COMPARATIVE STUDY OF THE AVAILABILITY AND UTILIZATION OF E-LEARNING INFRASTRUCTURE IN FEDERAL AND STATE UNIVERSITIES IN SOUTH-EAST STATES, NIGERIA

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Abstract

This study examines comparatively, the availability and utilization of e-learning infrastructure in federal and state universities in South-East Nigeria. The researcher adopted descriptive survey research design. Population of the study comprised 15,360 senior lecturers of federal and state universities of which 9,340 is from the federal university and 6,020 is from the state university respectively. A sample of 934 federal University senior lecturers and 602 state University senior lecturers representing 10% of the population were sampled randomly and used as respondents for the study. The instrument that guided this study was “Comparative Study of the Availability And Utilization of E-Learning Infrastructure Questionnaire (CSAUELIQ)”. The questionnaire was validated by three experts; two in the Department of Educational Foundations (Administration and Planning Unit) and one in the Department of Science Education (Measurement and Evaluation Unit), Faculty of Education, University of Nigeria, Nsukka. The reliability of the instrument was established using Cronbach Alpha the instrument yielded a reliability coefficient index of 0.89. Mean Score and standard deviation were used to answer the research questions and t-test statistics was used to test the null hypotheses at 0.05 alpha significant levels. The study revealed that availability of e-learning facilities for effective teaching and learning are not adequate in South-Eastern States and Federal Universities. Hence, e-learning infrastructure for effective teaching and learning are not effectively utilized in State and Federal Universities in South-East, Nigeria. Consequently, the study among other things recommended that e-learning resources should be provided in the schools to stimulate the use of electronic devices to enhance teaching and learning. Furthermore, Universities should also liaise with private organizations to provide electronic devices for students and lecturers. Finally, Lecturers should be well trained in specific methods in which they could use e-learning devices to enhance teaching and learning.

Keywords: E-learning, Infrastructures, Utilization, availability, teaching and learning

Scientific knowledge has increased exponentially in this era of information communication technology. The effect of science and technology has significantly affected and continued to affect our everyday lives. In fact, the importance of information and communication technology cannot be over emphasized in our daily endeavors. In the area of teaching and learning, Niederhouser & Stoddart (2001) posited that information and communication technology has become the basic element in reaching, using, sharing and producing knowledge.

From 1900s till date, lots of technologies have been used in teaching and learning. In the early 21st century, video was used. Radio was used in the educational environment which lead to great expectation between 1920 and 1930, however, its effects was so limited (Nbina, Obomanu, & Vikoo, 2011). In conjunction with Second World War, using audio visual for education became popular. At the beginning of 1950s, television was commonly used but yielded to computer in a decade. (Reiser, 2001).

However, computer was not so commonly used in education until 1980s; they are still one of the most used technologies. From 1955 till date when internet was invented, fast growing technologies have continued to prove to be very important to teaching and learning experiences. Lots of tools were used for teaching and learning experience such as social networks, blogs, wiki and e-learning. (Jimoyiannis, Tsiotakis, Roussinos and Soresta, 2013).

The emergence of web has made the human society to take a huge leap. The revolution in the information communication technology and the emergence of web has been the most important event...
at the start of the century. Information technology has become an important element of every aspect of our society. Education is no exception. The use of multimedia and networking is welcomed in the field of education. The first time some form of e-learning was followed was in 1960, when the University of Illinois developed a classroom linked with computer terminals where the students could listen to the recorded lectures of a particular course. With the growth of internet in 1990s, correspondence schools like University of Phoenix started showing interest in virtual education. The first online high school CAL campus came into existence in 1994.

Education in the 21st century has been referred to as a multimedia nation by some experts (Agarwal & Pandey, 2013). All nation around the world have accepted and is promoting educational information. According to Kozman, (2003), the national center for education statistics stated in 2008 that there were 18 million students who were enrolled in some online program worldwide. This was a 1.6% increase from 2002 and it has continued to increase year by year making the educational system, the teaching method and many other things related to the educational field to be in a constant change. This transformation has given birth to e-learning and its availability and utilization cannot be overemphasized.

E-learning refers to the use of ICT to enhance and support teaching and learning process. Nnadozie & Nwajiuba (2018) posit that E-learning is actually a short-form for electronic learning. In a similar view Nnadozie (2018) stated that e-learning is generally defined as the use of computer networks and internet technologies to deliver instructions and education to individuals and group. For Engelbrecht (2005) e-learning is the process of delivery of teaching materials through an electronic media such as internet, Intranet, extranet, satellite broadcast, audio/video tape, interactive TV and CD-ROM. It is the type of learning supported by information and communication technology (ICT) via the internet, intranets, extranets or many others to improve the quality of teaching and learning (Tagoe, 2012). Horton (2005), defined e-learning as the use of internet and digital technologies to create experience that educate our fellow human being. It therefore implies that e-learning is not only limited to the formal classroom setting. It can also be used in other places like church, mosque, market and others places to teach, inform and acquire useful information from people. As a matter of fact Terande (2012), observed that e-learning has the potential of revolutionizing the way we teach and how we learn. One can therefore say that e-learning can be seen as a teaching method and not only a method of learning. However, e-learning should not be confused with e-teaching. Though the two terms are often times used interchangeably, there is a slight difference between them. While e-teaching is a teacher centered educational approach, e-learning according to Olaniyi (2006) is the use of network technologies to create, foster, deliver and facilitates learning anytime and anywhere.

The importance of ICT to the educational sector can never be over emphasized. Information communication technology (ICT) is a transformational tool which when use in the right way and appropriately, can promote and lead to the achievement of educational goals and objectives of teaching and learning. In fact, the current National Policy on Education (NPE) recognized the place of e-learning in the achievement of lifelong education goals and objectives. Hence Wadi & Sonia (2002) observed that e-learning enhances the quality of education in several ways by increasing learner’s motivation and engagement, by facilitating acquisition of basic skills and enhancing teacher training.

Nigeria has 95 Universities; i.e. 27 Federal Universities, 34 State Universities, 34 Private owned Universities with about 160 other tertiary institution, colleges of education, polytechnics and monotechnics (Oye.,Salleh., & Lahad). Every year, about one million students apply into these universities but only about 10% of them are enrolled. Folorenso, Ogunseye, & Sharma (2006) identified mass unawareness, low literacy level and high cost as the critical factors affecting the implementation of e-learning in Federal and State Universities. Resnick (2002) observed that even though ICT is applied in education, the approaches to teaching and learning in most of these private and state universities remain unchanged. Hence, because of the higher demand of pro-activeness discipline e-learning places on the teachers and the learners, the benefits of e-learning, to some extent could not be taken of, expectation could not be met and ICT technologies were often simply used to reinforce outmoded approaches to learning.

The national University Commission (NUC), the governmental agency responsible for the regulation of University, proscribed Personal Computer (PC) ownership for Universities as Follow: One PC for every four students, one PC for every two lecturers below the rank of Lecture 1 and one PC per Senior Lecturers while one Notebook should be allocated or given to each Reader/Professors
Inconsonance with the foregoing, as observed by Agyeman (2007) that only few universities have achieved to some an extent a percentage ratio of the above stipulations, and some universities have not achieved a giant stride in the Campus Wide Area Network (WAN). Continuing Agyeman (2007) stated that ICT revolution is yet to attain that critical mass required for it to register the necessary impact in the teaching and learning of lecturer’s, their students’ and the entire social organization. In a similar vein Shahadet., Numbub., & Clement(2012) observed that several higher educational institutions are finding it difficult to implement the basic ICT programmes in their institutions.

A number of studies have been carried out on e-learning across Nigeria. For instance, Atsumbe1, Raymond, Enoch, & Patrick, (2012) carried out a study on the Availability and Utilization of e-Learning Infrastructure in Federal University of Technology, Minna and found that that e-learning infrastructure are not available in FUT., Minna. They therefore, recommended ICT infrastructure should be provided to facilitate effective teaching and learning in order to brace up to present day educational challenges. Kamba (2009), however, carried out a study; Problems, challenges and benefits of implementing e-learning in Nigerian universities and found that Nigerian universities are in the trend of creating web pages which are meant for advertisement of the university and not for e-learning activities. Similarly, Piranis’ (2004) study on supporting e-learning in higher education: road map, tools for navigating complex decision stated that for an institution to be able to adopt e-learning, it must provide adequate and reliable technical infrastructure. Nbina, Obomanu & Vikoo (2011) studied utilization of Information and Communication Technology for quality instruction in Rivers State University of Education Port Harcourt and found that lecturers have no knowledge of ICT facilities and so shy away from utilizing them for teaching. There is however, no study to the best of the knowledge of the researcher that has been carried out comparatively on availability and utilization of e-learning infrastructure in Federal and State universities in South-Eastern Nigeria this, leads credence to this study so as to close the perceived gap in knowledge.

Statement of the Problem

Research has shown that e-learning infrastructures enhance teaching and learning by providing opportunities to practice, analyze and offer better access to relevant articles, teaching and learning materials. As a matter of fact, e-learning facilities such as ICT have become a key tool in educational methodologies and curriculum delivery globally. This is because e-learning infrastructures have been identified as indispensable instruments for the development of quality teaching and learning.

However, although the government seems to be committed to the implementation of ICT in education, the process seems to be hindered by numbers of barriers. In fact, in spite of the bright prospect of e-learning in the country, it is worrisome to note that there are some huddles militating against the effective use of e-learning technologies or infrastructures in Nigeria and particularly South East State and Federal universities such as lack training environment and lack of qualified teachers with ICT knowledge, none implementation of policies after approval, government instability, strike actions of lecturers in the universities, nonchalant attitude of government and its agencies on effective utilization of good learning tools in the universities, embezzlement of the fund made procure ICT devices in the university, lack of maintenance culture in the university system, lack of internet or slow connectivity, increased moral degradation, lack of uninterrupted power supply to mention but a few.

On the look of thing around our Universities, it will be observed that despite all these challenges, there exist some lectures and students who are interested and willing to use the e-learning facilities in teaching and learning. These group of people are however, either forced to provide their own means of facilitating the usage or result to the use of the commercial business centers around them or use their individual or personal facilities. This unfortunately only limits them to those facilities they can afford.

Therefore, because of the importance of e-learning facilities to the realization of education objectives, and given the premium placed on e-learning in today’s fast digitalizing societies, it is important to know the extent of availability and utilization of these facilities in our Nigerian universities. To the best knowledge of the researchers, there is little or no knowledge in this regard. This study therefore seeks to comparatively analyze of the availability and utilization of e-learning
infrastructure in federal and state universities in South-Eastern states, Nigeria so as to close the gaps that exist.

Purpose of the study
The purpose of this study was to comparatively analyze the availability and utilization of e-learning infrastructure in South-East federal and state universities. Specifically, the study sought to
1. Determine the extent to which availability of e-learning infrastructure enhances effective teaching and learning in Federal and State universities in South-East States, Nigeria.
2. Examine the extent to which utilization of e-learning infrastructure enhances effective infrastructures effective teaching and learning in Federal and State universities in South-East States, Nigeria.

Research Questions
The following research questions guided the study:
1. What extent does availability of e-learning infrastructure enhance effective teaching and learning in Federal and State universities in South-East States, Nigeria?
2. What extent does utilization of e-learning infrastructure enhance effective teaching and learning in Federal and State universities in South-East States, Nigeria?

Hypotheses
To guide the study, the following null hypothesis are formulated and tested at 0.05 level of significance.

H01: There is no significant difference between the mean score of Federal and State University lecturers on the extent to which availability of e-learning infrastructure enhances effective teaching and learning in Federal and State Universities in South-East, Nigeria.

H02: There is no significant difference between the mean score of Federal and State University lecturers on the extent to which utilization of e-learning infrastructure facilitates teaching and learning in Federal and State Universities in South-East States, Nigeria.

Research Methods
The researcher adopted descriptive survey research design. A sample of 934 federal University senior lecturers and 602 state University senior lecturers were sampled randomly and used as respondents for the study. The instrument for data collection was “Comparative Study of the Availability and Utilization of E-Learning Infrastructure Questionnaire (CSAUELIQ)”. The questionnaire was validated by three experts; two in the Department of Educational Foundations (Administration and Planning Unit) and one in the Department of Science Education (Measurement and Evaluation Unit) all from the Faculty of Education, University of Nigeria, Nsukka. The instrument was grouped into two (2) clusters of seven (7) and eight (8) items respectively. Cluster A was on the availability of E-Learning while Cluster B was on Utilization of E-Learning. They are made up of fifteen (15) structured item questionnaire designed to elicit opinion of lecturers on the availability and utilization of e-learning infrastructure among federal and state universities in South-East States, Nigeria. The items were structured on a modified 4 points scale of Very High Extent (VHE), High Extent (HE), Low Extent (LE), and Very Low Extent (VLE) weighted 4, 3, 2 and 1 point respectively. The reliability of the instrument was established using Cronbach Alpha and a reliability coefficient index of 0.89 was obtained and considered adequate for the study. Mean Score and standard deviation were used to answer the research questions and t-test statistics was used to test the null hypotheses at 0.05 alpha significant levels. To answer the research questions, a criterion mean score of 2.50 was calculated to judge the mean responses of the respondents. Thus, any mean response above 2.50 was considered that is 3.00 and above Very High Extent (VHE), 2.50-2.99 High Extent opinion while mean response below 2.50 was considered otherwise that is 2.49-1.75 Low Extent (LE), and 1.74 – 0.00 Very Low Extent (VLE) respectively.
Results

Table 1: Mean and Standard Deviation of Lecturers’ Responses on the Availability of E-Learning Facilities in State and Federal University

<table>
<thead>
<tr>
<th>S/N</th>
<th>Cluster B. Adequacy of E-learning</th>
<th>( \bar{x}_1 )</th>
<th>SD(_1)</th>
<th>( \bar{x}_2 )</th>
<th>SD(_2)</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Internet services provided by the university (Afrihub, Nunet) are adequate.</td>
<td>2.17</td>
<td>1.22</td>
<td>2.18</td>
<td>1.09</td>
<td>LE, LE</td>
</tr>
<tr>
<td>2</td>
<td>The university’s digital library is efficient.</td>
<td>1.86</td>
<td>1.20</td>
<td>1.75</td>
<td>0.88</td>
<td>LE,LE</td>
</tr>
<tr>
<td>3</td>
<td>Educational materials and links could be accessed from the university’s website.</td>
<td>1.70</td>
<td>.929</td>
<td>1.62</td>
<td>.706</td>
<td>VLE,VLE</td>
</tr>
<tr>
<td>4</td>
<td>Students can easily get access to a computer in the ICT centre or within the university.</td>
<td>1.89</td>
<td>1.05</td>
<td>1.73</td>
<td>.780</td>
<td>LE,VLE</td>
</tr>
<tr>
<td>5</td>
<td>Computer Mediated learning facilities provided by the university is adequate</td>
<td>1.80</td>
<td>1.02</td>
<td>1.68</td>
<td>.773</td>
<td>VLE,VLE</td>
</tr>
<tr>
<td>6</td>
<td>The Educational media provided by the University is adequate</td>
<td>1.78</td>
<td>1.09</td>
<td>1.65</td>
<td>.789</td>
<td>VLE,VLE</td>
</tr>
<tr>
<td>7</td>
<td>The university has virtual learning facilities</td>
<td>1.83</td>
<td>1.15</td>
<td>1.70</td>
<td>.874</td>
<td>LE,VLE</td>
</tr>
<tr>
<td></td>
<td>Cluster Mean score</td>
<td>1.86</td>
<td>1.08</td>
<td>1.76</td>
<td>0.84</td>
<td>LE,LE</td>
</tr>
<tr>
<td></td>
<td>Number of respondents</td>
<td>1535</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Benchmark mean score</td>
<td>2.50</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\( \bar{x}_1 \) = scores for State University Lecturers; \( \bar{x}_2 \) = scores for Federal University Lecturers; SD\(_1\) = Standard deviation for State University Lecturers; SD\(_2\) = Standard deviation for Federal University Lecturers.

Tables 1, show that the cluster means of the 1 – 7 items was 1.86 (State University Lecturers) and 1.76 (Federal University Lecturers). These means are below the real limit of 2.50 of a 4-point rating scale. This means that the respondents disagreed that E-learning facilities are adequately available for effective teaching and learning in South-East Federal and State University. The Table also revealed that the cluster standard deviation of the 1 - 7 items was 1.08 (State University Lecturers) and 0.84 (Federal University Lecturers). This shows that the respondents were not far from the opinion of one another in their responses on the availability of e-learning infrastructures for effective teaching and learning in South-East Federal and State Universities.

A corresponding hypothesis further formulated to address the research was

There is no significant difference between the mean score of federal and state universities lecturers on the availability of e-learning infrastructures for effective teaching and learning in South-East federal and state Universities.

Table 2: t-test of Federal and State University Lecturers on the Availability of E-Learning Facilities

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>N</th>
<th>( \bar{x} )</th>
<th>SD</th>
<th>DF</th>
<th>t-cal</th>
<th>P Value</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal Uni. Lecturers</td>
<td>934</td>
<td>1.76</td>
<td>0.84</td>
<td>1533</td>
<td>2.15</td>
<td>0.15</td>
<td>NS</td>
</tr>
<tr>
<td>State Uni. Lecturers</td>
<td>601</td>
<td>1.86</td>
<td>1.08</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results presented in Table 2 indicate there is no significant difference between the mean score of federal and state university lecturers on the availability of e-learning infrastructures for effective teaching and learning in South-East federal and states Universities. The calculated t-value of 2.15 has a probability value of 0.15 and therefore not significant at 0.05 level of significance. Since the calculated t-value have probability values that is above 0.05 levels, the null hypothesis of no significant difference between the mean score of federal and state universities lecturers on the availability of e-learning infrastructures for effective teaching and learning in South-East federal and states University is retained. Consequently, State and Federal Universities lecturers agreed that e-learning facilities for effective teaching and learning are not adequately available for teaching and learning in South-Eastern state and federal universities.
Table 3: Mean and Standard Deviation of Lecturers’ Responses on Utilization of E-Learning Facilities in State and Federal University

<table>
<thead>
<tr>
<th>S/N</th>
<th>Cluster B. Utilization of E-learning</th>
<th>( \bar{x}_1 )</th>
<th>SD(_1)</th>
<th>( \bar{x}_2 )</th>
<th>SD(_2)</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Lecturers utilizes computer application to facilitate teaching and learning</td>
<td>1.93</td>
<td>.880</td>
<td>1.99</td>
<td>.673</td>
<td>LE,LE</td>
</tr>
<tr>
<td>9</td>
<td>Lecturers individually or collectively have WebPages.</td>
<td>1.81</td>
<td>.848</td>
<td>2.00</td>
<td>.757</td>
<td>LE,LE</td>
</tr>
<tr>
<td>10</td>
<td>Lecturers individually or collectively have Blogs/Wikis.</td>
<td>1.77</td>
<td>.848</td>
<td>1.97</td>
<td>.722</td>
<td>LE,LE</td>
</tr>
<tr>
<td>11</td>
<td>Online collaboration/teleconference are employed by lecturers to enhancing teaching</td>
<td>1.86</td>
<td>.884</td>
<td>1.78</td>
<td>.702</td>
<td>LE,LE</td>
</tr>
<tr>
<td>12</td>
<td>Computerized diagnostic assessment is used by lecturers in assessing students.</td>
<td>2.06</td>
<td>1.06</td>
<td>1.92</td>
<td>.793</td>
<td>LE,LE</td>
</tr>
<tr>
<td>13</td>
<td>Lecturers provide educational literature to students in soft copy</td>
<td>2.01</td>
<td>1.15</td>
<td>2.07</td>
<td>1.01</td>
<td>LE,LE</td>
</tr>
<tr>
<td>14</td>
<td>Lecturers use computer simulations to aid teaching and learning.</td>
<td>2.35</td>
<td>.891</td>
<td>2.18</td>
<td>.699</td>
<td>LE,LE</td>
</tr>
<tr>
<td>15</td>
<td>Lecturers use electronic devices to facilitate retention in learning</td>
<td>1.85</td>
<td>.954</td>
<td>1.71</td>
<td>.749</td>
<td>LE,VLE</td>
</tr>
</tbody>
</table>

Cluster Mean score and standard deviation: \( \bar{x}_1 \) = 1.95, SD\(_1\) = 0.76; \( \bar{x}_2 \) = 1.96, SD\(_2\) = 0.94

Number of respondents: 1535

Cluster standard deviation: 0.76 (State University Lecturers); 0.94 (Federal University Lecturers)

Data in tables 3, show that the cluster means score of the 8 – 15 items was 1.95 (State University Lecturers) and 1.96 (Federal University Lecturers). These means are below the real limit of 2.50 of a 4-point rating scale. This means that the respondents disagreed that E-learning facilities are adequately utilized in South-East Federal and State University. The Table also revealed that the cluster standard deviation of the 8 - 15 items was 0.76 (State University Lecturers) and 0.94 (Federal University Lecturers). This shows that the respondents were not far from the opinion of one another in their responses on the utilization of e-learning infrastructures for effective teaching and learning in South-East federal and states Universities.

A corresponding hypothesis further formulated to address the research was:

There is no significant difference between the mean ratings of federal and state university lecturers on the utilization of e-learning infrastructures for effective teaching and learning in South-East federal and states University.

Table 4

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>N</th>
<th>( \bar{x} )</th>
<th>SD</th>
<th>Df</th>
<th>t-cal</th>
<th>P Value</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal University Lecturers</td>
<td>934</td>
<td>1.95</td>
<td>0.76</td>
<td>1533</td>
<td>-0.02</td>
<td>0.06</td>
<td>NS</td>
</tr>
<tr>
<td>State University Lecturers</td>
<td>601</td>
<td>1.96</td>
<td>0.94</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results presented in Table 4 indicate that there is no significant difference between the mean ratings of federal and state university lecturers on the utilization of e-learning infrastructures for effective teaching and learning in South-East federal and states University. The calculated t-value of -0.02 has a probability value of 0.06 and therefore not significant at 0.05 level of significance. Since the calculated t-value have probability values that is above 0.05 levels, the null hypothesis of no significant difference between the mean score of federal and state university lecturers on the utilization of e-learning infrastructures for effective teaching and learning in South-East Federal and States Universities is retained. Consequently, both State and federal Universities lecturers agreed that e-learning facilities for effective teaching and learning are not adequately utilized in South-Eastern state and federal universities.
Discussion of Findings

The findings of the study show that availability and utilization of e-learning facilities for effective teaching and learning are not adequate in South-Eastern state and federal universities. Consequently both state and federal university lecturers agreed that Internet services provided by the university (Afrihub, Nunet) are not adequate; the universities’ digital libraries are not efficient. They are also of the opinion that Educational materials and links are not accessed from the universities’ website and that Students cannot easily get access to a computer in the ICT centre or within the university. From this study, one could also decipher from the responds of states and university lecturers in south east that computer Mediated learning facilities provided by the university are not adequate; Educational media provided by the Universities are not adequate and the universities have little or no virtual learning facilities. The study is in agreement with the study of Atsumbe1, Raymond, Enoch, and Patrick; (2012) study revealed that e-learning infrastructures are not available in FUT., Minna. The study further supports the findings of Kamba (2009), which asserted that Nigerian universities are in the trend of creating web pages which are meant for advertisement of the university and not for e-learning activities.

Furthermore, the findings of the study revealed that e-learning infrastructures for effective teaching and learning are not effectively utilized in State and Federal Universities in South-East. This could be deciphered from the responds of the South East States and Federal Universities which unanimously agreed that lecturers do not utilizes computer application to facilitate teaching and learning; lecturers whether individually or collectively have no web page or blogs/wiki; online collaboration/teleconference are not employed by lecturers to enhancing teaching.

Computerized diagnostic assessments are not used by lecturers in assessing students; lecturers do not provide educational literature to students in soft copy; lecturers hardly use computer simulations to aid teaching and learning and lecturers do not use electronic devices to facilitate retention in learning. These are not unconnected with the fact that these facilities are not adequately provided to them. This study lends credence to the opinion of Akinnuwsesi, Adedoyin, & Adegoke (2007) who are of the view that implementation of e-learning will require major commitment of resources and the support of stakeholders in the public and private sectors. Moreover, sufficient funds are needed to establish and maintain e-learning facilities in schools. The study is also in concomitance with the findings of Nbina, Obomanu & Vikoo (2011) which found out that lecturers have no knowledge of ICT facilities and so shy away from utilizing them for teaching. Lastly this study lends credence to Pirani (2004) who stated that for an institution to be able to adopt e-learning, it must provide adequate and reliable technical infrastructures.

Conclusion

From the findings of the study and discussion that followed, the following conclusions were made:

1. E-learning facilities for effective teaching and learning are not adequately available and utilized in South-Eastern state and federal universities. Consequently Internet services provided by the university (Afrihub, Nunet) are not adequate; the universities’ digital libraries are not efficient. Furthermore, educational materials and links are not accessed from the universities’ website and that Students cannot easily get access to a computer in the ICT centre or within the university. More still, computer Mediated learning facilities provided by the university are not adequate; Educational media provided by the Universities are not adequate and the universities have little or no virtual learning facilities.

2. Furthermore, the findings of the study revealed that e-learning infrastructures for effective teaching and learning are not effectively utilized in State and Federal Universities in South-East. Consequently lecturers do not utilizes computer application to facilitate teaching and learning; lecturers whether individually or collectively have no web page or blogs/wiki; online collaboration/teleconference are not employed by lecturers to enhancing teaching. Furthermore, computerized diagnostic assessments are not used by lecturers in assessing students; lecturers do not provide educational literature to students in soft copy; lecturers hardly use computer simulations to aid teaching and learning and lecturers do not use electronic devices to facilitate retention in learning.
Recommendations

Based on the findings of this study, the following recommendations are made to help improve e-learning for effective teaching and learning in South-East State Universities.

1. Adequate power supply should be provided in and around the school to stimulate the use of electronic devices for teaching and learning. Also, the universities should liaise or register with organizations that have or publish educational resources or websites for easy access of educational materials from these websites. Furthermore, the university should upgrade her website or launch a website which lecturers and students can use to disseminate or access information. Such website should enable lecturers to upload their course materials. Past projects should also be uploaded on the websites for easy access to both lecturers and students. The website should also freely host wikis/blogs and e-journals of the university. Universities should also liaise with private organizations to provide cheap electronic devices for students and lecturers. These electronic devices do not necessarily have to be laptops that are expensive but other electronic devices that could store, copy, display, record information such as MP5, WAP enabled phones, PDAs, e.t.c. In addition, proper orientation should also be given to students on how to use these devices to promote learning.

2. Lecturers should be well trained in specific methods in which they could use electronic devices to enhance teaching. This could be achieved by contracting experts to develop curricular for training process. Curricular for teaching that will inculcate the use of e-learning infrastructures by students should be developed. And The universities should enter into contracts with internet service providers such as MTN, Airtel, Etisalat and Glo so that they can have reliable internet services for lecturers and students.

3. Implementation of government policies is necessary to improved on the challenges of non-availability and utilization of e-leaning in the universities in South-East State Nigerians, and other related states and across the globe. Since this implementation of policies will help to prosper and achieved remits of e-learning efficiently and effectively in order to overcome these worrisome of non-implementation of policies, lack of effective utilization of the ICT devices, poor maintenance culture, government instability and strike action on the lecture and of the government respectively.

References


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