AJEMATES
African Journal of Educational Management, Teaching and Entrepreneurship Studies
VOL.2, January-April, 2021 https://ajemates.org
ACADEMICJOURNALS
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INVESTIGATION OF PRE-SERVICE TEACHERS' ATTITUDES TOWARDS USING WEB-QUEST INSTRUCTION FOR LEARNING GEOGRAPHY IN COLLEGES OF EDUCATION IN KATSINA STATE

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Abstract
This study investigated the pre-service teachers' attitudes towards web-quest instruction in Colleges of Education, Katsina state. A Survey research design was adopted to conduct the study. Three research questions and two hypotheses were drawn to guide the study. The study comprises of all the pre-service teachers in the Colleges of Education in Katsina State. The population of the pre- teachers in Kastina State was 6,840. The population was first clustered and stratified random sampling techniques was used to drawn a sample size of 364 for the study. A modified questionnaire called pre-service teachers' attitude towards web-quest instruction for learning geography concept was used for data collection. Data collected was analyzed using descriptive statistics (frequency, percentage, mean and standard deviation). Mann-Whitney Independent test was used to test the hypotheses. Findings of the study showed that the pre-service teachers' attitude toward web-quest instruction in

colleges of education Katsina State was not encouraging. It was recommended to frequently expose the pre-service teachers to a mandatory innovative (web-quest) training to enable them utilizes the skills and knowledge in their future career as teachers.

Keywords: ICT, Web-quest, Attitude, Pre-service teachers

Introduction

Information and Communication Technologies (ICTs) has turned to key tools and a revolutionary impact on how people see and live universally. The place of ICTs in education and the world, in general, cannot be ignored. Modern day businesses are conducted and facilitated with the use of telephones, fax machines, and computer communication networks through the internet. This phenomenon has given birth to the contemporary e-commerce, e-government, e-medicine, e-banking, ande-education among others. With the numerous advantages in the use of innovative technologies to improve teaching and learning, Colleges of Education in Katsina State have adopted ICT in the teaching the pre-service student teachers. According to Basri, Alandejani, &Almadani (2018), the government and many education stakeholders like the tertiary institutions and researchers have spent millions of dollars to adopt ICT in the educational institutions within the past decades.

ICT adoption here means the gradual automation switching over of holistic education process like classroom teaching, web-Quest instruction utilization, online learning, and administrative activities into digitalized pedagogical manner. There is urgent need to investigate the attitude of these pre-service students' teachers towards the use of web-Quest instruction which is one of the technological innovative tools in ICT since Colleges of Education in Katsina have adopted ICT in their various schools. Moreover, Innovative tools have been characterized as one of the information communication and technologies tools which is identified as educational catalyst (Ratheeswari, 2018). Educational catalyst in the sense

that is has become the bedrock of education.

Ratheeswari (2018) defined ICT as the connection of internet and computer to transfer information and data for the purpose of learning. Also, Bandele (2006) reinforced that ICT is a revolution that involves the use of computers, internet, and other telecommunication technology in every aspect of human endeavor. Bandele (2006) posited that ICT is simply about sharing and having access to data information with ease. It is regarded as the super highway through which information is transmitted and shared globally by people. ICT comprises of many tools like online learning tools, blended tools, web-Quests, zoom/virtual, social media and others that are used in various ways to assist teachers' easy teaching and students' swift learning/understanding.

A web-Quest tool is defined as a project-based and learner-centered approach towards teaching and learning, which is dependent on different types theories like social constructivism, constructive philosophy, resourceful and critical thinking supportive learning s well as promising learning ((Seitkazy et al. 2016). Learners create their own knowledge and reality perceiving outfit through web-quest process. Students' web-Quest assignments require students to use their garnered knowledge or skills and understanding to handle a new setup so as to gain a new knowledge or skills. Therefore, web-Quest tool is built on student centered learning.

Web-Quests have become an effective method of incorporating technology with educational concepts. Seitkazy, Toleubekova, Amanova, Tashetov, Iskakova&Demissenova (2016) acknowledged that web-Quest tool is one of the successful innovative tools that assist teaching and learning which also helps teachers and students to achieve the estimated goals and objectives. According to the authors, web-Quest tool mainly help to build self-education, self-employment and self-development in both teachers and students. Web-Quest tool acts as a supporter; it is easily approachable software that is used in the learning environments, intellectual skills development of learners and inquiry-based learning (Seitkazy et al., 2016). Dodge stated that his intention for creating a Web-Quest, sparked from an

interest in allowing his students to further connect with his class lesson, (Starr, 2000). Using Dodge's knowledge of educational technology, the author was able to gather information and resources online to support the lesson plans. Dodge's creation of a student-centered activity had the ability to integrate online resources with activity-based learning (Dodge, 1995). The development of higher-order thinking skills with content-based learning in the Web-Quest format may prove to be successful, but further research is needed in this area. According to March (2000), one of the co-developers states that Web-Quests "allow students to construct meaningfully on a complex topic, preferably in a way that motivates working together and testing ideas in a real-world context" (2000, p.55). March has been another major proponent of Web-Quests in education and has contributed to the understanding of their use. His research addresses basic uses of Web-Quests in scaffolding, prompting, and procedural facilitation with various content areas.

Web-Quests continue to be a successful method of allowing a student to connect with material through online resources. The primary concern as an instructor is to set up a problem or task for the student to accomplish. Setting up a task also requires adequate prompting to ensure that the student investigates the correct online references. Currently, much of the research published on Web-Quests described methods of implementing this tool into classroom instruction. Though many instructors have developed most Web-Quests, but research have revealed that the student-developed Web-Quests are also being implemented in classes (Peterson, 2003). Student-centered approach instruction relies on the technological ability of the students and the instructor in order to create an effective outcome. Web-Quest method of teaching is still at the infancy level as regards its implementation in teaching and learning in Nigeria.

The application of Web-Quest in education to pre-service and in-service teachers will yield similar result to King's study with software known as Mutebi. Future analysis of Web-Quest effectiveness may include additional evaluations of the product with the student's ability to integrate the activity into a classroom setting. An assessment of the Web-Quest produced by pre-

service teachers combined with additional evaluation with the course implementation may yield the most statistically significant results.

Attitude has various meanings by experts with many languages which depend on its values and area of utilization. BahiBahidin, Tanduklangi& Rahim (2018) defined attitude as objects or some referent evaluative reactions of individual's opinion or belief around the referent. It is believed that attitude of a learner is mostly guided by certain level of motivation.

Bahidin*et al.* (2018) concluded in their study that students that utilized Web-Quest in reading English comprehension performed excellently well comparing to their counterparts. According to Bahidin et al (2018), there is always improvement in the academic performance of students who involve Web-Quest in learning some subjects if not all. Again, Students' attitudes toward Web-Quest influence the future use of computers in instruction (Sanders and Morrison-Shetler, 2001). This issue encourages many researchers to assess students' overall attitude toward Web-Quest instruction. Variables such as gender, age, and prior computer experience were found to influence student's attitude toward Web-Quest instruction (Hill, 2000; Price and Winiecki, 1995; Smith and Necessary, 1996; Moon, 1994). Eyadat&Ababneh (2015) supported that Web-Quest instruction is very necessary to students for enhanced achievements and inspiration when compared to students who are using conventional instruction. Attitudes of students toward web-quest instruction have influence over the future use of web-launched instructional materials; determining the extent to which web-based resources are educationally beneficial to students in the classroom learning environment (Sanders & Morrison-Shetler, 2001). Some studies like (Bangert, 2004; Foster, 2003; Hill, 2000), concluded that one important indicator of future web use is providing useful information appropriate to the course being thought. Moreover, a positive correlation was found between instructors of web-quest training materials and students' participation in the use of web-based recourses, consequently influencing student learning through the web.

Statement of the Problem

It is evident that many pre-service teachers in Colleges of Education in Nigeria still rely much on the traditional lecture method of teaching, neglecting the intrinsic value of the use of ICT. There are available ICT facilities in the Colleges of Education in Katsina State for teaching and learning. Yet there seemed to be low level of enlightenment among pre-service teachers on access and utilization of the emerging trends of ICT for the better Educational enterprise. A large number of pre-service teachers rarely access and utilize the tremendous intrinsic value of ICT in discharging their responsibilities as teachers. This is as a result of limited computers and internet connectivity which is not enough for the teachers' usage during classes. And more also some teachers are computer illiterate which become a hindrance for the utilization of the few available IT facilities. In that sense, the traditional lecture method persistently dominates most of the teaching and learning activities. This leads to pre-service teachers being left behind from the emerging trends of ICT. It is imperative that the in-service teachers and the pre-service teachers are to a large extent, deprived of exploiting the potentials offered by ICTs in teaching-learning process for better achievement of the educational goals since the in-service teachers were not competent in using ICT facilities due to the reason that they were not trained with it during their trainings.

With the above reasons, some in-service teachers may reluctantly shy away from using ICT which is Web-Quest tool in teaching since they are deficient in the skills which in order word are affecting the pre-service teachers' attitude as regards ICT (Web-Quest tool) utilization in learning. Due to the fact that many pre-service student teachers are not well exposed to Web-Quest technologies for learning, there is an urgent need to investigate the pre-service teacher students' attitudes towards using Web-Quest instruction for learning geography in Colleges of Education in Katsina State.

Research Questions

The following research questions were raised to guide the study:

i. What are the attitudes of pre-serving student teachers towards using Web-Quest instruction in learning

geography concept in the Colleges of Education in Katsina State?

ii. What is the difference between male and female pre-service teachers' attitude towards web-quest instruction for learning geography concepts in the Colleges of Education in Katsina State?

iii. Is there influence of age on pre-service teachers' attitude towards the use of web-quest instruction for learning geography concepts in the Colleges of Education in Katsina State?

Null Hypotheses

The following null hypothesis was formulated and will be tested at 0.05 levels of significance:

i. There is no significant difference between male and female pre-service teachers' attitude towards the use of web-quest instruction for learning geography concept.

ii. There is no significant difference in the age of pre-service teachers' attitude towards the use of web-quest instruction for learning geography concept.

Research Method

This study investigates the attitude of pre-service teachers towards using Web-Quest instruction for learning concept in the Colleges of Education in Katsina State. It is a descriptive survey research design. The target population of the pre-service student teachers of all Colleges of Education Katsina State was 6,840 students. The sample size estimation was based on the recommendation by (Krejcie and Morgan 1970) table of sample size; clustered stratified random sampling was used to select the samples of 364 pre-service student teachers. Therefore, every pre-service teacher was assumed to have an equal right and chance to be selected.

The research instrument used to collect data for the purpose of this study was constructed questionnaire termed "Students' Attitude towards Web-Quest instruction and a Web-Quest Application Packages designed by the researcher on geography concept. The face-to-face and content validity of the instruments were ascertained. Thirty-five copies of the questionnaires were pilot tested in UsufuBalaUsman College of Legal and Advanced Studies Daura, Katsina State to ascertain the reliability of the

instrument. The Cronbach's Alpha Reliability Coefficient was used to obtain the reliability coefficient of the instrument. The reliability co-efficient of 0.92 for section B and 0.88 for section C was obtained. The Questionnaires were distributed by the researcher with some trained assistants that also helped in the sharing, guidance and collection so as to have enough response. The data collected was analyzed using descriptive analysis of frequency, mean, percentages, and standard deviation. Mann-Whitney Independent test was used to test the hypotheses.

Result Discussion

Demographic Data of the Respondents

Table 1: Frequency and Percentage Distribution of the Respondents by Gender

Gender	Frequency	Percentage
Male	208	58.50
Female	150	41.50
Total	358	100%

The data in table1 shows that out of 358 respondents, 208 (58.50%) are male while 150 (41.50%) are female. This means that the male pre-service teachers form the majority of the respondents that took part in the study.

Table 2: Frequency and Percentage Distribution of the Respondents by Age

Respondents Age		Frequency	Percentage
Low	(16-20)	157	43.50%
Medium	(21-25)	191	53.50%
High	(26-above)	10	3.00%
Total		358	100%

The data in table 2 shows that out of 358 respondents, 157 (43.50%) are of lower age 191 (53.50%) are of medium age while 10 (3.00%) is the oldest in age. This means that the pre-service teachers with middle age form the majority of the respondents that took part in the study.

Research Question One: What are the attitudes of pre-service teachers towards the use of web quest instruction for learning geography concepts?

To answer the research question 1, respondents were asked to rate themselves on the items provided on the attitude towards the use of web-quest instruction for learning geography concept. Items 1– 20 of the research instruments were used to answer this question. The result is presented in table 3 as follows.

Table3: Pre-service teachers' attitude towards the use of web-quest instruction for learning geography concepts.

S/N	Rating Items	Mean	SD	Decision
1	The use of web-quest improves my learning	3.54	0.50	Agreed
2	Web-quest instruction ensures accuracy in lesson presentation.	3.38	0.67	Agreed
3	Web-quest ensures time management in learning Geography concept.	3.22	0.81	Agreed
4	Web-quest Instruction as a tool promotes instructional delivery.	2.30	0.78	Disagreed
5	I enjoy learning with web-quest	3.11	0.80	Agreed
6	Web-quest helps to use the computer more	3.25	0.83	Agreed

effectively than before.

7	I prefer web-quest for learning than conventional method	3.23	1.06	Agreed
8	Web-quest enables me to cover more concept within a short period	2.12	0.75	Disagreed
9	Web-quest enables me to learn at my own pace	3.33	0.79	Agreed
10	Web-quest enables me to navigate from one topic to another	3.35	0.81	Agreed
11	I think that introducing web-quest instruction in teaching and learning would be useful in my school	3.34	0.81	Agreed
12	Web-quest serves as promoter of conducive teaching and learning environment	3.37	0.75	Agreed
13	Web-quest software is supplied for instructional purposes in your institution	3.14	0.95	Agreed
14	Web-quest instruction is used for instructional purposes in your institution	3.15	0.96	Agreed
15	Using web-quest instruction makes it easier for me to remember what I learn in the classroom	2.10	0.86	Disagreed
16	Web-quest make courses more enjoyable	3.28	0.79	Agreed
17	Web-quest can be used with various instructional method and techniques	3.31	0.91	Agreed

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18	Effective utilization of web-quest encourages integrative learning that promotes thematic and reduces traditional classroom	3.04	1.00	Agreed
19	Because of using web-quest, I feel more prepared for instruction	3.30	0.83	Agreed
20	Effective utilization of web-quest facilitates discussions on the content in classroom presentation	3.11	0.96	Agreed
	Cumulative mean	**3.09**		

Decision mean= 2.5

Table 3 shows the pre-service teachers' attitude towards the use of web-quest instruction for learning geography concept. It was discovered that pre-service teachers are in agreement with the 17 items; only 3 were not in agreement based on the pre-service teachers' attitude toward the use of web-quest instruction. The cumulative mean of 3.09 in all the 20 items is higher than the decision mean of 2.50. Specifically, item1which state that "the use of web-quest instruction improves my learning" attracted the highest mean value of 3.54. While item 15 which state that "using web-quest instruction makes it easier for me to remember what I learn in the classroom" attracted the lowest mean value of 2.10.

Research Question Two: What is the difference between male and female pre-service teachers' attitude towards web-quest instruction for learning geography concepts in the Colleges of Education in Katsina State?

Table 4: Male and female pre-service teachers' attitude towards the use of web-quest for learning geography concepts

Gender	N	Mean	Std. Deviation
Male	208	3.23	0.376
Female	150	3.35	0.027

Table 4 shows the mean and standard deviation between male and female Pre-service teachers' attitude towards the use of web-quest instruction for learning geography concept. Female pre-service teachers had a greater mean value of 3.35 and a standard deviation of 0.027 compared to male pre-service teachers with 3.23 mean values and a standard deviation of 0.376.

Research Question Three: What is the influence of age on pre-service teachers' attitude towards the use of web-quest instruction for learning geography concepts in the Colleges of Education in Katsina State?

Table 5: Influence of age on pre-service teachers' attitude towards the use of web-quest for learning geography concepts

Age	N	Mean	Std. Deviation
Low (16-20)	157	3.27	0.385
Medium (21-25)	191	3.28	0.348
High (26-above)	10	3.30	0.296

The result from table 5 revealed the attitude of pre-service teachers mean and standard deviation between the three age groups (high, medium, and low) towards

the use of web-quest instruction for learning geography concept. Pre-service teachers within the 26 and above age bracket (High) recorded the highest mean value of 3.30 and standard deviation 0.296, followed by pre-service teachers within 21-25 (Medium) with 3.28 mean value and standard deviation of 0.348, thus slightly ahead pre-service teachers within 16-20 age bracket (Low) with mean value of 3.27 and a standard deviation of 0.385 being recorded with the lowest mean value.

Null Hypothesis One: there is no significance difference between male and female pre-service teachers' attitude towards the use of web-quest instruction for learning geography concept.

To test this hypothesis, Mann-Whitney test is used to test the difference between male and female pre-service attitude towards the use of web-quest instruction for learning geography concept to present the result in table 4.8 as follows:

Table 6: Mann-Whitney Test of male and female pre-service teachers' attitude towards the use of web-quest instruction for learning geography concept

Ranks

Test Variable	N	df	Mean Rank	Sum of Ranks	U(1)	p-value
Male	208	1	167.72	34719.00	1.319	0.015
Female	150		194.56	29184.00		
Total	358					

Table 6: The result of the Mann-Whitney test showed the male and female pre-service teachers' opinions on the attitude toward the use of web-quest instruction for learning geography concept in the college of education Katsina State. The result showed that significant difference exists between male and female pre-service teachers' attitude towards the use of web-quest instruction for learning geography concept. This is

because the p-value of 0.015 is lesser than 0.05 alpha value of significance. Therefore, the null hypothesis is thereby rejected.

Null Hypothesis Two: there is no significance difference in the pre-service teachers' attitude towards the use of web-quest instruction for learning geography concept based on the age difference.

To test this hypothesis, Kruskal-Wallis test was used to test the pre-service attitude towards the use of web-quest instruction for learning geography concept base on the age difference.

Table 7: Kruskal-Wallis test of the mean rating of pre-service teachers' attitude towards the use of web-quest instruction for learning geography concept base on age difference (low, medium and high)

Ranks

Test Variable	Age range	N	df	Mean Rank	X2(2)	P-value
Attitude of pre-Service teachers toward web-quest	Low	157	2	176.54	.244	0.885
	Medium	191		181.62		
	High	10		185.60		
	Total	**358**				

Table 7: Shows the result of the Kruskal-Wallis test with the mean rankings of three age groups of the respondents (low age, medium age, and high age) in their opinions on the attitude towards the use of web-quest instruction for learning geography concept base on the age difference. The result indicates that there is no significant difference in their mean rankings. This is because the p-value of 0.885 is greater than the 0.05 alpha

value of significance. Their mean ranking based on age difference is 176.54, 181.62, and 185.60 for the low, medium and high level of age respectively. This shows that irrespective of respondents' age their mean ratings on attitude base on age difference is not significantly different. Therefore, the null hypothesis which states that there is no significant difference in the pre-service teachers' attitude toward the use of web-quest instruction for learning geography concept base on age difference is hereby not rejected.

Conclusion

The findings of the study revealed that the pre-service teachers' attitude toward web-quest instruction in colleges of education Katsina State is low. This phenomenon definitely affects the quality of pre-service teachers from these institutions as regards using web tools during teaching. As a result, it is difficult to see teachers using web-quest in the classroom for the pre-service teachers; and since the pre-service teachers were not taught with web-tools it will be very difficult for them to apply it when they secured teaching job opportunities. In spite of the awareness of the place of web-quest application in instructional delivery, it is yet to record the same impression among in-service teachers and pre-service teachers in Colleges of Education Katsina State. This continues to draw backwards the utilization of the new innovations in the colleges of education and other schools especially lower schools where the pre-service will teach in future.

Recommendations

Based on the findings of this study, the researcher makes the following recommendations:

1. Pre-service teachers should be exposed to new technologies that can improve their attitude for learning geography concepts. This could be achieved if Government, National Commission for Colleges of Education (NCCE) and other Education stakeholders to respond positively and provide enough ICT infrastructures in all the Colleges of Education across the country so as to encourage pre-service teachers to utilize them in their learning.

2. Government and non-governmental organization should provide adequate training and workshop on the use of web-based teaching and learning technique to promote effective teaching and learning in the tertiary institution.
3. The government, National Commission for Colleges of Education (NCCE) and the Managements of Colleges of Education should join hands together and ensure that both male and female pre-service teachers are given equal opportunity to use computer laboratories and also ensure that adequate functional computer hardware and software are provided in the institutions.
4. The government should provide adequate infrastructure and enabling environment that will promote teaching and learning with innovative technologies.
5. The NCCE should introduce and implement oriented policies that will support web-quest related teaching methods. This will encourage both students and lecturers to use web-quest in their teaching/learning activities.
6. Emphasis should be given to the pedagogy behind the utilization of web-quest instruction for teaching/learning activities in colleges of education.
7. The government should increase funding for the educational sector with emphasis on ICT that will help improve the level and the use of ICT innovation in teaching and learning in colleges of education.

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