UNIJERPS
Unizik Journal of Educational Research and Policy Studies VOL.13 (1);
https://unijerps.org
2021 Impact Factor: 5.641; 2020 Impact Factor: 5.355.
January-June, 2022
Indexing and Impact Factor URL: http://sjifactor.com/passport.php?id=21363

WEBQUEST FOR TEACHING DURING COVID-19: LECTURERS' AWARENESS, UTILIZATION PERCEPTION, AND CHALLENGES

Augustine, Sandra Eberechukwu (Ph.D.)
https://orcid.org/0000-0002-5835-0615
sandra.augustine@uniport.edu.ng
Department of Curriculum Studies and Educational Technology, Faculty of Education, University of Port Harcourt, Nigeria
&
Ezeoguine, Ebere Pearl (Ph.D.)
https://orcid.org/0000-0002-1834-3322
ebere.ezeoguine@uniport.edu.ng
Department of Curriculum Studies and Educational Technology, Faculty of Education, University of Port Harcourt, Nigeria

ABSTRACT
This survey investigated Lecturers' awareness, utilization, perception, and challenges of adopting WebQuest for instructional purposes in the University of Port Harcourt using four (4) research questions and six hypotheses tested at 0.05 significant level. Three hundred and ninety (390) respondents selected randomly from a population of one thousand, one hundred and twenty-eight (1228) Lecturers participated in the study. The instrument was a questionnaire titled WebQuest and Lecturers' Survey (WQLS) with a 0.92 reliability coefficient, and the data analyses techniques were the grand mean, standard deviation, Mann-Whitney U test, and Kruskal-Wallis tests. The findings revealed that Lecturers at the University of Port Harcourt had low WebQuest affordances awareness and utilization levels, positive perception, and challenges adopting WebQuest for teaching. The Lecturers' WebQuest affordances awareness and utilization level varies significantly based on the Lecturers' faculties and ranks but did not differ significantly on a gender basis. The recommendations were that there should be more awareness creation and Lecturers exposure on WebQuest affordances and utilization for teaching and learning purposes through training, workshops, and seminars; and there should be free Internet access and facilities around the university environment to facilitate teaching/learning with digital tools and reduce data cost on Lecturers and students.

Keywords: WebQuest, awareness, utilization, learning resources, Covid-19

Introduction

In this epoch of Information Communication and Technology (ICT), where virtually any type of information is searchable and available online, the Internet remains a rich source of valuable and up-to-date multimedia instructional resources accessible at a simple click of buttons anywhere/anytime with a network connection. Internet thus becomes a handy toolbox available for instructors interested in bringing virtual realities and real-world experiences into classroom practices. The explosive and ubiquitous nature of information in this present century due to the progression of the Internet and computer technology has amplified people's over-dependence on the World Wide Web as an information source.

The number of people searching for information on the Internet increases geometrically daily.

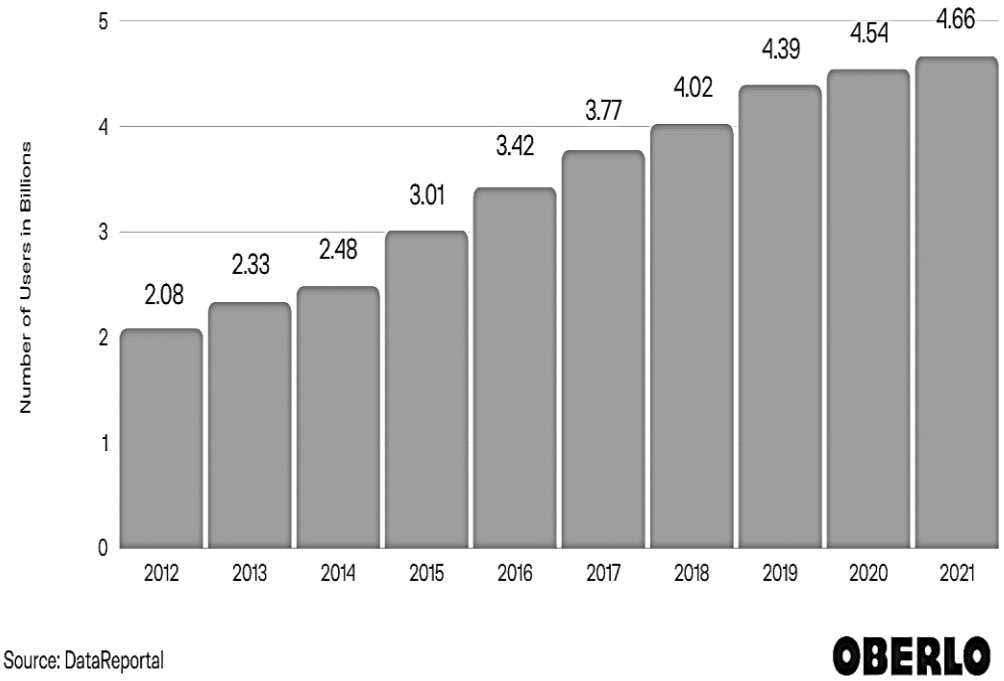


Figure 1: Number of Internet users worldwide (2012 - 2021)
Source: https://www.oberlo.com/statistics/how-many-people-use-internet

From the above figure, it becomes clear that from 2012 to 2021, active Internet users grew from 2.08 to 4.66 billion people. This geometric increase supports Statista.com's (2018) speculation that the global population of Internet users will rise from 46.8% in 2017 to 53.7% by 2021. Internet Live Stats (2018) recorded that more than 3.5 billion searches occur daily, and 1.2 trillion searches are made every year only on the Google search engine.

Thus, the Internet has become indispensable in human life when it comes to getting access to daily and up-to-date global information. Educators and students see the web as an information resource center for accessing quick and up-to-date materials for research, teaching, learning, and other academic purposes. Incorporating these internet resources for effective teaching/learning requires creating a learning space that brings the right resources for particular learning tasks together to provide proper direction and support to learners to keep them engaged and focused while interacting with the resources, acquiring, building, and extending knowledge.

Searching the web for learning materials could be challenging to students who may not possess the required skills to surf the net for information and accurately evaluate web resources; since the Internet is a platform for anyone (irrespective of educational background and knowledge level) to post any type information without proper vetting from professionals. To help keep students focused on using appropriate internet resources for specific learning purposes without wasting whole lots of time searching for them on the web, Bernie Dodge and Tom March developed an online enquiry oriented teaching/learning model known as WebQuest in 1995 when the excessive spread of Internet access was still at its

infancy. WebQuest is an inquiry-oriented activity where information and resources learners interact with originates from the Internet (Dodge, 1995). In March (2003) cited in March (2018) perspective;

> A WebQuest is a scaffold learning structure that uses links to essential resources on the World Wide Web and an authentic task to motivate students' investigation of a central, open-ended question, development of individual expertise and participation in a final group process that attempts to transform newly acquired information into a more sophisticated understanding. The best WebQuests do this in a way that inspires students to see richer thematic relationships, facilitate a contribution to the real world of learning and reflect on their own meta-cognitive processes.

WebQuest may refer to a teaching/learning model that facilitates learners' inquiry and information processing capability using well-organized and relevant online resources for learners' understanding and new knowledge construction. Dodge categorized WebQuests into two, short-term WebQuest and Longer-term WebQuest. In short-term WebQuest, the learning goals are achievable within a short period, usually in three-class contacts with an instructor. It exposes learners to new information that they integrate into their mental schema easily. In contrast, the achievement period for the longer-term WebQuest learning goals can extend up to one month, with learners being able to deeply analyze and transform knowledge to create a new one that can be responded to by others (Dodge, 1995). WebQuests are structured to enable learners to manage their time effectively without aimlessly roaming about and surfing the Internet for resources; however, to direct it only to authentic tasks that promote learning and knowledge transfer.

WebQuests lessons are created with webpage creators like Microsoft FrontPage or with simple word processors software such as Microsoft word that allows the inclusion of web links, although there are numerous online templates that even a novice in WebQuests creation can use to develop a fantastic WebQuests lesson. Strickland and Nazzal (2005) noted that there are already prepared WebQuests activities in different topics and subjects online, which instructors can adapt to suit their lessons. The most crucial aspect in creating WebQuest lessons is that the developed WebQuest lessons must contain six key phases, which Dodge (1995) listed as the introduction, task, process, resources, evaluation, and conclusion.

Educational Broadcasting Corporation (2004) explained that: the introduction phase provides learners with information about the problem to tackle and their expected roles during the quest for a solution; the task phase describes results the learners will achieve after the lesson; the process phase describes the do-steps the learners will follow while executing the task, with appropriate links; the resources part contains necessary learning materials (mainly online and multimedia resources) that learners would use to carry out assigned tasks; the evaluation phase is for learner's work assessment using fair, validated and reliable evaluation instrument; and the conclusion phase is where learners summarize the accomplished task and possibly apply acquire knowledge to other scenarios.

There are numerous benefits the integration of WebQuests into instructional practice holds for today's learners. This new learning paradigm provides a supportive structure for learners and encourages a learner-centered approach to teaching, using links to internet-based materials. Educators in this model serve as facilitators who create new learning spaces and tasks and guide learners into navigating through such space while using provided internet resources for performance-oriented results in any given task. Thus, as instructors provide learners with to-do-task lists and resources, they are encouraged to concentrate on particular tasks to achieve their learning goals within a reasonable period. Ngeow and Kong (2001) posited that scaffolding activities help learners' develop the right mindset that enhances their engagement with

any given task, breaks those tasks into smaller chunks, and focuses on the most crucial parts of learning goals.

WebQuests help learners migrate from information consumers to information processors and knowledge creators by applying higher-order thinking skills to process, analyze, criticize, evaluate and finally create a new understanding that helps them solve problems. In addition to promoting engagement, time management, critical thinking, and problem-solving abilities in learners, WebQuests also support interaction, collaboration, cooperation, and ideas distribution among peers since learners are allowed to work in small groups, with each learner performing an assigned role to achieve common goals.

Educational Broadcasting Corporation (2004) remarked that although there may be single WebQuests, most WebQuests tasks are usually group works that require role splitting. WebQuest can serve as a social media application incorporated in a virtual learning platform to stimulate learners' interaction and discussion on open-ended questions. WebQuest is a packaged instructional technique that unifies other instructional strategies like inquiry/discovery learning, collaborative learning, problem-based learning, cooperative learning, and discussion methods. Hence, WebQuest remains an innovative instructional tool available to 21st-century instructors who want to integrate internet technology into pedagogical practices.

Numerous researches have been conducted on WebQuest integration into classroom practices since inception and have attested to the effectiveness of WebQuest for instructional purposes. For example, Amadi and Paul (2017) investigated Rivers State University undergraduates' perceptions toward WebQuests utilization for instructional purposes. Their findings unveiled that the students showed positive attitudes using WebQuests for learning, and there were significant differences among the universities and between male and female students' responses toward WebQuests utilization. Sadikin (2016) also examined the impact of using WebQuest application to promote Bandung primary students' mastery of English Language vocabulary and found that WebQuest proved valuable in students' vocabularies mastery since their performances were statistically significant with WebQuest application than before the application. Seitkazya, Toleubekovaa, Amanovaa, Tashetova, Iskakova and Demissenovac (2016) examined the efficacy of adopting WebQuest for instruction in Kazakhstani secondary school. Their results revealed that the instructional objectives' achievement was supported partially by WebQuest. However, the students professed that WebQuest enhanced their interaction, group works, problem-based learning, and knowledge acquisition; the teachers perceived WebQuest as an efficient tool for creating an engaging environment for learning, enhancing students' motivation, creativity, and higher-order thinking skills.

Alshammari (2015) examined WebQuest effectiveness on Computer Science instruction among Saudi Arabian college students and found that the WebQuest approach resulted in students' increased performance, unlike the traditional method, although with no statistical difference. Mohamed and Abd-El-Rheem (2010) investigated Minna University to ascertain how WebQuest application impacts physical education student-teachers' teaching performances and found that student-teachers taught teaching skills through WebQuest out-performed those taught through the lecture method. Strickland and Nazzal (2005) compared WebQuest with traditional teaching strategy and found that students who received instruction via the conventional instructional methods performed better than those with WebQuest instruction. Milson (2002) investigated how sixth-grade students are involved in WebQuest s activities during Social Studies instruction and observed that they found it difficult to appreciate the importance of internet resources since they had a preference using print-based sources for information gathering over web sources. Milson's

finding could be that internet access was still at its early stage at that research period.

WebQuest is not a new term in education since it has been there for over 26 years after its introduction in 1995 by Bernie Dodge and Tom March. Also, Strickland and Nazzal (2005) noted that the homepage of WebQuest created in 1998 received more than 5.4 million visitors as of 2004. Most empirical works on WebQuest focused on its perception among students, effect on instruction, and academic achievements; however, none has investigated the level of University of Port Harcourt Lecturers' awareness, utilization of WebQuest, and their perceptions and challenges adapting it for teaching purposes. This gap instigated the present study because as the Internet is now an indispensable part of today's society and workforce, ensuring that learners effectively utilize online resources for meaningful knowledge acquisition and construction becomes mandatory for every teacher. There is a need to ascertain if University of Port Harcourt Lecturers are aware of this internet-based instructional approach (WebQuest) and integrate it into their classroom practices, especially at this Covid-19 period, when the World Health Organization (WHO) advocates for the adoption of the online learning mode in the educational sector to caution the spread and effect of the dreaded disease.

Based on the stages of teachers' ICT integration into pedagogy as depicted in figure 2, awareness of Information and Communication Technology (ICT) is the fundamental step that brings about teachers' ICT application before full integration and total transformation of instructional practices with ICT.

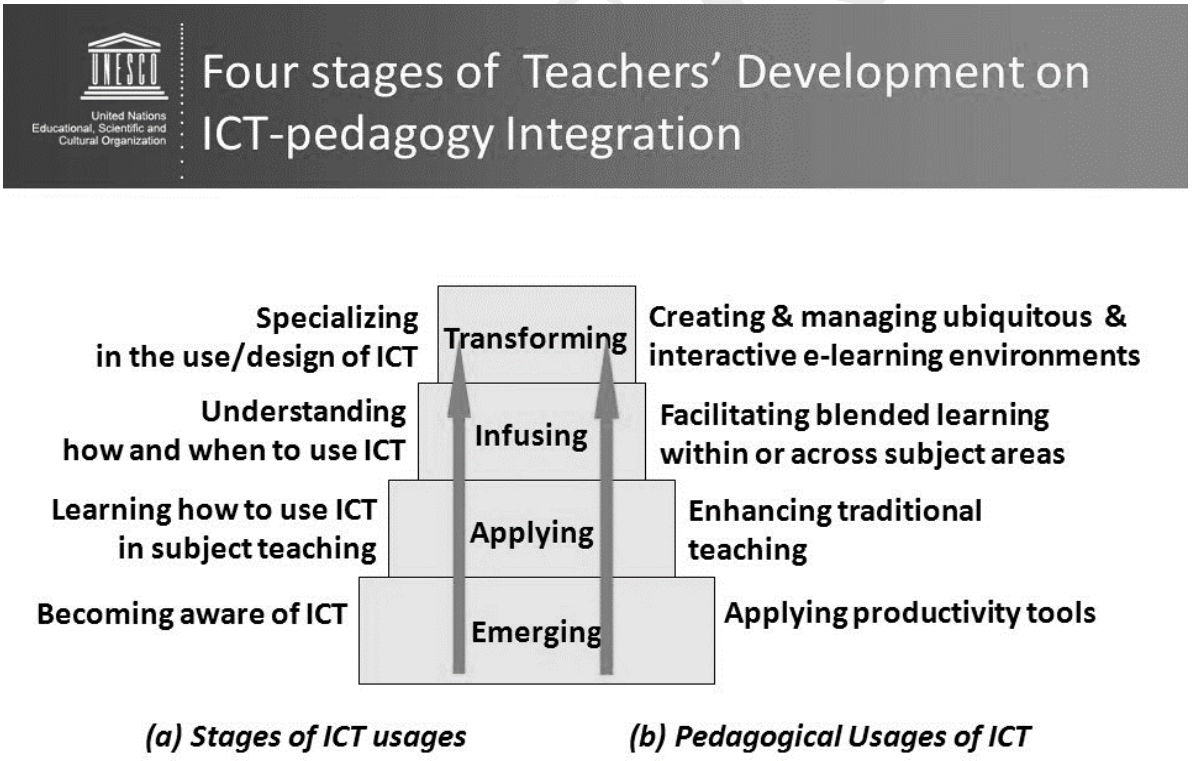


Figure 2: Four stages of teachers' development on ICT-pedagogy integration.
Source: (UNESCO, 2014)

Research Questions

1. What is the Lectures' awareness level on WebQuest affordances for teaching at the University of Port Harcourt?
2. To what extent do Lecturers use WebQuest for teaching at the University of Port Harcourt?
3. What are the Lecturers' perceptions toward using WebQuest for teaching at the University of Port Harcourt?
4. What challenges hinder Lecturers' WebQuest utilization for instructional purposes at the University of Port Harcourt?

Hypotheses (tested at 0.05 significant level)

1. Lecturers' awareness level on WebQuest affordances for teaching in the University of Port Harcourt did not vary significantly based on faculty.
2. Lecturers' awareness level on WebQuest affordances for teaching in the University of Port Harcourt did not vary significantly based on rank.
3. Lecturers' awareness level on WebQuest affordances for teaching in the University of Port Harcourt did not vary significantly based on gender.
4. The extent Lecturers use WebQuest for teaching at the University of Port Harcourt did not vary significantly based on faculty.
5. The extent to which Lecturers use WebQuest for teaching at the University of Port Harcourt did not vary significantly based on rank.
6. The extent to which Lecturers use WebQuest for teaching at the University of Port Harcourt did not vary significantly based on gender.

Research Method

The study used a descriptive survey design to describe Lecturers' levels of awareness and utilization of WebQuest, perception, and challenges of using WebQuest for teaching. The population comprised 1228 Lecturers from the Faculties of Agriculture, Education, Engineering, Humanities, Management, Sciences, and Social Sciences at the University of Port Harcourt during the 2020/2021 academic session. The researchers selected 390 Lecturers for the study using simple random sampling techniques. The study's instrument was the researchers' developed questionnaire called WebQuest and Lecturers' Survey (WQLS). WQLS had five sessions. Session 1 identified the Lecturers' demographic data such as faculty, rank, and gender. Sections 2, 3, 4, and 5 answered the research questions 1, 2, 3, and 4, respectively. Section 2 and 3 had four-rating scales of Much Aware (MA), Aware (A), Less Aware (LA) and Not Aware (NA), and Very High Extent (VHE), High Extent (HE), Low Extent (LE) and Very Low Extent (VLE), respectively, while sections 4 and 5 had a four-rating scale of Strongly Agreed (SA), Agreed (A), Disagreed (D) and Strongly Disagreed (SD). The scale weighted 4 for MA, VHE, and SA, 3 for A and HE, 2 for LA, LE, and D, and 1 for NA, VLE, and SD, respectively. The scale weightings mid-point, 2.50, served as the criterion value for the item statements' acceptance and rejection. Experts in the Departments Curriculum Studies and Educational Technology, and Measurement and Evaluation at the University of Port Harcourt established the instrument's face and content validity. The instrument reliability coefficient value was 0.92, obtained using the split-half method and Pearson Product-moment Correlation. The researchers administered the Google form version of the instrument via the Telegram platform of the Academic Staff Union of the Universities (ASUU), University of Port Harcourt branch, and retrieved the Lecturers' responses from Google sheet for analyses. Grand mean, standard deviation, Mann-Whitney U test, and Kruskal-Wallis test were the statistical tools used for data analyses. Mann-Whitney U test and Kruskal-Wallis test are the non-parametric alternatives to t-test and one-way Analysis of Variance (ANOVA) since the data failed to meet the normality test assumption based

on Shapiro-Wilk normality testing (see Appendices).

Presentation of Results

Research Question 1: What is the Lecturers' awareness level on WebQuest affordances for teaching at the University of Port Harcourt?

Table 1: Mean Analysis of Lecturers' awareness level on WebQuest affordances for teaching

Items	MA	A	LA	NA	n	Mean	Std. Dev	Decision
1. I am aware of the importance of WebQuest for teaching	110	85	100	95	390	2.54	1.14	Aware
2. I am aware that WebQuest provides hyperlinks to Internet materials to ease learners' information search.	105	85	105	95	390	2.51	1.13	Aware
3. I am aware that Web Quest organizes relevant online resources for learners.	75	95	120	100	390	2.37	1.07	Not Aware
4. I am aware that Web Quest integrates many teaching methods such as inquiry/discovery, problem-solving, discussion, and collaborative strategies.	70	100	90	130	390	2.28	1.11	Not Aware
5. I am aware that Web Quest is a learner-centered approach to teaching.	70	115	80	125	390	2.33	1.11	Not Aware
6. I am aware of online templates for creating Web Quest lessons	55	55	125	155	390	2.03	1.05	Not Aware
7. I am aware that I can create WebQuests lessons with the Microsoft word programme.	35	90	95	170	390	1.97	1.01	Not Aware
Grand mean						**2.29**		**Low awareness Level**

Table 1 indicates the University of Port Harcourt Lecturers' awareness of items 1 and 2, whose mean values are above the 2.50 criterion mean, and unawareness to items 3, 4, 5, 6, and 7, whose mean values are lower than the 2.50 criterion mean value. Generally, the grand mean, 2.29, shows that the University of Port Harcourt lecturers had a low

awareness level on the WebQuest affordances for teaching.

Research Question 2: To what extent do Lecturers use WebQuest for teaching at the University of Port Harcourt?

Table 2: Lecturers' utilization of WebQuest for teaching in University of Port Harcourt

Items	VHE	HE	LE	VLE	n	Mean	Std. Dev.	Decision
1. I am familiar with using Web Quest for teaching	15	120	165	90	390	2.15	0.82	Disagreed
2. I have been teaching my students with Web Quest		40	180	170	390	1.67	0.66	Disagreed
3. I create learning tasks for my students with Web Quest online template	5	105	170	110	390	2.01	0.78	Disagreed
4. I create WebQuests lessons with the Microsoft word programme.	5	110	165	110	390	2.03	0.79	Disagreed
Grand mean						**1.97**		**Very Low Extent**

Table 2 shows that the University of Port Harcourt Lecturers disagreed with all the items statements relating to their WebQuest utilization for teaching since their mean values are below the 2.50 criterion mean. The grand mean value, 1.97, which is below the 2.50 criterion mean, signified that the University of Port Harcourt Lecturers use WebQuest for teaching to a low extent.

Research Question 3: What are the Lecturers' perceptions toward using WebQuest for teaching at the University of Port Harcourt?

Table 3: Lecturers' Perception on WebQuest Utilization for teaching in University of Port Harcourt

Items	SA	A	D	SD	n	Mean	Std. Dev.	Decision
1. Using Web Quest for teaching can improve students' time management skills	35	300	30	25	390	2.88	0.64	Agreed
2. Using Web Quest for teaching can facilitate students' knowledge construction	40	290	30	30	390	2.87	0.69	Agreed
3. Using Web Quest for teaching can focus learners' attention on a learning task	50	270	40	30	390	2.87	0.72	Agreed
4. Using Web Quest for teaching can promote students' problem-solving skills	50	265	45	30	390	2.86	0.73	Agreed
5. Web Quest can support students' learning in this Covid-19 period	105	235	25	25	390	3.08	0.77	Agreed
6. I am interested in using Web Quest for teaching	185	155	25	25	390	3.28	0.85	Agreed

Grand mean	2.97

Table 3 discloses that the University of Port Harcourt Lecturers agreed to all the item statements relating to their perception towards using web quest for teaching since they have higher mean values than the 2.50 criterion mean. The grand mean, 2.97, is higher than the 2.50 criterion mean; this indicates that the University of Port Harcourt Lecturers had positive perceptions toward using WebQuest for teaching.

Research Question 4: What challenges hinder Lecturers' WebQuest utilization for instructional purposes?

Table 4: Challenges that hinder Lecturers' WebQuest utilization for instructional purposes

Items	SA	A	D	SD	n	Mean	Std. Dev.	Decision
1. I have not heard of Web Quest	150	180	45	15	390	3.19	0.79	Agreed
2. I have difficulties creating Web Quest lessons	85	210	65	30	390	2.90	0.83	Agreed
3. There are no Internet facilities in my institution to facilitate teaching with Web Quest	120	175	60	35	390	2.97	0.91	Agreed
4. No workshop on how to teach with WebQuest in my institution	150	180	45	15	390	3.19	0.79	Agreed
5. Teaching with Web Quest is time consuming	15	120	205	50	390	2.26	0.73	Disagreed
Grand mean						2.90		

Table 4 shows that the University of Port Harcourt Lecturers agreed to the items 1, 2, 3, and 4 with 3.19, 2.90, 2.97, and 3.19 mean values, respectively, which are greater than the 2.50 criterion mean value but disagreed with item 5 with a lower mean value than the 2.50 criterion mean. The grand mean, 2.90, indicates that the University of Port Harcourt Lecturers had challenges that prevented their web quest utilization for teaching.

Hypothesis 1: Lecturers' awareness level on WebQuest affordances for teaching at the University of Port Harcourt did not vary significantly based on faculty.

Table 5: Kruskal-Wallis test on Lecturers' WebQuest awareness level based on faculty

Faculty	n	Mean Rank	Chi-Square	df	Asymp. Sig.	Decision
Agriculture	75	174.33				
Education	75	251.83				
Engineering	10	216.75				
Humanities	45	207.72	27.74	6	0.00	Rejected
Management	15	168.83				
Sciences	155	178.89				
Social Sciences	15	167.17				
Total	390					

Table 5 indicates that the Asymp. Sig. 0.00 is below the 0.05 significant level at a degree of freedom (df) of 6. The hypothesis that Lecturers' awareness level on WebQuest affordances for teaching in the University of Port Harcourt did not vary significantly based on faculty; is rejected. The result implies that Lecturers' awareness level on WebQuest affordances for teaching in the University of Port Harcourt varies on faculty basis significantly, with Faculty of Education Lecturers having the highest mean rank of 251.83, followed by Faculty of Engineering Lecturers, while Faculty of Social Sciences Lecturers had the lowest mean rank value of 167.17

Hypothesis 2: Lecturers' awareness level on WebQuest affordances for teaching at the University of Port Harcourt did not vary significantly based on rank.

Table 6: Kruskal-Wallis test on Lecturers' WebQuest awareness level based on rank

Rank	n	Mean Rank	Chi-Square	df	Asymp. Sig.	Decision
Professor	55	211.86				
Reader	50	231.50				
Senior Lecturer	150	197.25	15.87	4	0.003	Rejected
Lecturer 1	90	159.39				
Lecturer 2	45	201.89				
Total	390					

Table 6 reveals that the Asymp. Sig. 0.003 is less than the 0.05 significant level at a degree of freedom of 4. The hypothesis that Lecturers' awareness level on WebQuest affordances for teaching in the University of Port Harcourt did not vary significantly based on rank; is rejected. Thus, Lecturers' awareness level on WebQuest affordances for teaching in the University of Port Harcourt varies on a rank basis significantly, with Lecturers on reader rank having the highest mean rank of 231.50 and Lecturers on Lecturer 1 rank having a lowest mean rank value of 159.39.

Hypothesis 3: Lecturers' awareness level on WebQuest affordances for teaching at the University of Port Harcourt did not vary significantly based on gender.

Table 7: Mann-Whitney Test on Lecturers' WebQuest awareness level based on gender

Gender	n	Mean Rank	Sum of Ranks	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)	Decision
Male	155	189.05	29302.50	17212.50	29302.50	-0.92		
Female	235	199.76	46942.50				**0.36**	**Retained**
Total	390							

Table 7 reveals that the Asymp. Sig. (2-tailed) 0.36 is above the 0.05 significant level. Thus, the hypothesis that Lecturers' awareness level on WebQuest affordances for teaching at the University of Port Harcourt did not vary significantly based on gender; is retained.

Hypothesis 4: The extent to which Lecturers use WebQuest for teaching at the University of Port Harcourt did not vary significantly based on faculty.

Table 8: Kruskal-Wallis test on Lecturers' WebQuest utilization based on faculty

Faculty	n	Mean Rank	Chi-Square	df	Asymp. Sig.	Decision
Agriculture	75	183.83				
Education	75	242.83				
Engineering	10	266.75				
Humanities	45	182.44	26.895	6	**0.00**	**Rejected**
Management	15	145.50				
Sciences	155	187.84				
Social Sciences	15	138.00				
Total	390					

Table 8 discloses that the Asymp. Sig. 0.00 is below the 0.05 significant level at a degree of freedom of 6 and a 26.895 Chi-Square value. The hypothesis that the extent to which Lecturers use WebQuest for teaching in the University of Port Harcourt did not vary significantly based on faculty; is rejected. Thus, Lecturers' WebQuest for teaching at the University of Port Harcourt varies on a faculty basis significantly, with Lecturers in the Faculty of Engineering having the highest mean rank of 266.75 and Lecturers in the Faculty of Social Sciences having the lowest mean rank value of 138.00.

Hypothesis 5: The extent to which Lecturers use WebQuest for teaching at the University of Port Harcourt did not vary significantly based on rank.

Table 9: Kruskal-Wallis test on Lecturers' WebQuest utilization based on rank

	Rank	n	Mean Rank	Chi-Square	df	Asymp. Sig.	Decision
Utilization	Professor	55	208.91	11.214	4	0.024	**Rejected**
	Reader	50	226.50				
	Senior Lecturer	150	200.50				
	Lecturer 1	90	167.31				
	Lecturer 2	45	184.39				
	Total	390					

Table 9 unveils that the Asymp. Sig. 0.024 is less than the 0.05 significant level at df value of 4 and 11.214 Chi-Square value, which results in the rejection of the hypothesis that the extent Lecturers use WebQuest for teaching at the University of Port Harcourt did not vary significantly based on rank. Thus, the extent to which Lecturers use WebQuest for teaching at the University of Port Harcourt varies significantly based on

rank. Lecturers who are Reader had the highest mean rank of 226.50, while Lecturers in Lecturer 1 rank had the lowest mean rank of 167.31.

Hypothesis 6: The extent to which Lecturers use WebQuest for teaching at the University of Port Harcourt did not vary significantly based on gender.

Table 10: Mann-Whitney test on Lecturers' WebQuest utilization based on gender

	Gender	n	Mean Rank	Sum of Ranks	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)	Decision
	Male	155	192.03	29765.00	17675.00	29765.00	-0.50		
Utilization	Female	235	197.79	46480.00				0.62	Retained
	Total	390							

Table 10 shows that the 0.62 Asymp. Sig. (2-tailed) value is greater than the 0.05 significant level, leading to the retention of the hypothesis that gender did not affect the extent to which Lecturers use WebQuest for teaching at the University of Port Harcourt.

Discussion of Findings

Table 1, 5, 6, and 7 indicated that the University of Port Harcourt Lecturers' awareness level on the WebQuest affordances for teaching was low, and this varies significantly based on faculty and rank but was insignificant based on gender. Faculties of Education and Social Sciences Lecturers and Lecturers on reader and Lecturer 1 position; showed the highest and the lowest WebQuest affordances awareness level, respectively. These results imply that there is still a publicity gap in WebQuest usefulness among University of Port Harcourt Lecturers since many Lecturers in some faculties and ranks, irrespective of their gender, are not fully aware of WebQuest affordances for teaching.

Tables 2, 8, 9, and 10 showed that the extent of WebQuest utilization for teaching among University of Port Harcourt Lecturers is low, and this varies based on the Lecturers' faculty and rank but was insignificant based on gender. Faculty of Engineering Lecturers and Lecturers on reader rank was the highest, while Faculty of Social Sciences Lecturers and Lecturers on Lecturer 1 ranks were the lowest users of WebQuest for teaching in the University of Port Harcourt. These results indicate that Lecturers' WebQuest affordances awareness level affects their extent of WebQuest utilization for teaching at the University of Port Harcourt since Lecturers with the lowest awareness level rarely utilized the WebQuest application.

Table 3 disclosed that the University of Port Harcourt Lecturers had positive perceptions toward using WebQuest for teaching: This result signifies that the University of Port Harcourt Lecturers understand the role technology plays in this 21st-century education and perceived that WebQuest being an internet application, can also facilitate and improve the teaching and learning process. This finding agrees with Amadi and Paul (2017), Sadikin (2016), Seitkazya et al. (2016), Alshammari (2015), Mohamed and Abd-El-Rheem (2010), whose findings unveil the WebQuest's positive impact on students' learning over the conventional teaching methods, but disagrees with Strickland and Nazzal (2005) and Milson (2002) findings.

Table 4 showed that many challenges prevented University of Port Harcourt Lecturers from using web quest for teaching. These challenges were that most Lecturers have not heard

of WebQuest, while some have difficulties creating WebQuest lessons, the institution lacks Internet facilities to facilitate the teaching with WebQuest nor had organized a workshop on how to teach with WebQuest. This result signifies that proper awareness of WebQuest affordances and utilization for teaching purposes is lacking among University of Port Harcourt Lecturers.

Conclusion

The need to provide and organize suitable hyperlinks to Internet resources via WebQuest learning platform to bridge net surfing time and facilitate students' learning in higher institutions cannot be over-stressed. This study has established the University of Port Harcourt Lecturers' WebQuest awareness and utilization levels, perception, and challenges. The findings have proven that there is low WebQuest affordances awareness and utilization for teaching among the Lecturers, which varies significantly among Lecturers in different faculties and ranks and not based on gender. These Lecturers had a positive perception of employing WebQuest for instructional purposes but had challenges, which hinged on lack of proper awareness and internet facilities in the University of Port Harcourt.

A WebQuest application could be a veritable pedagogical tool for most higher institutions during this covid-19 period if educators are aware and adequately educated on its affordances and utilization.

Recommendations

The study thus recommends the following solutions to facilitate WebQuest utilization for instructional purposes in Nigerian Universities.

1. There should be more awareness creation and Lecturers' exposure on WebQuest affordances and utilization for teaching and learning purposes through training, workshops, and seminars.
2. There should be adequate and free Internet access and facilities, especially power supply, around the university environment to facilitate teaching and learning with digital tools and reduce data cost on Lecturers and students.
3. University Lecturers should be encouraged to conduct regular research on and use digital tools for teaching purposes through financial enumerations and sponsorship.
4. There should be further research on WebQuest awareness and application for teaching among other Nigerian universities Lecturers.

References

Alshammari, A. R. (2015). Effectiveness of using WebQuest to teach computer science to middle school students in Saudi Arabia. *https://dspace.sunyconnect.suny.edu/bitstream/handle/1951/66596/Alshammari_Adel_MastersThesis_Fall2015.pdf?sequence=1&isAllowed=y*

Amadi, G. & Paul, A. K. (2017). Perception of the use of WebQuest for academic purposes among undergraduate students in Rivers State, Nigeria. *International Journal of Education, Learning and Development, European Centre for Research Training and Development UK*, 5 (5), 1-11. https://www.eajournals.org/wp-content/uploads/Perception-of-the-Use-of-Webquest-for-Academic-Purposes-among-Undergraduate-Students-in-Rivers-State-Nigeria.pdf

Dodge, B. (1995). Some thoughts about WebQuests. *http://edweb.sdsu.edu/courses/edtec596/about_WebQuests.html*

Educational Broadcasting Corporation. (2004). What are the essential parts of a WebQuest? Concept to classroom Workshop: WebQuests. *https://www.thirteen.org/edonline/concept2class/webquests/index_sub3.html*

Internet Live Stats. (2018). Google search statistics. *http://www.internetlivestats.com/google-search-statitics/*

March, T. (2018). What WebQuests are (really)? *https://tommarch.com/writings/what-webquests-are/*

Milson, A. J. (2002). The internet and inquiry learning: integrating medium and method in a sixth grade social studies classroom. *Journal of Theory and Research in Social Education,* 30 (3), 330-353. https://doi.org/10.1080/00933104.2002.10473200

Mohamed, H. A. M. & Abd-El-Rheem, R. N. A. (2010). The Web Quest: Its impact on developing teaching skills of Physical Education student teachers. *https://files.eric.ed.gov/fulltext/EJ903497.pdf*

Ngeow, K. & Kong, Y. (2001). Learning to learn: Preparing teachers and students for problem-based learning. ERIC Digest. [ED 457524]. *https://eric.ed.gov/?id=ED457524*

Sadikin, I. S. (2016). The use of WebQuest for teaching English vocabulary in an EFL young learners' context. *PROSIDING ICTTE FKIP UNS 2015,* 1, (1). *https://media.neliti.com/media/publications/171853-EN-the-use-of-webquesst-for-teaching-english.pdf*

Seitkazya, P. B., Toleubekovaa, R. K., Amanovaa, A. K., Tashetova, A. A., Iskakova, G. & Demissenovac, S. S. (2016). A WebQuest as a teaching and learning tool. *IEJME — Mathematics Education,* 11 (10), 3537-3549. https://www.iejme.com/article/a-web-quest-as-a-teaching-and-learning-tool

Statista.com. (2018). Global internet user penetration. *https://www.statista.com/statistics/325706/global-internet-user-penetration/*

Strickland, J. & Nazzal, A. (2005). Using WebQuests to teach content: Comparing instructional strategies. *Contemporary Issues in Technology and Teacher Education [Online serial],* 5 (2). https://citejournal.org/volume-5/issue-2-05/social-studies/using-webquests-to-teach-content-comparing-instructional-strategies

United Nations Educational, Scientific and Cultural Organization (UNESCO). (2014). Four stages of teachers' development on ICT-pedagogy integration. In UNESCO's Toolkit and Programmes for ICT in Education Policy Development. *http://www.unesco.org/education/ICT-Workshop2014-day2/policy-development.pdf*

Acknowledgement

The researchers acknowledge the ASUU Chairman, Dr. U. D. Chima for facilitating Lecturers' responses to the research instrument in the ASUU Telegram platform.

Appendix

Tests of Normality on Lecturers' Web Quest Awareness based on Faculty, Gender and Rank

		Kolmogorov-Smirnova			Shapiro-Wilk		
		Statistic	**df**	**Sig.**	**Statistic**	**df**	**Sig.**
	Faculty						
	Agriculture	.201	75	.000	.873	75	.000
	Education	.124	75	.006	.939	75	.001
	Engineering	.329	10	.003	.655	10	.000
	Humanities	.225	45	.000	.833	45	.000
	Management	.362	15	.000	.692	15	.000
Awareness	Sciences	.139	155	.000	.899	155	.000
	Social Sciences	.280	15	.002	.769	15	.001
	Gender						
	Male	.170	155	.000	.881	155	.000
	Female	.120	235	.000	.925	235	.000
	Rank						
	Professor	.123	55	.038	.951	55	.025
	Reader	.173	50	.001	.914	50	.001
	Senior Lecturer	.170	150	.000	.878	150	.000
	Lecturer 1	.158	90	.000	.865	90	.000
	Lecturer 2	.196	45	.000	.858	45	.000

a. Lilliefors Significance Correction

Tests of Normality on Lecturers' Web Quest Utilization based on Faculty, Gender and Rank

		Kolmogorov-Smirnova			Shapiro-Wilk		
		Statistic	**df**	**Sig.**	**Statistic**	**df**	**Sig.**
	Faculty						
	Agriculture	.158	75	.000	.870	75	.000
	Education	.145	75	.001	.931	75	.001
	Engineering	.329	10	.003	.655	10	.000
	Humanities	.190	45	.000	.912	45	.002
	Management	.229	15	.033	.794	15	.003
Utilization	Sciences	.141	155	.000	.921	155	.000
	Social Sciences	.419	15	.000	.603	15	.000
	Gender						
	Male	.128	155	.000	.921	155	.000
	Female	.133	235	.000	.921	235	.000
	Rank						
	Professor	.137	55	.012	.912	55	.001
	Reader	.127	50	.042	.907	50	.001
	Senior Lecturer	.149	150	.000	.902	150	.000
	Lecturer 1	.204	90	.000	.840	90	.000
	Lecturer 2	.219	45	.000	.848	45	.000

a. Lilliefors Significance Correction