartphones, tablets, laptops, computers, desktops, for purposes of communication, expression, collaboration and advocacy. These skills are relevant to LIS educators to teach students effectively. A study conducted by Yustika and Iswati (2020), digital literacy in formal education, A short review, the study revealed that higher level of digital literacy positively affected the high output of learning outcomes to students' academic performance. Omosekejimi, et al (2018), investigated a study on ICT and digital literacy skills, a mechanism for efficient teaching in Nigerian colleges of education. The study comprises of 500 lecturers in four colleges of education. The study revealed that they are not proficient in the use of power point, excel, and spreadsheet, they cannot apply computers to solve real life academic problems. Amuchie (2015) conducted a udy on the availability and utilization of ICT resources in teaching and learning in secondary schools in Ardo-Sola and Jalingo, findings revealed that the major tools that can help lecturers teach effectively are desktops, computers, laptops, television, video players, digital camera, internet access and interactive white board etc. Educators are increasingly required to teach students with digital tools as their teaching aid.

Coccoli, et al (2014), explain that knowing technology alone is not enough for success in learning. It is equally important that one needs to have the right competencies to make use of the learning management system as an online reposition of learning materials, WhatsApp uses phone data connectio n. It is a cloud-based service which offers meetings and webinars which provides content sharing and video conferencing capabilities so one does not have to pay for the individual messages one sends Gon and Raweka (2017), state that WhatsApp has become a new and convenient platform for teaching with which teachers can be present anywhere and at any time. Educators should incorporate learning activities that engage students to foster active learning. The online platforms are changing the world we live in and the way we learn to live. One of the new original software-based conference room solution is Zoom technology (Nadezhda, 2020). Google classroom is a free application that connects teacher and students together that enables learning to be paperless. Mafa (2018) found out that google classroom is fascinating in educating and learning students taught indicated satisfaction towards the learning activities in google classroom. Also, Hasanah and Dewi (2019) conducted a study to determine the requirement for the development of learning that is exciting, active, autonomous and effective. The result of the study show that integrated learning design based on google classroom is needed to improve student literacy. The 21st century is increasingly connected to the digital environment. Information and communication technology have transformed individuals in the learning process in the educational system. It plays a vital role in the teaching and learning process. New platforms are springing up every day, educators need to know how to manipulate and articulate all digital tools in teaching practice. It is on the bases of these that this study seeks to examine digital literacy skills and utilization of online platforms for teaching by LIS educators in Universities in Rivers State, Nigeria.

3. Methodology

This study was undertaken as a quantitative method and a descriptive survey research design.

The study population consisted of 26 lecturers of the Department of Library and Information Science, University of Port Harcourt, Ignatius Ajuru University of Education, Rivers State University. All in Port Harcourt Rivers State, Nigeria. The census sampling technique was used, because the whole population was used for the study. Questionnaire was used as an instrument for data collection for this study. The questionnaire was subjected to face and content validity from research experts to determine the validity of the instrument. The reliability was done by test-retest method using Pearson Product Moment Correlation Coefficient of 0.71 was obtained showing that the instrument was consistent, reliable and good for the study. Twenty-six (26) copies of the questionnaire titled Digital literacy and utilization of online platforms for teaching by LIS educators in Universities in Rivers State (DLSUOPTQ) were administered and retrieved. Criterion Mean ($\bar{x}$) of 2.5 was used to analyze the research questions and the hypotheses was tested with Ƶ – test at 0.05 level of significance.

4. Results

RQ 1: *How does digital literacy skills enhances utilization of online platforms for teaching by LIS educators in Universities in Rivers State, Nigeria.*

Table 1. Mean ($\bar{x}$) scores of respondents on the ways digital literacy skills enhance utilization of platforms for teaching.

S/N	Questionnaire Items	Digital literacy skill		Online platform utilization		Mean set	Rank order	Decision
		$\bar{x}$	St. D	$\bar{x}$	St. D			
1	Poor knowledge of digital literacy skills limit use of online platform for teaching	3.15	0.52	3.03	0.50	3.09	3rd	Agreed
2	Lack of digital literacy skills lead to ineffective use of online platforms for teaching	3.23	0.56	3.08	0.50	3.15	2nd	Agreed
3	Poor level of digital literacy skills can hinder the use of online platforms for teaching	2.69	0.50	3.12	0.51	2.90	4th	Agreed
4	Digital literacy is very important for the use of online platforms for teaching	3.23	0.56	3.22	0.50	3.22	1st	Agreed
5	Adequate knowledge of digital literacy skills enable me to make use of online platforms for teaching	2.00	0.48	3.17	0.52	2.58	5th	Agreed
	Aggregate Mean ($\bar{x}$) Score	2.86	0.52	3.12	0.51	2.99		

Data on **Table 1** describes the Mean ($\bar{x}$) Score and standard deviation of digital literacy skills and utilization of online platforms for teaching by LIS educators in Universities in Rivers State, Nigeria. The respondents agreed on all the items with high Mean ($\bar{x}$) Score greater than the criterion Mean ($\bar{x}$) of 3.50 following the rank order from 1st to 5th. The aggregate Mean ($\bar{x}$) Score of

2.99 explains that good, adequate, and effective knowledge of digital literacy enhances utilization of online platforms for teaching by LIS educators in Universities in Rivers State, Nigeria.

RQ 2: *What are the digital tools utilized for teaching by LIS educators in Universities in Rivers State, Nigeria.*

Table 2. Mean ($\bar{x}$) scores of respondents on the digital tools used that enhance online teaching

S/N	Questionnaire Items	Digital literacy skill		Online platform utilization		Mean set	Rank order	Decision
		$\bar{x}$	St. D	$\bar{x}$	St. D			
6	I Can dependently operate computer systems to access online platforms for teaching	3.27	0.53	3.03	0.50	3.15	2nd	Agreed
7	In ability to operate computer systems deter me from accessing online platforms for teaching	3.42	0.56	3.08	0.50	3.25	1st	Agreed
8	I use smart phone to access online platforms for teaching	3.19	0.51	3.12	0.51	3.15	2nd	Agreed
9	Ability to used projector to access online platforms for teaching	2.31	0.48	2.67	0.52	2.49	2nd	disagreed
	Aggregate Mean ($\bar{x}$) Score	3.05	0.52	2.97	0.51	3.01		

Table 2 x-rays the Mean ($\bar{x}$) Score and standard deviation of digital tools used in online platforms for teaching by LIS educators in Universities in Rivers State, Nigeria. The respondents agreed on items 6−8 with high Mean ($\bar{x}$) Score greater than the criterion Mean ($\bar{x}$) of 2.50 following the rank order from 1st to 2nd and disagreed in item 9 with low mean score of 2.49. The aggregate Mean ($\bar{x}$) Score of 3.01 explains that LIS educators operate computer dependently for elaborate teaching, inability to operate computer system deter online teaching, using smartphones effectively to access online teaching, and the use of projector is not used to access online teaching.

RQ 3: *What are the various online platforms utilized for teaching by LIS educators in Universities in Rivers State, Nigeria.*

Table 3. Mean ($\bar{x}$) scores of respondents on the various online platforms utilized for teaching by LIS educators in Universities in Rivers State, Nigeria

S/N	Questionnaire Items	Digital literacy skill		Online platform utilization		Mean set	Rank order	Decision
		$\bar{x}$	St. D	$\bar{x}$	St. D			
10	Learning Management system	1.96	0.50	2.88	5.50	2.42	5th	Disagreed
11	WhatsApp	3.23	0.56	3.03	0.50	3.13	3rd	Agreed
12	Zoom App	2.96	0.54	3.12	0.51	3.04	4th	Agreed

13	Google classroom	3.15	0.51	3.22	0.56	3.18	2nd	Agreed
14	Whora	3.35	0.56	3.17	0.52	3.26	1st	Agreed
	Aggregate Mean ($\bar{x}$) Score	2.93	0.51	3.08	0.51	3.01		

Table 3 presents the Mean ($\bar{x}$) Score and standard deviation of online platforms utilization and teaching delivery by LIS education in Universities in Rivers State, Nigeria. The respondents agreed in items 11−14 with high Mean ($\bar{x}$) Score greater than the Mean ($\bar{x}$) Score criterion of 2.50 following the rank order from 1st to 4th and disagreed on item 10 with low Mean ($\bar{x}$) Score of 2.42. the aggregate Mean ($\bar{x}$) Score of 3.01, explains that effective use of Zoom App, Google classroom, WhatsApp, and Whova online platforms enhance teaching delivery. Also, poor utilization of Learning management system deters online teaching delivery.

4.1 Test of Hypotheses

Ho1: *There is no significant difference between the ($\bar{x}$) Table 4: Ƶ − test Computation of digital literacy skills and online platform utilization for teaching by LIS educators in Rivers State, Nigeria.*

Variables	($\bar{x}$)	St.D	N	Df	P	t-cal	t-cont	Decision
Digital Literacy skills	2.99 2.52	0.50 0.41	26	24	0.05	1.21	+ 1.96	Accepted

Table 4 shows Ƶ - test computation of the understudied variables, with calculate Ƶ - value 1.21 less than the Critical Ƶ − value of +1.96 at 0.05 level of significance and degree of freedom of 24. This explains that the null hypothesis was accepted. This implies that there is no significant difference between the mean ($\bar{x}$) score of digital literacy skills and online platforms utilization for teaching by LIS educators in Universities in Rivers State, Nigeria.

Ho2: *There is no significant difference between the mean ($\bar{x}$) scores of digital tools and utilization of online platforms for teaching by LIS educators in Rivers, Nigeria. Table 5: Ƶ − test Computation of digital tools used in online platforms for teaching.*

Variables	($\bar{x}$)	St.D	N	Df	P	t-cal	t-cont	Decision
Digital tools used	3.01	0.50	26	24	0.05	1.07	+ 1.96	Accepted
Online platform teaching delivery	2.52	0.41						

Table 5 presents Ƶ − test Computation of the understudied variable, with calculated Ƶ − value

of 1.07 less than the critical Ƶ − value of + 1.96 at 0.05 level of significance and degree of freedom of 24. Thus, the null hypothesis was accepted indicating that there is a significant difference between the mean ($\bar{x}$) scores of digital tools used in online platforms for teaching delivery by LIS educators in Rivers State, Nigeria.

Table 6. Ƶ − test computation of online platform utilization and online teaching delivery.

Variables	($\bar{x}$)	St.D	N	Df	P	t-cal	t-cont	Decision
Online platform utilization	3.01	0.50	26	24	0.05	1.21	+ 1.96	Accepted
Online teaching delivery	2.52	0.41						

Table 6 x − rays Ƶ − test computation of the understudied variables, with calculated Ƶ − value 1.26 less than the critical Ƶ − value of + 1.96 at 0.05 level of significance and degree of freedom of 24. Thus, the null hypothesis was accepted implying that there is no significant difference between the Mean ($\bar{x}$) Score of online platform utilization and online teaching delivery by LIS educators in Universities in Rivers State, Nigeria.

5. Discussion of findings

5.1 Digital literacy skills and utilization of online platforms for teaching by LIS educators in universities in Rivers State, Nigeria

The findings reveal that the way digital literacy skills enhance online platforms utilization for teaching by LIS educators in Universities in Rivers State, Nigeria include a good, adequate, and effective knowledge in digital literacy tremendously influence the utilization of online platforms for teaching delivery. The test of hypothesis one shows that there is no significant difference between digital literacy skills and utilization of online platforms for teaching this is in line with the findings of Alamsyah (2017) findings affirmed that digital literacy competency among University lecturers paved the way for effective online teaching delivery aimed at achieving learners' outcome. Cocoli et al (2014), explains that knowing technology alone is not enough for success in learning but one also needs to have the right competencies to make use of the learning management system as an online repository of learning. David-West & Echue (2018) confirms that without adequate computer skills students cannot utilize electronic resources leading to poor students; academic outcomes. This is why Gui and Argentina (2001) maintains that digital literacy skills which have the ability to find, capture and evaluate information must also have the ability of online teaching delivery to achieve students' academic outcomes.

5.2 Digital tools and utilization of online platform for teaching by LIS educators in universities in Rivers State, Nigeria.

The findings equally reveal that the ways digital tools used enhances online platform utilization for teaching by LIS educators in Universities in Rivers State, Nigeria is that LIS educators operate computer dependently which enhance online teaching, inability to operate computer system deter online teaching, using smart phones effectively, to access online teaching. The test of hypothesis two confirms that there is no significant difference between digital tools used and online platforms teaching delivery. This coincides with the findings of Mafa (2018) who finds out that digital tools used in fascinating in educating the learners satisfactorily for the attainment of stated educational goals. The scholars argue that lecturers who employ these tools in classrooms foster a strong sense of digital citizenship in the learners and also assist them to take advantage of the new tools. Nacimbeni (2018), put simply LIS educators should also learn how to manage, teach and apply the digital tools and understand certain new approaches and skills for the benefits of the learners. It is imperative for the LIS educators to develop create and consume the necessary digital tools and contents in the classroom for the learners to appreciate. Austin (2015) outlined the major tools that can help lecturers teach effectively such as desktop, computers, laptops, television, video players, digital cameras, internet access and interacted white board.

5.3 Online platforms utilized for teaching by LIS educators in universities in Rivers State, Nigeria

Findings revealed that various online platforms utilized foe teaching by LIS educators in Universities in Rivers State, Nigeria include: Zoom App, WhatsApp, Google classroom and Whova, online platforms utilization enhance effective online teaching delivery. The test of hypothesis three shows that there is no significant different between online platform utilization and online teaching delivery. In line with the findings, Nadezhda (2020), Gon and Raweka (2010), Hasanah and Dewi (2019) studies affirms the utilization of WhatsApp, Zoom App, Google classroom, and Whora online platforms enhance online teaching delivery by LIS educators. The scholars contend that these online platforms are changing the world man lives and learn to life as the software enhances conference room solutions geared towards achieving learner's academic outcome. The scholars confirm that the development of the online learning platforms is exciting, active, autonomous and effective for the online teaching delivery. This is why Mafa (2018) found out that theses online platforms are fascinating, satisfactory, educating teaching and learning process of the learners towards the attainment of desired educational objectives. David-West and Alice (2018) simply asserts that without adequate utilization of the basic online platform in the teaching and learning process in this 21st century that witness the era of globalization, the learners will be deterred to benefits from all that the online platforms seek to offer.

6. Conclusion

Based on the findings, the researcher concludes that digital literacy skills, and utilization of these tools in engaging the online platforms by LIS educators in Universities in Rivers State is a function of the desired online teaching delivery geared towards the attainment of changing the behavioral pattern of the learners. These skills and its utilization influences teaching and learning, drives change, to bridge academic and accountability to fully realize the education opportunities.

21st Century skills should form a major part of the foundation of improvement process in schools. Effective communication using ICT tools is very vital for success in today's knowledge-based economy. Educators should update themselves to be digitally literate and also teach students to become productive e-learners within a constantly evolving digital empowerment. More so, becoming digital literate will not be an option, it is a necessity as technologies is essential to education. The use of ICT will improve the learning system in the Century. To ensure that students succeed, educators must, continuously evolve their teaching and learning methods adopting quality assurance mechanizing and achieving standards of excellence in adopting best practices and creating completion in the global market. It is therefore mandatory that LIS educators become digitally literate in order to fit into the digital age. It will enable effective use of technology which will make learning more accessible to students in an online environment.

7. Recommendations

1) LIS educators should be trained and retrained by the university management to cope with online teaching and provision of the right infrastructures by governments for effectives teaching and learning process.
2) Online platforms such as Zoom app, WhatsApp, Google classroom, Whova and other internet resources should be explored by the LIS educators for effective and efficient online teaching delivery.
3) Educators should update their technological skills to make use of digital tools to navigate the online environment for effective teaching and learning.

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