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Assessment of Colleges of Education Students' Utilization of Web-based Tools for Learning in Ilorin Metropolis

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Abstract

Utilization of web-based tools for learning is one of the factors that can motivate and encourage students to learn as they become more independent and responsible for their learning. However, not many students in colleges of education have embraced the utilization of web-based tools for learning, especially in Kwara State. This study, therefore, assessed the utilization of web-based tools for learning among colleges of education students in Ilorin Metropolis. A descriptive survey research design was adopted for this study, with sample purposively drawn from two colleges of education in Ilorin. A researcher-designed questionnaire titled "Assessment of Colleges of Education Students' Utilization of Web-based Tools for Learning in Ilorin Metropolis was used to gather data. Frequency counts and percentages were used to answer the research questions, while the two formulated research hypotheses were tested using t-test at 0.05 level of significance. The findings of the study showed that there was no significant difference in the level of utilization of web-based tools for learning among Colleges of Education based on gender and school proprietorship. Based on the findings of the study, it was recommended that the school administrators should ensure that seminars, workshops and conferences are organized in colleges of education to sensitize the students on the advantages of using web-based tools for learning.

Keywords: Assessment, Colleges of Education Students, Web-based Tools, Learning

Introduction

Information and Communication Technology (ICT), has transformed the entire universe to a global village. Countries all over the world are at different stages of integrating ICT into everyday practices including teaching and learning. Abimbade, Aremu and Adedoja (2016) stated that the impact of technology worldwide has led to the globalization of information and education. The effect of technology can be experienced at all levels and forms of education. Student's learning in tertiary institutions all over the world has undergone tremendous transformation, especially since the advent of

information and communication technology (Bassey, Umoren, Akuegwu, Udida, Ntukidem and Ekabua, 2015).

The growth of information and communication technologies has drastically reshaped teaching and learning processes in higher education (Pulkkinen, 2015). The use of ICT offers powerful learning environments and can transform the learning process so that students can deal with knowledge in active, self-directed and constructive way (Volman & Van Eck, 2016). The presence of ICT is considered as an important means to promote new methods of instruction (teaching and learning) which can be used to develop students' skills for co-operations, communication, problem solving and lifelong learning (Voogt,2015).

As the world now operates in digital media and information age, the influence of ICT on both education and students' learning behavior is becoming more important in this 21st century. Learners have proven to prefer the technology enhanced modern way of learning to the traditional learning strategies, &as itallowthe students to control the process of learning by deciding when, where and how fast to learn. The emergence of web-based learning has tremendously transformed information-handling and management in academic environments (Ani & Ahiauzu, 2017).

Classrooms are considered a face-to-face learning environment, yet the installation of ICT equipment such as web-based tools and other technologies would positively influence students' blended learning situation. This is because there appears to be some consensus that both teachers and students feel that ICT use in the class greatly contributes to students' motivation and engagement in learning. A very high percentage (86%) of teachers worldwide agreed that students are more motivated and attentive when computers are incorporated into their study programmes so as to remain relevant in the rapidly changing condition for educational services (Salau, 2016).

For many years, educational researchers have maintained an interest in the effective prediction of students' academic achievement at school as nations all over the world strive to achieve quality education for her citizenry. In order to achieve this noble course, so many factors must be put into consideration. One which is the introduction of web-based learning into education particularly at classroom level. The world is in a digital age where web-based learning needs to be introduced into classrooms to enhance learning and develop students' digital experience.

Students' learning behavior and understanding have been the issue in many research studies as teachers have been complaining about the difficulties involved in classroom management practices due to lack of concentration by the students. This greatly affects the learning process. It is believed that proper use of web-based learning tools will foster learning and motivate students to come to class and engage in classroom activities. Youseff and Dahmani (2016) stated that the use of web-based tools in education will allow for a shift from teacher-centered approach to student-centered approach thereby improving learning.

Many students today have grown up with ubiquitous access to technology and the internet earning them the title of the "net generation" (Montgomery, 2017; Palfrey & Gasser, 2016; Tapscott, 2018). Outside the classroom, these students use the web to perform a wide range of personally-meaningful tasks including communicating, socializing, searching, learning, and entertaining themselves (Tapscott, 2018). With the increasing use of network computers, the internet and advances in telecommunication technology, web-based learning has been widely recognized as a valuable tool for learning and training (Firouz, 2015).

The traditional means of higher education has remained dominant in schools in some developing countries. With the significant growth of web-based learning, teachers and students normally explore new ways of constructing knowledge (Dilani, 2014). The current technology being heavily researched as an educational platform is the World Wide Web (WWW). The WWW which represents a platform for information storage and dissemination can be accessed in minimum time, and this is very important to the educational community. The fact is that the transition from digital divide society to a global village information society causes the traditional instructional model to be unable to cover the instructional needs of modern societies (Aboderin, 2017).

Population explosion and increasing admission request into schools in every region of the world brought greater constraints on the resources of several schools. For instance, there is problem of inadequate number of human and material resources to cater for the education of the large population (Akinyokun, 2014). The population of school age citizen in most places has grown tremendously to the extent that only a small percentage can be offered admission. A new learning environment needs to be created which will provide autonomy and flexibility, establish contacts and easy communication between centers of culture and knowledge, and facilitate easy access for all citizens of a knowledge-based society.

Conventional classroom-based teaching involves the delivery of course lectures by the lecturer in a particular place at a specific time. Hence it imposes a constraint of time and place on both the instructor and the student. Due to the human factor, the lecturer may not always be able to put the optimum effort towards preparing and delivering course models. Direct interaction with the student is not easy because of the large number of students needing attention. The remedy to this situation seems to be the learning techniques that are based on modern technologies such as the internet and WWW combined with traditional classroom teaching. One of the ways this can be achieved is through the use of web-based learning.

Web-based learning involves utilizing electronic technologies to access educational curriculum outside of a traditional classroom (Azeez, 2014). Web-based learning as a sub-set of ICT is described differently by different experts. Azeez (2014) refers to web-based learning as the use of electronic applications and processes to learn. Turban (2016) also described web-based learning as the online delivery through computer networks of information for purposes of education, training, knowledge management or performance management. Aboderin (2017) opined that web-based learning encompasses an ample array of systems, from the teacher using visual effects to students accessing academic materials online and teaching delivered entirely with the use of computer. Web-based learning has received much attention from various institutions and academic scholars in the past few years.

The roles of web-based learning in the learning process cannot be overestimated, especially in Nigeria where emphasis is being placed on technological development (Olutola & Olatoye, 2015). Web-based learning has become a veritable tool to be used in achieving proper educational objectives in the school setting. Nwokike (2016) defines web-based learning as an innovative approach to deliver electronically-mediated, well-designed, learner-centered and interactive learning environment to anyone, anytime and anyplace by utilizing the internet and digital technologies in concern with instructional design principles (Hedge & Haward, 2014).

Web – based learning is a computer based educational system that enables learner

to learn anywhere and at any time. It is often called online learning or e-learning because it includes online course content. Discussion forums via email, video conferencing and live lectures (video streaming) are all possible through the web. Web-based courses may also provide static pages such as printed course materials. One of the values of using the web to access course materials is that web pages may contain hyperlinks to other parts of the web, thus enabling access to a vast amount of web-based information. Web-based learning provides the tools that learners need and brings together educators and learners to share information and ideas.

For the educators and trainees, a benefit of the internet as a platform for web-based learning is that the information that can be stored is almost limitless. The information being electronically stored can be accessed or downloaded by learners at their own pace, thereby overriding the constraint of time and place experienced in classroom-based learning. The digital age has transformed the way people communicate, network, seek help, access information and learn. We must recognize that young people, particularly students, are now an online population and internet access is through variety of means, such as computers, television and mobile phones (Tapscott, 2015; Al Ansari, 2016).

Numerous barriers to using technology, including access to computers, time, and negative attitudes have contributed to the limited impact of web-based learning tools. Thus, as technology becomes more and more embedded in our culture, students must be provided with relevant and contemporary experiences that allow them to successfully engage with technology and even prepare them for life after school. Turban (2016) further stresses that it is a web enabled system that make knowledge accessible to those who need it, when they need it, anytime they need it and anywhere they need it. One of the contributions of web-based learning is access to high quality and flexible learning tools (Aboderin, 2017).

Web - based tools are internet tools that allow the user to go beyond just receiving information through the web. The user is expected to interact and to create content with others. Social media sites such as Facebook and Twitter are examples of web -based tools. Web -based tools can be used to enhance teaching and collaboration among teachers and students as well as increase professional collaboration between educators. Akinyokun (2014) opined that web-based learning can be deployed using a wide range of tools and media. The use of web-based learning tools in respect to learning process is critical for the successful implementation of various learning environments (Abdullah & Azzedine, 2018).

Galy, Downey and Johnson (2017) noted that modern classroom, whether online or schools-based, use web-based learning tools and learning management systems that capture student cognition and engage them in the learning process via technology, while increasing their need for self-directedness. Web-based learning tools make learning more understandable, meaningful and easy. These tools help to concretize abstract concepts, stimulate students' attention and interest, arouse students' curiosity and also promote students' active participation in the learning process. The use of web-based learning tools, is believed, would have a positive influence on both students' achievement, motivation and learning process.

For students to utilize and enjoy the usefulness of web-based learning tools efficiently in Nigerian tertiary institutions, they must have the mastery of operating educational hardware. Also, functioning web-based learning tools must be available for

them in their institutions and they should be motivated to use them. Web-based learning can occur inside or outside of the classroom. It can be self-paced (asynchronous learning) or it may be instructor-led (synchronous learning).

Asynchronous web-based learning is self-paced and allows participants to engage in the exchange of ideas or information without the dependency on other participants' involvement at the same time (Wikipedia, 2014). It uses technologies such as e-mails, blogs, wikis and discussion boards as well as textbooks (Loutchko & Kurbel, 2016). On the other hand, Synchronous web-based learning occurs in real time with all participants interacting at the same time (Wikipedia, 2014). It involves the exchange of ideas and information with one or more participants during the same period of time.

Assessment plays an important role in national development especially in teaching and learning process. It involves the collection of information about an individual's knowledge, skills, attitudes, judgment, interpretation, and uses the data to take relevant decisions about the individual, instructional process, curriculum or programme (Ugoduluna, 2018). The essence of assessment is to improve quality and to improve students' performance. Mitchell (2015) describes assessment as an "examination of the existing need for training within an institution. It identifies performance areas or programmes within an institution where training should be applied. Assessments have occurred in various settings including community organizations, government agencies, health care facilities as well as education institutions (Ugoduluna, 2018). Witkin (2016) stated that any systematic approach used in setting priorities for future action constitutes assessment.

College of education is an institution established with the aim of training teachers for pre-primary, primary and junior secondary schools. It is one of the tertiary institutions in Nigeria. College of education is an institution that produces teachers who are models for learners from Basic education level. This means that teachers that are trained properly on values, skills and attitudes will have the chance of changing the society. The National Policy on Education (FRN, 2004) indicates that no education system can rise above the quality of its teachers; teacher education shall continue to be given major emphasis in all educational planning and development. Thus, there is the need to restructure colleges of education to pave way for high quality and skilful teachers through web-based learning which will give access for students to access instruction online alongside with the traditional approach.

Agyeman (2015) stated that acquisition of basic ICTs skills and capabilities have been made mandatory as part of the national minimum standard for teacher education at the Nigeria Certificate of Education level. This is as a result of government efforts to empower the teachers with ICT skills and to prepare them for global competitiveness; to integrate ICT skills into the mainstream of education and training and most significantly the need for teachers to be versatile in the use of ICT in the contemporary knowledge. The educational reforms act of 2007, Federal Ministry of Education (FME, 2007) clearly highlighted the need to improve the quality of instruction in Nigeria schools to provide enriched learning environment; to provide more access to education, and provide the students with knowledge and skills necessary for the 21st century work place, among others, as the motivating factor for educational reforms. It must be emphasized that the utilization of information and communication technologies will assist in ensuring the achievement of these goals of the educational reforms.

Web–based learning is essential for contemporary educational development of any nation. When web-based learning is effectively employed in education, it can accelerate, enrich, and deepen basic skills in learning and they can also motivate and engage students to learn as they become more independent and responsible for their learning. Unfortunately, there seems to be a gap between web-based learning tools and its effective utilization by Colleges of Education students despite the various development efforts at ensuring and encouraging the utilization of web-based tools in the learning process in Nigeria.

However, despite the benefits that could be derived from the utilization of web-based learning tools, it is obvious that many students in Nigeria, as against their counterparts in the developed countries are yet to fully embark on the utilization of web-based tools for their learning. Because of the potency of web-based learning in improving the learning process, it becomes necessary to assess the utilization of web-based tools for learning among Colleges of Education Students in Ilorin Metropolis.

The purpose of this study was to assess the utilization of web-based tools for learning among Colleges of Education Students in Ilorin Metropolis. Specifically, the study was carried out to find out the available web-based tools for learning being used in Colleges of Education, Ilorin, determined how accessible the web-based learning tools are to the students, examined how often students use these web–based learning tools for their learning and ascertained the factors militating against the effective utilization of the web-based learning tools. The study sought to provide answers to the following questions:

- what are the available web-based learning tools for students' use in Colleges of Education in Ilorin?
- how accessible are the web-based learning tools to the students in Colleges of Education in Ilorin?
- how often do students in Colleges of Education in Ilorin use the web-based learning tools for their learning?
- what are the factors militating against students' effective use of the web-based learning tools?

Methodology

A descriptive research design of the survey type was adopted for this study. The population for this study consisted of all students Colleges of Education in Ilorin. The target population for this study were all students in the two purposively selected Colleges of Education in Ilorin Metropolis, which comprised of Kwara State College of Education, Ilorin (State owned) and Kinsey College of Education (Private owned). Sample of 40 students were drawn from each of the selected College of Education to give a total number of 80 students. A purposive sampling technique was used to select students for participation in this study based on their area of specialization.

The research instrument used in this study was a researcher-designed questionnaire on the Assessment of Colleges of Education Students' Utilization of Web-based Tools for Learning in Ilorin Metropolis. The research instrument was divided into

five sections (Section A to E).Section A elicited information on the demographic data of respondents, Section B focused on the availability of web-based learning tools, Section C focused on the accessibility of the web-based learning tools to the students, section D was on how often students use the web-based learning tools for their learning while section E elicited information on the factors militating against students' effective use of the web-based learning tools. The instrument for this research was validated by three ICT specialists in the Department of Educational Technology in University of Ilorin, in order to determine the appropriateness of the instrument for the study. The reliability of the instrument was tested using Cronbach Alpha Reliability Test.

Data Analysis

The data obtained from the responses of the respondents were analyzed using Statistical Package for Social Sciences (SPSS) version 23.0. The demographic data of the respondents were analyzed descriptively using frequency counts and percentages. The research questions were answered using mean and percentages, while the research hypotheses were tested using t-test statistical tool at 0.05 level of significance.

Table 1: Distribution of Respondents Based on Institution

Institution	Frequency	Percentage
Kwara State College of Education	40	50.0
Kinsey College of Education	40	50.0
Total	80	100.0

Table 1 indicates that 80 respondents participated in the study out of which 40 (50%) were from Kwara State College of Education, while 40 (50%) of the respondents were from Kinsey College of Education. This implies that equal number of respondents participated in the study.

Table 2: Distribution of Respondents Based on Gender

Gender	Frequency	Percentage
Male	33	41.3
Female	47	58.8
Total	80	100.0

Table 2 indicates that 33 (41.3%) of the respondents were males, while 47 (58.8%) of the respondents were females. This implies that there are more females than males that participated in the study.

Research Question One: What are the available web-based learning tools for students' use in Colleges of Education, Ilorin?

Table 5: Available Web-Based Learning Tools for Students' Use in Colleges of Education, Ilorin.

Web-Based Learning Tools	Available	Non-Available
Edublogs	25 (31.3%)	55 (68.7%)
Wiki	29 (36.3%)	51 (63.7%)
Podcasting	29 (36.3%)	51 (63.7%)
Text chat	51 (63.8%)	29 (36.2%)
Skype	24 (30%)	56 (70%)
Edmodo	23 (28.8%)	57 (71.2%)
Google Classroom	41 (51.3%)	39 (48.8%)
Vodcasting	29 (36.3%)	51 (63.7%)
Moodle	19 (23.8%)	61 (76.2%)
Instant messaging	45 (56.3%)	35 (43.7%)

Table 5 indicates that the availability of web-based learning tools for use by students in Colleges of Education in Ilorin is low. Some of the web-based learning tools for use by students in Colleges of Education in Ilorin which are rarely available are: Moodle 61 (76.2%), Edmodo 57 (71.2%), Edublogs 55 (68.7%), Wiki, Podcasting and Vodcasting had 51 (63.7%). While the few web-based learning tools available are text chat 51 (63.8%), instant messaging 45 (56.3%) and google classroom 41 (51.3%).

Research Question Two: How accessible are the web-based learning tools to the students?

Table 6: Distribution Showing Accessibility of the Web-Based Learning Tools to the Students

Web-Based Learning Tools	Accessible	Not-Accessible
Edublogs	31 (38.8%)	49 (61.2%)
Wiki	36 (45%)	44 (55%)
Podcasting	29 (36.3%)	51 (63.7%)
Text chat	55 (68.7%)	25 (31.3%)
Skype	28 (35%)	52 (65%)
Edmodo	27 (33.8%)	53 (66.2%)
Google Classroom	44 (55%)	36 (45%)
Vodcasting	24 (30%)	56 (70%)
Moodle	27 (33.8%)	53 (66.2%)
Instant messaging	49 (61.3%)	31 (38.7%)

Table 6 indicates that the accessibility of web-based learning tools for use by students in Colleges of Education in Ilorin is low. Some of the web-based learning tools for use by students in Colleges of Education in Ilorin which are rarely accessible are: Vodcasting 56 (70%), Edmodo and Moodle had 53 (66.2%), Skype 52 (65%) and

Podcasting 51 (63.7%). While the few web-based learning tools accessible are text chat 55 (68.7%), instant messaging 49 (61.3%) and Google classroom 44 (55%). This thus implies that the accessibility of these web-based learning tools is low.

Research Question Three: How often do students use the web-based learning tools for their learning?

Table 7: Distribution Showing the Frequency of Use of Web-Based Learning Tools for their Learning

Web-Based Learning Tools	Frequently Utilized	Not Frequently Utilized	Not Utilized at all
Edublogs	28 (35%)	27 (33.7%)	25 (31.3%)
Wiki	31 (38.8%)	31 (38.8%)	18 (22.4%)
Podcasting	24 (30%)	30 (37.5%)	26 (32.5%)
Text chat	33 (41.3%)	30 (37.5%)	17 (21.3%)
Skype	16 (20%)	44 (55%)	20 (25%)
Edmodo	11 (13.8%)	34 (42.4%)	35 (43.8%)
Google Classroom	39 (48.8%)	22 (27.5%)	19 (23.8%)
Vodcasting	18 (22.5%)	35 (43.8%)	27 (33.8%)
Moodle	23 (28.8%)	26 (32.5%)	31 (38.8%)
Instant messaging	36 (45%)	18 (22.5%)	26 (32.5%)

Table 7 shows the frequency of use of web-based learning tools for use by students in Colleges of Education in Ilorin. The result indicates that web-based learning tools are frequently used by these students for their learning purpose. Some of the web-based learning tools frequently used for learning by students in Colleges of Education in Ilorin include: Google classroom 39 (48.8%), Instant messaging 36 (45%), text chat 33 (41.3%), Wiki 31 (38.8%) and Edublogs 28 (35%)

Research Question Four: What are the factors militating against students' effective use of the web-based learning tools?

Table 8: Mean and Rank Order on the Factors Militating Against Students' Effective Use of the Web-Based Learning Tools

Item No.	Items	Mean	Rank
8	High cost of purchasing ICT facilities	3.18	1st
1	Irregular power supply	3.02	2nd
10	Lack of adequate personnel to train students on the use of web -based learning tools in schools	3.00	3rd
2	Inadequate computer systems	2.83	4th
9	Lack of interest on the part of the students to utilize web-based tools for learning	2.82	5th

3	Lack of technical support regarding web-based learning utilization	2.78	6th
5	Limited access to web-based learning tools	2.76	7th
6	Lack of skills to use the web-based learning tools	2.75	8th
4	Poor perception of the utilization of web-based learning tools	2.71	9th
7	Laziness on the part of the students to learn how to utilize these tools	2.62	10th

Table 8 shows that items 8, 1 and 10 which states that "High cost of purchasing ICT facilities; Irregular power supply; and Lack of adequate personnel to train students on the use of web-based learning tools in schools" have mean scores of 3.18, 3.02 and 3.00 ranked 1st, 2nd and 3rd respectively while items 7 which states that "Laziness on the part of the students to learn how to utilize these tools" with a mean score of 2.62 rank 10th. All the ten items have mean scores that are above the mid-mean score of 2.50, then it can be said that majority of the respondents affirmed to the stated items and the result thus shows that the factors militating against students' effective use of the web-based learning tools is high.

Hypothesis One: There is no significant difference in the level of utilization of web-based tools for learning between male and female students in Colleges of Education in Ilorin.

Table 9: t-test showing the Level of Utilization of Web-Based Tools for Learning between Male and Female Students in Colleges of Education in Ilorin

Gender	N	Mean	SD	Df	Cal. t-value	Crit. t-value	p-value
Male	33	76.18	8.99	78	0.01	1.96	0.58
Female	47	77.70	13.97				

Table 9 shows a calculated t-value of 0.01, a critical t-value of 1.96 and a p-value of 0.58. The p-value calculated is higher than the alpha level at 0.05 then the hypothesis is accepted. Hence, there is no significant difference in the level of utilization of web-based tools for learning between male and female students in Colleges of Education in Ilorin.

Hypothesis Two: There is no significant difference in the level of utilization of web-based tools for learning among Colleges of Education students based on school proprietorship.

Table 10: t-test showing the Level of Utilization of Web-Based Tools for Learning among Colleges of Education Students Based on School Proprietorship

School Proprietorship	N	Mean	SD	df	Cal. t-value	Crit. t-value	p-value
Kwara State COED	40	77.12	14.03	78	0.06	1.96	0.97
Kinsey COED	40	77.02	10.03				

Table 10 shows a calculated t-value of 0.06, a critical t-value of 1.96 and a p-value of 0.97. The p-value calculated is higher than the alpha level at 0.05 then the hypothesis is accepted. Hence, there is no significant difference in the level of utilization of web-based tools for learning among Colleges of Education students based on proprietorship.

Discussion of the Findings

The findings of this study indicates a low availability of web-based learning tools for use by students in Colleges of Education in Ilorin. Some of the web-based learning tools for use by students in Colleges of Education in Ilorin which are rarely available and their percentages of Non-availability are as follows: Moodle 61 (76.2%), Edmodo 57 (71.2%), Edublogs 55 (68.7%), Wiki, Podcasting and Vodcasting had 51 (63.7%). While the few web-based learning tools available are text chat 51 (63.8%), instant messaging 45 (56.3%) and google classroom 41 (51.3%). Also the findings indicates that the accessibility of web-based learning tools for use by students in Colleges of Education in Ilorin is low. Some of the web-based learning tools for use by students in Colleges of Education in Ilorin which are rarely accessible are: Vodcasting 56 (70%), Edmodo and Moodle had 53 (66.2%), Skype 52 (65%) and Podcasting 51 (63.7%).

In the same vein, the findings indicated that some of the web-based learning tools were frequently used by students of Colleges of Education in Ilorin Metropolis for learning purpose. Some of the web-based learning tools frequently used for learning by these students include: Google classroom 39 (48.8%), Instant messaging 36 (45%), text chat 33 (41.3%), Wiki 31 (38.8%) and Edublogs 28 (35%). The result of Hypothesis one indicated a calculated t-value of 0.01, a critical t-value of 1.96 and a p-value of 0.58. The p-value calculated is higher than the alpha level at 0.05 then the hypothesis was accepted. Hence, there was no significant difference in the level of utilization of web-based tools for learning between male and female students in Colleges of Education in Ilorin Metropolis.

It is believed that proper use of web-based learning tools will foster learning and motivate students to come to class and engage in classroom activities. Youseff and Dahmani (2016) stated that the use of web-based tools in education will allow for a shift from teacher-centered approach to student-centered approach thereby improving learning. This finding did corroborate Olutola and Olatoye (2015) who stated that the roles of web-based tools in the learning process cannot be overestimated, especially in Nigeria where emphasis is being placed on technological development. Hedge and Howard (2014) stated that one of the values of using the web to access course materials is that web pages may contain hyperlinks to other parts of the web, thus enabling people of

all gender have access to a vast amount of web-based information. Web-based learning provides the tools that learners need and brings together educators and learners to share information and ideas.

Likewise, the result of Hypothesis two indicated a calculated t-value of 0.06, a critical t-value of 1.96 and a p-value of 0.97. The p-value calculated is higher than the alpha level at 0.05 then the hypothesis is accepted. Hence, there is no significant difference in the level of utilization of web-based tools for learning among Colleges of Education students based on school proprietorship. This finding corroborated Al-Ansari (2016) who noted that a benefit of the internet as a platform for web-based learning is that the information that can be stored is almost limitless. The information being electronically stored can be accessed or downloaded by learners at their own pace, thereby overriding the constraint of time and place experienced in classroom-based learning (Tapscott, 2015). Galy, Downey and Johnson (2017) noted that modern classroom, whether online or schools-based, use web-based learning tools and learning management systems that capture student cognition and engage them in the learning process via technology, while increasing their need for self-directedness.

Conclusion

The availability and accessibility of web-based learning tools for use by students in Colleges of Education in Ilorin Metropolis is low, which in turn reduce the frequency of their use. Some of the web-based learning tools for use by students in Colleges of Education in Ilorin which are rarely available and accessible include: Vodcasting, Edmodo, Moodle, Skype and Podcasting. While the few web-based learning tools frequently used by these students for learning purpose include: Google classroom, Instant messaging, Text chat, Wiki and Edublogs. Some of the factors militating against students' effective use of the web-based learning tools are: high cost of purchasing ICT facilities; irregular power supply; and lack of adequate personnel to train students on the use of web-based learning tools in schools. There is no significant difference in the level of utilization of web-based tools for learning between male and female Colleges of Education students in Ilorin. Also, there is no significant difference in the level of utilization of web-based tools for learning among Colleges of Education in Ilorin based on school proprietorship.

Recommendations

Based on the findings of this study, it is recommended that more web-based tools for effective learning of students in their academic endeavours should be developed by philanthropist and other well-meaning stakeholders in the education sector.

1. Students should be given adequate training on how to use web-based tools for their learning and equally make the web-based tools for learning available and accessible.
2. Adequate technical support for the use of web-based tools for learning must be provided by the school administration to solve teething problems that may come with the use by the students.
3. The school administrators should ensure that seminars, workshops and conferences are organized in colleges of educations in order to sensitize the students as well as lecturers on the advantages students stand to gain from the use of web-based tools for learning.

4. Based on the factors militating against students' effective use of the web-based learning tools, the school administrators should ensure that there is provision of ICT facilities to students at a subsidised rate. With regards to the irregular power supply, school administrators should ensure a steady power supply to facilitate the smooth running of the web-based tools utilization.

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