RELEVANCE OF ICT ON EDUCATIONAL ISSUES FOR EDUCATIONAL SUSTAINABILITY IN OYO STATE TERTIARY INSTITUTIONS

ADELEKE ISRAEL ADEWALE
Department of Computer Science, EACOED, Oyo

Abstract
As tertiary education is progressively playing a significant role in the development of any nation so also it is devastating and misdemeanor not to recognize the relevance of ICT in tertiary education for any nation agitating to experience sustainable educational transformation. Meanwhile, ICT has been embraced in every field of life as formidable device one cannot do without in this age of science and technology. This paper focused on the relevance of ICT-facilities and educational-issues. These educational issues were categorized into curriculum-issue, students’ affairs issue and academic-staff issue out of which other issues sprang up. Three hypotheses were raised with thirty (30) items as questionnaire in which ten (10) items are for each hypothesis raised to generate the required data for the study. Three hundred questionnaires were distributed to three hundred academic and non-academic staff of the three universities selected within Oyo state and the data collected was analyzed with the application of Chi-square ($X^2$) statistical method at 0.05 alpha level to test the three hypotheses formulated for the study. It was discovered that ICT could not be neglected if the issues with their challenges would be eliminated in order for Nigeria to be partaker of one of the nations that will enjoy sustainable educational development. This is because in hypothesis one, the $X^2$ critical value (16.92) was smaller than $X^2$ calculated value (34.10) showing that the null hypothesis is rejected, in the second hypothesis, the $X^2$ critical value (16.92) was smaller than $X^2$ calculated value (32.11) showing that the null hypothesis is rejected and in the third hypothesis, the $X^2$ critical value (16.92) was smaller than $X^2$ calculated value (52.89) showing that the null hypothesis is rejected.
Keywords: educational-issues, ICT-facilities, sustainable, curriculum-issue and academic-staff

Introduction
The importance of education in the overall development of a nation cannot be overemphasized and this has made education to become one of the major areas of investment for economic development (Ofoego, Odionye and Ebebe, 2013). Therefore, Nigeria needs quality education which is the foundation of the great transformation and development of every great nation which we are envisaging (Uche, 2013). To further buttress this, Uche (2013) opined that the technological advancement in the world today can be attributed to the breakthrough experienced in the field of education but many are the problems bedeviling our education sector for which urgent attention is needed if we really desire to transform the nation. Idoko (2015) stated that the working environment of the Nigerian teachers is very repulsive, hence the falling standard of education today because the infrastructural facilities like instructional materials, modern day laboratories, workshops and others are lacking as government fails to provide them. This has resulted into series of educational issues that are pending and not yet addressed which is educational instability, cultism and other social misconduct among students, brain-drain and industrial action among staff, etc.

In Nigeria education sector, there are numerous issues confronting its transformation and development most of which are perennials such as lack of facilities in public schools, gender issue, quality of proficiency of the teacher, how to develop standardized curriculum with course contents, etc. Ademola (2006) stated that academic issues that have to do with students online admission, information management, students’ violence, examination malpractices and students organization, etc which were referred to as contemporary issues by (Okemakinde, 2016 and Salami, Okemakinde, Adeyemo, & Oketunbi, 2009)) whereas Ajayi & Ekundayo (2006) and Maja (2000) stated issues such as capacity building, access and equity, literacy and community education, science and technology education, Brain-drain, cultism and campus Brigandage, falling standard of

However, this is a digital age where everyone, regardless of area of specialization has to be ICT compliant in order to function effectively in the society (Adedoja and Bello, 2012). Embarking on the use of ICT facilities to handle most of the aforementioned issues that have been compacted into curriculum issue, academic-staff issue and students’ affairs issue will bring the development that we are envisaging into this nation. Meanwhile, in the overall development of a nation, ICT is highly an indispensable technology made available by humanity and for humanity particularly any nation that wishes to get involved in rapid and universal development and progress without any stress. The ICT is expected to be fully integrated into curriculum issue development which is explained as a prescribed course of study that students must undergo in school for them to attain certain level of education.

Several definitions are given to Information Communication Technology (ICT). For instance, Ajagun (2003) defined ICT as a whole range of technology which include electronic devices that are used in broadcasting, telecommunication and all other electronically mediated information gathering and communication system. Milken Exchange on Educational Technology (1999) defined ICT as encompasses computer hardware and software, the network and several other devices (video, audio, photography, camera, etc) that can convert textual information, images, sound and motion into common digital form. In this work, ICT is expressed as any modern day technology that can assist in solving issues that pertain to education for educational transformation and development since every Tom Dick and Harry is concerned with comfortability in disseminating, accessing, storing and creating information which ICT has brought to the whole world.

Statement of the Problem
Educational issues with series of challenges are serious phenomena that must be attended to if our education sector in Nigeria will receive outstanding transformation and consequently experience sustainable development. Meanwhile, most of these issues have brought global setback
to our tertiary institutions such as brain-drain among the academic staff, examination malpractices and cultism among students; confusion and uproar in developing standard curriculum; hence, many parents have sent their children out of this country for further study to enjoy sound education that is been denied here in Nigeria. This paper aimed at how such issues can be alleviated if not completely eradicated through the full incorporation of Information and Communication Technologies such as computer, internet, smart-phone, mobile phone, Personal Digital Assistant (PDA), Closed Circuit Television (CCTV), Global Positioning System (GPS), Interactive Whiteboard (IWB), etc. The integration of ICT facilities will enable these issues to be technologically addressed for sustainable educational development.

Research Hypotheses
This study is employed to consider the following research hypotheses
1. There is no significant association between ICT facilities and curriculum issue in educational sustainability.
2. There is no significant association between ICT facilities and academic-staff issue in educational sustainability.
3. There is no significant association between ICT facilities and students’ affairs issue in educational sustainability.

Methodology
Research Design
A descriptive survey research design was used for the study for easy collection of data. A representative sample of a larger population are studied in order to determine the character of the whole population under consideration.

Population
The population of the study covered all academic and non-academic staff in three selected Universities in Oyo state. Also, the investigators employed self-developed questionnaire with thirty (30) items as statement.

Sample and Sampling Techniques
The following universities were used for the research work
University of Ibadan, Ibadan
Ladoke Akintola University of Technology, Ogbomoso
Ekiti State University in affiliation with Emmanuel Alayande College of Education, Oyo

Across these universities three hundred participants were selected. One hundred respondents were taken from each university to determine the relationship between ICT facilities and educational issues. Stratified random sampling technique was adopted in the selection.

Research Instrument
A researcher-made-questionnaire was used as the instrument for data collection. The questionnaire was designed with thirty (30) items in which ten (10) items are for each hypothesis raised to generate the required data for the study. Three hundred questionnaires were distributed and collected back. The reliability co-efficient of the instrument was 0.87 in the test and retest analysis.

Method of data analysis
The data collected was analyzed using Chi-square ($\chi^2$) statistical method at 0.05 alpha levels to test the three hypotheses.

Testing of Hypotheses
Curriculum Issue
Table 1. Responses on the association between ICT facilities and curriculum issue in educational development

<table>
<thead>
<tr>
<th>S/N</th>
<th>Statement</th>
<th>SA</th>
<th>A</th>
<th>SD</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ICT facilities like video-conferencing allow curriculum developers from different locations to collaboratively develop refined curriculum contents</td>
<td>100</td>
<td>65</td>
<td>89</td>
<td>46</td>
</tr>
<tr>
<td>2</td>
<td>Curriculum contents can be circulated among developers and non-developers through the use of ICT tools such as e-mail, Whatsapp, etc.</td>
<td>136</td>
<td>103</td>
<td>20</td>
<td>41</td>
</tr>
<tr>
<td>3</td>
<td>Curriculum contents can be broken down into simpler course contents with the use of ICT devices for easy accessibility of students and lecturers</td>
<td>130</td>
<td>85</td>
<td>53</td>
<td>32</td>
</tr>
</tbody>
</table>
Possibility of updating and documentation of curriculum contents for future reference purpose through ICT facilities such as computer set, flash drive, CD-ROM, DVD, etc.

Through the use of ICT facilities such as e-mail, whatsapp, etc, teachers from various disciplines who are not part of curriculum developers can contribute in developing standard curriculum contents.

Curriculum developers can be intimated with students challenges on curriculum issues through social media like e-mail, facebook, yahoo messenger, etc either by the students or the general public.

Students have access to curriculum contents through internet platforms prior to their resumption period which aid their preparation ahead of time.

National curriculum developers can have access to foreign curriculum contents to develop theirs through ICT facilities.

Periodical issues on curriculum contents can be disclosed, discussed, addressed and modified among developers through ICT usage.

Possibility of uploading and downloading of curriculum contents for wide-ranging exploitation through ICT platforms to aid educational development universally.

<table>
<thead>
<tr>
<th>Variables (ICT facilities)</th>
<th>No of std</th>
<th>Df</th>
<th>Expected Frequency (FE)</th>
<th>X²Critical Value</th>
<th>X² Calculated Value</th>
<th>Level of Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>curriculum issue</td>
<td>300</td>
<td>9.0</td>
<td>201.4</td>
<td>16.92</td>
<td>34.10</td>
<td>0.05</td>
</tr>
</tbody>
</table>
**Academic-staff issue**

Table III: Responses on the association between ICT facilities and academic-staff issue in sustainable educational development

<table>
<thead>
<tr>
<th>S/N</th>
<th>Statement</th>
<th>SA</th>
<th>A</th>
<th>SD</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Through ICT tools, the academic staff can be updated with the latest curriculum and other relevant educational information in school</td>
<td>116</td>
<td>84</td>
<td>45</td>
<td>55</td>
</tr>
<tr>
<td>2</td>
<td>Academic staff can make their own contributions to educational issues through ICT devices</td>
<td>121</td>
<td>66</td>
<td>89</td>
<td>24</td>
</tr>
<tr>
<td>3</td>
<td>The use of ICT makes teaching and learning activities to become more interactive, convenient and flexible</td>
<td>94</td>
<td>85</td>
<td>64</td>
<td>57</td>
</tr>
<tr>
<td>4</td>
<td>Through ICT tools academic staff can develop themselves by carrying out series of research using services available on the internet</td>
<td>78</td>
<td>125</td>
<td>60</td>
<td>37</td>
</tr>
<tr>
<td>5</td>
<td>Internet service and other computer based programmes give room for teacher to be up-to-date</td>
<td>80</td>
<td>90</td>
<td>60</td>
<td>70</td>
</tr>
<tr>
<td>6</td>
<td>Internet based applications such as Whatsapp, facebook, Yahoo messenger enable the creation of chart rooms which facilitates online discussion among academic staff members and students</td>
<td>104</td>
<td>142</td>
<td>19</td>
<td>35</td>
</tr>
<tr>
<td>7</td>
<td>ICT tools such as CCTV camera enable academic staff to monitor students’ activities in secret places on campus</td>
<td>91</td>
<td>98</td>
<td>64</td>
<td>47</td>
</tr>
<tr>
<td>8</td>
<td>Academic staff employs CAA, CBT as ICT to examine and monitor the students level of learning with ease</td>
<td>100</td>
<td>132</td>
<td>33</td>
<td>35</td>
</tr>
<tr>
<td>9</td>
<td>ICT facilities has exposed many academic staff to plagiarism and academic fraud</td>
<td>84</td>
<td>95</td>
<td>60</td>
<td>61</td>
</tr>
</tbody>
</table>
ICT tools have enabled many academic staff to absolutely depend on internet materials for teaching and learning activities

TOTAL

$F_e = (1949/3000) * 300 = 194.9$

**Table IV:** $H_{02}$ Chi-square showing association between ICT facilities and academic-staff issue

<table>
<thead>
<tr>
<th>Variables (ICT facilities)</th>
<th>No of Std</th>
<th>Df</th>
<th>Expected Frequency (FE)</th>
<th>$X^2$ Critical Value</th>
<th>$X^2$ Calculated Value</th>
<th>Level of Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>academic-staff issue</td>
<td>300</td>
<td>9.0</td>
<td>194.9</td>
<td>16.92</td>
<td>32.11</td>
<td>0.05</td>
</tr>
</tbody>
</table>

$X^2 \text{ Cal} = \sum(f_o - f_e)^2 / f_e = 32.11$

In Table IV it was observed that $X^2$ critical value (16.92) was lesser than $X^2$ calculated value (32.11). Thus, the null hypothesis is rejected and the alternative hypothesis that there is significant relationship between ICT facilities and academic-staff issue is accepted

**Students’ Affairs Issue**

**Table V:** Responses on the association between ICT facilities and students affairs issue in educational sustainability

<table>
<thead>
<tr>
<th>S/N</th>
<th>Statement</th>
<th>SA</th>
<th>A</th>
<th>SD</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Through ICT students have access to both curriculum and course contents even before the commencement of teaching-learning activity</td>
<td>75</td>
<td>165</td>
<td>45</td>
<td>15</td>
</tr>
<tr>
<td>2</td>
<td>E-learning enable students to study on their own in their convenient time and place</td>
<td>200</td>
<td>70</td>
<td>18</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>All needed study materials can be made available to students through ICT platform</td>
<td>120</td>
<td>45</td>
<td>106</td>
<td>29</td>
</tr>
</tbody>
</table>
ICT facilities has lured most students series of social misconduct such as examination malpractices in schools

ICT allows students to either do individual or collaborative research work for academic success

ICT facilities can be used to create virtual classrooms among students

Social media can be misused in the educational sector by students for financial fraud and pornography

ICT tools give avenue for students to be inattentive and abscond the lectures since most of the things needed are already made available through ICT

ICT facilities is helping students to be more innovative, increase in knowledge and self-reliance because all that students need can be downloaded on the internet

Learning becomes more interesting, lively and enjoyable through the use ICT facilities

**F_e = (2285/3000) *300 = 228.5**

**Table VI: H_03 Chi-square showing association between ICT facilities and students’ affairs issue**

<table>
<thead>
<tr>
<th>Variables (ICT facilities)</th>
<th>No of Std</th>
<th>Of</th>
<th>Expected Frequency (f_e)</th>
<th>x^2</th>
<th>Critical Value</th>
<th>x^2</th>
<th>Calculated Value</th>
<th>Level of Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Affairs Issue</td>
<td>300</td>
<td>9.0</td>
<td>228.5</td>
<td>16.92</td>
<td>52.89</td>
<td>0.05</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

X^2 Cal = \( \sum (f_o - f_e)^2 / f_e = 52.89 \)

In Table VI, it was observed that X^2 critical value (16.92) was lesser than X^2 calculated value (52.89). Thus, the null hypothesis is rejected and the
alternative hypothesis that there is significant relationship between ICT facilities and students’ affairs issue is accepted.

**Discussion of Findings**

Findings revealed that ICT is a formidable instrument in the development of outstanding curriculum and course contents because it allows collaborative curriculum development such that teachers from various disciplines and locations would be able to have contributions in formulating and developing standard curriculum. This ICT enables students to express and expose their study challenges in order to assist the curriculum developers to meet their need. Curriculum can be circulated through the use of ICT tools and can be broken down to course contents with the use of ICT applications.

It was also revealed that ICT facilities can be used to update the teaching staff with the latest curriculum and other relevant information within and outside the school system and to enable teaching staff make their own contributions to educational issues. The use of ICT makes teaching and learning activities to become more interactive, convenient and flexible. Through ICT tools academic staff can develop themselves by carrying out series of research on internet. Academic staff can use ICT in monitoring the activities of their students in secret places and ICT to examine the students to know their level of understanding with ease. However, the discovery and use of ICT tools is making teachers to become lazy such that they only find time to download materials without scrutinizing such downloaded materials before giving it out to the students and also ICT facilities has resulted in brain drain in most of our developing countries (Omonijo, Nndeum and Ezeokana 2011).

Through ICT students can have access to both curriculum and course contents even before the commencement of teaching learning activity. Besides, ICT tools enable students to study on their own in their convenient time and place as well as opportunities to collaborative research study with all needed study materials for academic success. ICT is helping students to be more innovative, increase in knowledge and self-reliance; hence learning becomes more interesting, lively and enjoyable through the use of ICT. However, ICT is promoting social misconduct among our
students in Nigeria tertiary institutions such as cultism, financial fraud in our society, and pornography watching on DSTV, thus student’s focus is been diverted and negligent because most of the things needed are already made available on the internet. Lastly, students are more involved in academic fraud such as examination malpractices through ICT facilities (Omonijo, Nnedum, Fadugba, Uche, and Biereenu, 2013; Adeoye, 2010).

**Recommendations**

From the researcher’s findings, ICT facilities would be a profitable instrument to successively handle educational issues considered in this paper, if the following recommendations and submissions are acted upon;

- ICT facilities such as CCTV camera should be placed in strategic places to monitor students’ activities.
- Curriculum contents should be made available on the Internet for both students and lecturers to have access.
- Each office and lecture room should be made conducive for teaching and learning activities by making it to be computer-networked with projector, Public Address System, power-point with modern days chalkboard.
- Computer Based Test should be introduced in the evaluation of some courses in order to conserve highly needed funds.

**References**


National Association of Education Administration and Planning, Enugu State University of Science and Technology.


