

Lecturers' Variables and Utilization of Web-Based Resources in State Colleges of Education in South-South Nigeria

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Abstract

This research investigated the influence of lecturers' variables and use of web-based resources in State Colleges of Education in South-South Nigeria. Three research questions and one hypothesis guided the study. Survey research design was used for the study. The population consisted of 796 lecturers. 629 lectures were chosen for the study using simple random sampling techniques. "Lecturers' Variables and Use of Web-Based Resources Questionnaires" (LVUWBRQ) with a reliability index of .83 determined using Cronbach Alpha method was used for data collection. Descriptive statistics and t-test were used for data analysis. The result showed that lecturers variables (competency, qualification, and gender) do influence their use of web-based resources in State Colleges of Education. Recommendations were made based on the result of the study.

Keywords: Lecturers' Variables, Utilization, Web-based Resources, Colleges of Education, South-South Nigeria

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1. Introduction

In Nigeria, Colleges of Education were designed to play a very vital role in the development of the country's educational system. This is based on the Federal Colleges of Education Act No. 4 of 1986 which stipulates four cardinal functions of Colleges of Education to include: (i) provision of full time teacher training programmes in all relevant fields of applied learning necessary for the country's development; (ii) provision of courses in education for non-professional teachers; (iii) planning and organizing conferences, seminars and workshops relevant to the teacher training programmes on offer in the colleges, and; (iv) carrying out any other functions which may be stipulated in line with promoting the colleges' objectives (Oritsebemigho, 2014). There are higher institutions of learning established and owned either by private individuals, federal or state government with the aim of training teachers on grammar, vocational or technical education (Asogwa, Nkanu & Sabo, 2022). Thus, Colleges of Education could be termed as "train-the-trainers' school. Hence, there are regulated the National Commission for Colleges of Education (NCCE).

In recent times, the advent of technology has radically revolutionized the traditional way of human endeavour including education. The teaching-learning processes in most schools now have little or nothing to do with the traditional "chalk and talk" method which was once a very prominent feature of the teaching-learning process. The influence of technology on the teaching-learning process could be said to be due to the numerous arrays of Information and Communication Technologies (ICTs) that have rendered the chalk and talk method almost obsolete. According to Johnson, Offiong, Udo and Nkanu, (2021a) it may be an answer to the constant yearning for effective migration from the analog (chalk and talk or face-to-face) method to digital (blended, virtual, online or distance) style of instructional delivery processes. Within the wide range of ICTs, a subset of ICT-based resources has been attracting much research attention in the specialty of educational technology due to its perceived viability in enhancing the teaching-learning process. The subset of resources is web-based resources.

Web-based resources used for the teaching-learning process, also known as web-based learning resources, web-based learning tools, web-based teaching materials or web-based educational resources, has various definitions based on how various researchers have viewed them. Liu and LaMont (2005) viewed it as educational activity taught using the web which impact on attentive concepts, enhances the attainment of specific learning objectives, facilitates the provision of a learner-centered context, and yet is an individual and reusable piece. Kay, Knaack and Petrarca (2009) defined it as collaborative web-based tool which assist the learning process by facilitating, increasing, and providing guidance to the cognitive processes of students. According to Hadjerrouit (2010) educational web-based resources has the following features – (i) it's transmitted using the web; (ii) it teaches content which attains expected learning purpose extracted from a curriculum; (iii) it is planned against the framework of a learning theory and pedagogical policies, and (iv) it has reusable fundamentals.

Web-based resources are so termed because they utilize web technologies and internet facilities as method of instructions. Some web-technology and internet service tools used to develop web-based resources for the

learning process are – hypertext markup language (HTML), web servers (a tool which stores web pages and delivers them to browsers through hypertext transport protocol – http or hypertext transport protocol secure - https), animation and video formats, java and javascript, virtual reality modeling language (VRML), browsers, e-mail facilities, etc (Clark, 1998).

Generally, the tools are classified under four major categories i.e., processing, searching, manipulation and communication (Hannafin, & Hill, 2007). Processing tools facilitate the designing of the web to meet different cognitive demands associated with the learning process. Examples include HTML, http, animation and video formats, VRML, etc. Searching tools are used to enable and direct learner-centered needs. Examples include google, askmama, etc. Manipulation tools enable the testing and exploration of various web environments. Examples are hyperlinks and browsers. Communication tools facilitate the capability to exchange ideas and information. Examples include e-mail, wikis, blogs, and podcasts.

Features of web-based resources which have herald its importance to the teaching-learning process include – enhancing ability to link various teaching resources in a variety of formats; increasing efficiency of delivering course materials; reducing location and time constraints on availability of course materials; extending wider access to various categories of learners in various programmes (full and part time learners); encouragement of enhanced independent and active learning, and; provision of wide range of supplementary and complementary materials (Wasim, Sharma, Khan & Siddiqui, 2014; Johnson, Nkanu, & Udo, 2021b). Resources available on the web for usage by lecturers include electronic libraries, search engines, databases of academic journals and theses/dissertations, seminar/conference documents, blogs/forums, newspapers/magazines, etc (Sahin, Balta & Ercan, 2010).

In State Colleges of Education (SCoE), especially in the South-South states of Nigeria, issues seem to plague the utilization of web-based resources amongst lecturers based on observations and reports from researchers. For example, in Delta State College of Education, no fewer than half of the lecturers were found to utilize the internet and they were reported to have indicated that access to, ignorance, and the complicated nature as major barriers to internet usage (Oghuvwu, 2010). In Cross River State College of Education, Egomo, Enyi and Tah (2012) observed a very low level of utilization of, and competency in web-based resources usage amongst lecturers. Library and Information Science lecturers in SCoE across the southern region of the country were reported to have a near average level of utilization of open access scholarly publications when searching for contents and themes for course outlines. (Obuh & Bozimo, 2012).

Utilization of web-based resources has the propensity of offering lecturers an array of excitingly innovative instructional delivery skills that are hitherto not conceivable with the traditional chalk and talk teaching experience. Examples of such experiences include accessing information when need arises at any place and time, interactive and collaborative task-based activities, online presentation of information and instruction, effective and efficient dissemination of information/instructional delivery and distance education (Dina & Ciornei, 2015). In addition to offering the college lecturers excitingly new teaching experiences, it could go some extent to impacting on the “would-be” teachers who are being trained in the colleges by enhancing their learning experiences and learning outcomes. Interaction with web-based resources has the potential of concretising more information into an individual’s long-term working memory in the teaching-learning process than a typical traditional chalk and talk process (Eady & Lockyer, 2013; Imoke, Nkanu, & Etta, 2021).

Another dimension which web-based resources enhance during a teaching-learning process is the concentration span of learners. The concentration span is influenced by the interest which they develop as a result of the interesting and exciting texts, images, sounds, pictures, video clips and dynamic, interactive presentations that come along when using web-based resources for teaching (Rajaram, 2011). Increased learning interest goes along with reduced learning anxieties and discomfort (Johnson, et al, 2021b). Thus, a learner becomes more involved in the learning process. Another way in which the concentration span could be influenced is because of the potentials of web-based resources in arousing their critical thinking skills. A learner’s critical thinking skills can be improved and aroused given the chance of frequently comparing their inputs to students, and a continuous pronouncement of their performance amongst their classmates could be a very strong motivator for wanting to learn more (An, Aworuwa, Ballard & Williams, 2010). This can also lead learners to become knowledge creators, editors, evaluators, and producers.

Additionally, web-based resources could also impact on a lecturer during instructional delivery is on the availability of much more information at one’s disposal for onward retrieval when needed. With resources ranging from a wide array of websites from which files of any type could be downloaded, emails which enhance communication, social networks which offer opportunities for chatting, live interactions and knowledge exchange, hyperlinks which afford opportunities of accessing various sites simultaneously, etc., there added potential value of utilizing web-based resources when compared to the traditional chalk and talk method is unimaginable. The impact of using web-based resources has also reduced the need for volumes of paper being printed. Traditional publishing and production houses simply publish a book and upload it on their site for onward downloading by users. Also, audio and video clips are now uploaded online as YouTube as instructional

content by lecturers and students are directed to download (Johnson, Nkanu, Ezeiruaku, & Ugah, 2021c). For learners, it implies that utilization of web-based resources by their lecturers offers them access to easily updatable study materials and online resources for learning requirements/needs. Although effective and efficient utilization of these web-based resources by lecturers requires a high competency level.

Competence is a lecturer variable which implies a lecturer's ability to getting something done successfully or efficiently. In the context of this study, lecturer competence is concerned with their abilities to utilizing web-based resources efficiently and successfully. Some studies carried out to assess lecturers' competence and subsequent utilization have shown similar results. For instance, Okereke (2014) observed low internet competence as an influence on its utilization while Olasore and Adekunmisi (2015) found out that lack of competency served as a factor which limit usage of e-library information. According to Ndume, (2008) lack of competence on the part of lecturers gave rise to the non-usage of instructional media in most learning environment. Contrarily, Ani, Edem, and Ottong, (2010) reported that lecturers who exhibited high knowledge and expertise with technology were inventive and adaptive to overwhelming educational obstacle, but they mostly would not bring in their technological knowledge to the classroom on regular basis while engaging in instructional delivery process. Lecturers' competency level tends to vary according to qualification.

Qualification is an official requirement which an individual attains before he/she can enjoy certain rights, privileges, or positions at place of work. Asogwa, et al, (2022) opined that to be eligible for employment as a lecturer in college of education one must hold at least first degree with second class lower and above. Some studies here have shown most of the findings revealing that qualification (area of specialization) as being an insignificant factor which determines utilization of web-based resources and the internet (Ani, Ani, Ugwu, Nwachukwu, Obianuko, Ndaji & Maduchie, 2016) while Bamigboye, Bankole, Ajiboye, and George, (2013) revealed it as a significant factor which determines utilization of web-based resources. In the utilization of web-based resources by lecturers based on their qualifications, gender may also be worthy of consideration.

Gender is the state of being either male or female. Studies concerning its impact on lecturers' utilization of web-based resources have shown varied results with some indicating males utilizing the internet and web-based resources than females (Anyanwu, Ekechukwu, Ettu, Ndunagu & Faustina, 2016); some indicating females utilizing the web-based resources more than males (Onwuagboke, Singh, Fook & Onwuagboke, 2014) while others found gender to serve as an insignificant factor towards influencing lecturers' utilization of web-based resources (Ani, Ngulube & Onyanacha, 2015).

Despite the interest in higher education lecturers today to effectively utilize web-based resources in the educational settings, there seem to be some limitations to the optimal utilization. Most of the identified limitations are lecturers' qualification, competence, and gender among others. It seems that the utilization of web-based resources for instructional purpose among lecturers in the State Colleges of Education is still at its infancy. Although available records have shown that most lecturers are conscious of the existence of array of these web-based resources which have been found to usefully enhanced the teaching learning purposes for both instructors and learners, how far the lecturers are utilizing it for instructional purposes within the SCoE in South-South Nigeria has become necessary.

a. Objective

Specifically, this research sought to survey the influence of lecturer qualification, competence, and gender on their utilization of web-based resources in SCoE in South-South Nigeria.

1.2. Research Questions

1. To what extent does lecturer competency influence their use of web-based resources in SCoE in South-South Nigeria?
2. How does lecturer qualification influence their use of web-based resources in SCoE in South-South Nigeria?
3. What is the difference between male and female lecturers on their use of web-based resources in SCoE in South-South Nigeria?

1.3 Hypothesis

This study has one null hypothesis which is tested at 0.05 level of significance.

1. There is no significant difference between the mean score of male and female lecturers on their use of web-based resources in SCoE in South South Nigeria

2. Methods

This research adopts a descriptive survey design since no variable used in this research was manipulated but used in their natural state as they appear. The population for this research consisted of all the 798 lecturers in five State Colleges of Education within the study area during the 2017/2018 academic session. They included Cross River SCoE, Akamkpa; Akwa Ibom SCoE, Afaha Nsit; Bayelsa SCoE, Sagbama; Edo SCoE, Agbor; and Delta

SCoE, Ekiador. The study adopted a simple random sampling technique was used to select four Colleges of Education out of five. All the academic staff in the four selected colleges were used which gave a sample size of 629.

2.1 Instrument for data collection

The data collection instrument used for this study was the Lecturer Variables and Use of Web-Based Resources Questionnaire (LVUWBRQ). The researcher-made instrument has section A, B and C, dealing with lecturers' variables and use of web-based resources. Section 'A' required demographic information of the lecturers' variables. These included; college of engagement, educational qualification, and gender. The items considered in section B included computer competence of lecturers on options of Strongly Agree, Agree, Disagree and Strongly Disagree. Section C was on lecturers' utilization of web-based resources with options of Very Often (VO), Often (OF), Occasionally (OCC) and Never (NE). Three experts validated the instrument. Cronbach Alpha method was used to establish the reliability of the instrument. A reliability coefficient of 0.83 was obtained for the questionnaire.

The researchers administered and collected the data for this research. Mean and Standard deviation were used in answering the research questions while independent t-test, one-way analysis of variance and regression analysis were used for testing the hypotheses. For clarity of measurement, lecturers' competency was categorized into competent and non-competent. Non-competent lecturers were those who scored from 10-25 on the lecturers' computer competency sub-scale in the study's instrument for data collection while competent lecturers were those who scored from 26-40 on the same sub-scale in the instrument.

3. Results

3.1. Research question one

To what extent does lecturer competency influence their use of web-based resources in SCoE in South South Nigeria?

Table 1. Mean and Standard Deviation of the Influence of Lecturers' Competency on their use of Web-Based Resources in SCoE in South South Nigeria.

Lecturers' Competency	N	Mean	Std. Deviation
Competent	555	37.31	8.57
Not competent	74	31.07	6.61

The result in Table 1. revealed the mean score of 37.31 obtained by lecturers who are competent in the use of web-based resources which is greater than 31.07 obtained by those who are not competent with a mean difference of 6.24. This result implies that lecturers' competency does influence their use of web-based resources in SCoE in South-South Nigeria.

3.2. Research Question Two

How does lecturer qualification influence their use of web-based resources in SCoE in South-South Nigeria?

Table 2. Mean and Standard Deviation of the Influence of Lecturers' Qualification on their use of Web-Based Resources in SCoE in South-South Nigeria.

Lecturers Qualifications	N	Mean	Std. Deviation
B.A., B.Ed., B.Sc & B.Sc.Ed	354	38.88	7.51
M.A., M.Ed., M.Sc & M.Sc.Ed	230	32.82	9.31
Ph D	45	37.64	5.86

The result in Table 2. shows the mean scores of the influence of lecturers' qualification on their usage of web-based resources in SCoE in South-South Nigeria. The findings revealed that lecturers with B.A., B.Ed., B.Sc & B.Sc.Ed had the highest mean score (38.88), followed by those with Ph D (37.64) and lastly by those with M.A., M.Ed., M.Sc & M.Sc.Ed (32.82). This result implies that lecturers' qualifications do influence their use of web-based resources in SCoE in South-South Nigeria.

3.3. Research Question Three

What is the difference between male and female lecturers on their use of web-based resources in SCoE in South-South Nigeria?

Table 3. Mean and Standard Deviation of the difference between male and female lecturers on their use of Web-Based Resources in SCoE in South-South Nigeria.

Lecturers Gender	N	Mean	Std. Deviation
Male	185	38.71	4.85
Female	444	35.69	9.61

The result in Table 3. revealed the mean score of 38.71 obtained by male lecturers' which is greater than 35.69 obtained by their female counterparts with a mean difference of 3.02. This result implies that lecturers' gender does influence their use of web-based resources in SCoE in South-South Nigeria.

3.4.Hypotheses one

1. There is no significant difference between the mean score of male and female lecturers on their use of web-based resources in SCoE in South-South Nigeria

Independent t-test was used for testing this hypothesis, the result of the analysis is as shown in Table 4.

Table 4. Independent t-test Analysis of the mean difference between male and female Lecturers on their use of Web-Based Resources in State Colleges of Education in South South Nigeria.

Lecturers Gender	N	Mean	Std. Deviation	Df	t-cal	t-crit
Male	185	38.71	4.85	627	4.08*	1.965
Female	444	35.69	9.61			

*Significant at .05; df= 627; N= 629

The result as presented in Table 4. shows that the t-cal of 4.08 is greater than critical t of 1.965 at .05 alpha level with 627 degrees of freedom. Based on this result, the null hypothesis that there is no significant difference between the mean score of male and female lecturers on their use of web-based resources in SCoE in South South Nigeria was rejected. This means that there is significant difference between male and female lecturers on their use of web-based resources in SCoE in South-South Nigeria.

4.0 Discussion

With reference to the identified lecturers' variables and the utilization of web-based resources for educational use in SCoE in South-South Nigeria. This result is in tandem with the views of Ndume (2008), who observed that lack of competence on the part of teachers gave rise to the non-usage of instructional media in the learning environment. The findings are also in line with Woperies and Kirschner (2003), who highlighted some ICT competency required for lecturers to include the ability to use ICT personally, command of a variety of programmes that utilizes ICT, competency in using ICT tools in various educational assessment programmes, and competencies in interpreting the policy formulation of ICT use for effective teaching and learning.

The competency of the lecturers may give them the opportunity to integrate technology on a consistent basis as a teaching and learning tool. Hence, Kimeu, Tanui, and Ronoh, (2015) opined that the bane of higher institution in Nigeria is lack of the competence of using the computer and utilizing other educational applications, like using keyboard and linking to the cyberspace to browse material on education. White (2003) asserted that with the new role of lecturers, which requires all of them to be trained and be conversant with electronic learning environment to enhance their professional growth.

The finding on the influence of lectures' qualification and utilization of web-based resources in SCoE in South-South Nigeria indicate a significant influence of lecturers' qualification and usage of web-based resources. The finding is in agreement with the finding of Schneckenberg *et al.*, (2011) who reported that lecturers who had acquired additional qualification after their initial degree used the internet more than those who had just the first degree and had not benefited from further education. The finding also agrees with the findings of Owolabi *et al.*, (2013) asserted that qualification of academic staff significantly influenced the use of the internet services in Federal College of Education in the Middle-Belt Zone.

The findings from the results on the influence of lecturers' gender and their use of the web-based resources in Colleges of Education in South-South Nigeria indicated a significant influence of lecturers' gender and their use of web-based resources. The results of this research agree with that of Losh (2003) and Fallows (2005), who found that gender difference exist in the usage of web-based resources among the males and females. This finding also conforms to the opinion of Susol and Steinerova (2007) who stated that gender as a societal and social structure of personality can be demonstrated in quality and behavior of the male and females. Emphasizing on their opinion, they stated that the womenfolk use the internet slightly less than the menfolk.

The significant influence may be due to internet existence with larger and more extensive usage by male population. The males are reported to devote additional time on the net, indicating favourite locations of usage, resources downloading, websites creation and contribution to group discussions. This could be why Schwier

(2010) observed that the female students at Sheffield University felt that the internet was too large and formless thus, penetrating the internet becomes tough, not pleasurable and will only be utilized when it's inescapable while male students were pleased to surf the internet for pertinent materials.

5. Conclusion

From the major results of this research, the following conclusion were drawn. That web-based resources are a most use in SCoE in South-South Nigeria. That lecturers' usage of web-based resources for instructional delivery is based on the competency level. Lecturers with first degree have higher tendency of utilizing web-based resources than those with Second and third degrees. Lecturers' gender does not set any difference on their use of web-based resources. The major factor posing a challenge is the lack of periodic training, workshop, and seminar on the most effective and efficient ways to adopt and utilize some innovative web-based resources for instructional benefit.

Recommendation

Based on the results of this research, the researchers recommend thus: That though there is evidence of utilization of web-based resources, the management of these institutions should organize periodic workshops, seminars, conferences, and training for lecturers at all cadre on the most effective and efficient ways of utilization of innovative web-based resources for instructional purposes. The National Commission for Colleges of Education should emphasize lecturers' utilization of web-based resources to in delivering most of their instructions to increase their competency level across all ranks of lecturers.

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