Information and Communication Technology and Business Studies Students’ Academic Performance in Upper Basic Education in Tai Local Government Rivers State, Nigeria

Dr. W. J. UBULOM
Department of Business Education
Faculty of Science and Technical Education
Rivers State University of Science and Technology
Port Harcourt, Nigeria
E-mail: will.ubulom@yahoo.com
+2348033389754

Numbarabari E. KAYII
Department of Business Education
Faculty of Science and Technical Education
Rivers State University of Science and Technology
Port Harcourt, Nigeria
numbarabari.kayii@ust.edu.ng; teddyson4christ@yahoo.com

Dr. B. I. DAMBO
Department of Business Education
Faculty of Science and Technical Education
Rivers State University of Science and Technology
Port Harcourt, Nigeria

ABSTRACT
This study, therefore attempted to examine the impact of Information and Communication Technology (ICT) on Business studies students’ academic performance in Upper Basic Education in Tai Local Government Area of Rivers State. The population of the study comprised of all Junior Secondary School in Tai Local Government Area with sample size of 300. Two research questions were posed and two hypotheses formulated using the impact of Information and Communication Technology (ICT) on Business Studies Students performance questionnaire administered on 60 teachers and 240 students. Data generated for the study were analysed using t-test and ANOVA. Analysis of the data revealed that Information Communication Technology (ICT) has tremendous impact on Business Studies Students’ academic performance. It was recommended that the use of ICT as instructional media bridged the gap between teachers. It was also recommended that ICT has changed teachers and students’ perception about visualizing real world application of course concepts, documenting memories and recording of information.

Keywords: Information and Communication Technology, students’ academic performance, Upper Basic Education, usefulness of ICT, teaching and learning of business studies.

INTRODUCTION
Rapid advances in information technology have provided new learning methods and environments. This has been the case for the teaching of business studies over the years. More advancement is needed, however, and Nigerian business studies curriculum needs more use of
technology and an examination of methods of delivering instruction. Research literature for the past decade has shown that technology can enhance literacy development, impact language acquisition, provide greater access to information, support learning, motivate students, and enhance their self-esteem (O’hara; Pritchard & Bacon 2014, West, 2002). Indeed, researchers have affirmed that computer technology provides abundant opportunities for students to build or modify their personal knowledge through rich experiences that technology affords (Wikipedia, 2009).

Information and communication Technology is an umbrella term that include any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various and application associated them, such as video conferencing and learning. Information Communication Technology are often spoken of in the area of education, healthcare, Libraries, security etc. the term is somewhat more common outside Nigeria. The effect of Information Communication Technology (ICT) on learning in a content area and libraries had elsewhere been highlighted (Falobi, 2014; Ajisafe, 2014; Krubu & Osawaru, 2011).

Information Technology (IT) and Information and Communication Technology (ICT) are often used synonymously. However the key differences is that IT is a subset of Information Communication Technology (ICT) covers all forms of computer networks, information etc. Information Communication Technology (ICT) covers also an extra focus on all forms of communication including telephony, mobiles etc. Information Technology (IT) refers to an entire industry that uses computers, networking, software and often equipment to manage information. Ajisafe (2014) defined Information Communication Technology (ICT) as the technologies that help us record, store, process, retrieve, transfer and receive information. IT and ICT are dependent on each other (Asnafi, 2005). Information Technology (IT) can be considered as the convergence point for communication. It may also imply one-way communication, while Information Communication Technology (ICT) implies interaction between the user and the data. It can also be seen as a revolution that involves the use of computers, projector, internet and other telecommunication techniques in every aspect of human’s life.

Pearson, Kinzer & Leu (2005) demonstrated positive effects of technology on both learning in a content area and learning to use technology itself. They study the potential of multimedia and hypermedia technologies. One study, the reporter project, used multimedia technology to enhance sixth-grade students, information gathering and writing skills. The reporter project was developed and tested in sixth grade classroom for two years and shown that students made statistically significant improvement in their recognition and the use of elements such as main ideas supporting details, and cause and effect relationships their writing was also more cohesive than their control-group peers who were taught using similar materials and sequences but without the use of ICT.

IT and ICT have serious impact on teaching and learning of business studies. Technologies have changed the way people live, work and learn. The use of technology in education is one of the main challenges for NERDC and other stakeholders in the educational sector. Traditional methods of teaching business studies are no longer able to meet the needs of today’s learners. New technologies provide opportunities including the ability to tailor learning with various individuals.

There are four distinctive approaches to IT and ICT in education that are often discussed. These are:

i. IT and ICT in the form of lesson units or workshops for students and teachers.

ii. IT and ICT as a means of information storage and retrieval and a method of doing research (assignment and self-study).

iii. IT and ICT as the channel for delivering instruction.

iv. IT and ICT as the channel for assessment.
In the aforementioned approaches, the discussion of content is missing. The influence that IT can have on teaching methods depends on the knowledge and skills of student and teachers, and the implementation of IT and ICT in schools (Pearson, et al 2005). The effect of IT and ICT varies across subject-areas. Basic Science has been more affected than Civil Education, for example. Regardless of the discipline, however, the advantage is that students and teachers are not limited by time and place.

A number of steps are necessary for Business Studies teaching to find a proper place in Nigeria classroom, improve its quality and teaching skills to be useful and meet today’s needs in order to make themselves relevant. Changes in IT have affected developing countries including Nigeria. Educational programs are no longer fixed entities, but are continuously changing and adapting. Business studies had seen rapid changes in line with best global practices. This had prompted the Nigerian Educational Research and Development Council to prepare a conceptual Framework for the review of the 9-years Basic Educational Curriculum (BEC). This framework identifies and group related disciplines, thereby achieving a reduction in subject listings. For example, related UBE subjects curricula like Home Economics, Agriculture are brought together to create a new UBE subject curriculum to be called Business Studies (NERDC, 2002). Business Studies curriculum have been reviewed and rebuilt to acknowledge those changes to accommodate IT and ICT, including teaching typewriting, office practices, shorthand and bookkeeping.

From the foregoing therefore, the researchers embarked on this study to examine the extent to which the use of ICT in the teaching and learning of business studies could influence the academic performance of students in the upper Basic Education in Tai Local Government Area of Rivers State.

Statement of the Problem

In line with Government adoption of the 9-years Universal Basic Education curriculum to meet the idea of UBE programme were restructured and realigned the curriculum taking cognizance of the need to provide students with the ability and skills to be gainfully employed upon completion of their study as well as to prepare them for setting up their small businesses as entrepreneurs by creating awareness on how to be a better consumer and knowing the right of the consumer NERDC (2012). The old curriculum was being systematically phased out in line with global best practices and national concerns for the purpose of producing the best in teaching performance and the best learning outcome for attaining the millennium Development Goals (MDGs) and in compliance with the National Economic Empowerment and Development Strategies (NEEDS). However, an unresolved and very important problem is: does information, communication and Technology make a difference in the performance of Business studies students? This is the problem addressed by the present investigation.

Purpose of the Study

The purpose of this study was to investigate how information communication and technology utilized in the teaching and learning of business Studies could affect students’ academic performance in upper basic education in Tai Local Government Rivers State, Nigeria. Specifically, the study attempted to achieve the following:

i. The extent ICT benefits the teaching and learning of business studies.

ii. The students and teachers perception on the usefulness of ICT

Research Questions

The following research questions guided the study:

i. To what extent has ICT enhanced the teaching and learning of business studies?

ii. What are students and teachers perception on the usefulness of ICT?

Hypotheses

The following hypotheses were tested for this study at 0.05 alpha level

i. There is no significant impact of ICT on the teaching and learning of business studies.

ii. There is no significant difference between business studies teachers and business students’ perceptions on the usefulness of ICT.
METHODOLOGY

The research design adopted for this study was a descriptive survey. The reason is that it involved collection of data from individual based on opinions, perception, and impact among others. The population for this study comprised all Junior Secondary Schools in Tai Local Government Area of Rivers State, Nigeria. The sample size used in this study consisted of 240 students and 60 teachers randomly drawn from schools in Tai Local Government Area. Two educational districts are identified in the Local Government Area and used as the first stratum. From the educational districts, six schools each were selected making a total of 12, and from each school 20 students and 5 teachers randomly selected making a total sample size of 300. Simple random technique was used to select the sample size.

The instrument for data collection was a self-developed structured questionnaire named impact of ICT on Business Studies students’ performance in upper Basic Education Questionnaire (MIBPUBEQ). Respondents were instructed to rate each item on a 4-point modified Likert type of scale with response options of Very High Extent (4 points), High Extent (3 points), Low Extent (2 points) and Very Low Extent (1 point). The second section contains 5 items that measured perception on the usefulness of ICT. Respondents were instructed to rate their perception using a four-point Likert-type scale with response options of Strongly Agree (4 points), Agree (3 points), Disagree (2 points) and Strong Disagree (1 point). The instrument was face validated by experts in measurement and evaluation and adjudged to be content valid. The reliability of instrument was determined by pre-testing it on 40 respondents who did not form part of the sampled respondents and internal consistency using Cronbach Alpha was calculated. The reliability coefficient of 0.87 and 0.81 were obtained for impact of ICT and students’ performance respectively. Copies of the questionnaire were administered on Business studies students and subject teachers in the selected schools. They were collated for the sake of completeness and data generated were used to answer the research questions for the study. Inferential statistics of t-test and ANOVA were used to test the hypotheses using canned programme (computer).

RESULTS

Research Question I

To what extent has ICT enhanced the teaching and learning of Business Studies?

Table 1: Respondents mean score with standard deviation score on the extent ICT enhance the teaching and learning of business studies.

<table>
<thead>
<tr>
<th>S/N</th>
<th>ITEMS</th>
<th>VHE</th>
<th>HE</th>
<th>LE</th>
<th>VLE</th>
<th>X</th>
<th>σ</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The use of ICT as instructional media bridge the gap between teacher and student.</td>
<td>28</td>
<td>17</td>
<td>10</td>
<td>8</td>
<td>3.00</td>
<td>1.05</td>
<td>Agreed</td>
</tr>
<tr>
<td>2.</td>
<td>ICT encourages self-studying and coaching</td>
<td>30</td>
<td>19</td>
<td>12</td>
<td>2</td>
<td>3.20</td>
<td>1.86</td>
<td>Agreed</td>
</tr>
<tr>
<td>3.</td>
<td>ICT reduces irregularity in school</td>
<td>15</td>
<td>22</td>
<td>14</td>
<td>12</td>
<td>2.60</td>
<td>1.04</td>
<td>Agreed</td>
</tr>
<tr>
<td>4.</td>
<td>ICT has changed teachers and students practices</td>
<td>26</td>
<td>24</td>
<td>10</td>
<td>3</td>
<td>3.20</td>
<td>0.86</td>
<td>Agreed</td>
</tr>
</tbody>
</table>

From the computed value of the mean and standard deviation scores, it is observed that the opinion of the teachers and students revealed that use of ICT is perceived to be a tool for bridging the gap between teachers and students having a mean score of 3.00 and standard deviation of 1.05 with the mean value of 3.20 and standard deviation score of 1.86. This concluded that the use of ICT encourages self-studying and coaching. Respondents were of the opinion that ICT reduces irregularity and lateness in school with the mean of 2.60 and standard deviation of 1.04. Finally, the respondents were of the view that the introduction of ICT has changes teachers and students practices.
Research Question 2
What are students and teachers perception on the usefulness of ICT?

Table 2: Respondents mean score with standard deviation of students and teaches perception on the usefulness of ICT.

<table>
<thead>
<tr>
<th>S/N</th>
<th>Items</th>
<th>SA</th>
<th>A</th>
<th>D</th>
<th>SD</th>
<th>(\bar{X})</th>
<th>(\sigma)</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Using ICT makes my lesson more interesting.</td>
<td>24</td>
<td>14</td>
<td>12</td>
<td>10</td>
<td>2.90</td>
<td>1.12</td>
<td>Agreed</td>
</tr>
<tr>
<td>2.</td>
<td>ICT causes students distraction</td>
<td>12</td>
<td>14</td>
<td>27</td>
<td>10</td>
<td>2.40</td>
<td>0.97</td>
<td>Disagreed</td>
</tr>
<tr>
<td>3.</td>
<td>Applying ICT makes lesson cumbersome and boring</td>
<td>3</td>
<td>6</td>
<td>30</td>
<td>17</td>
<td>1.91</td>
<td>0.68</td>
<td>Disagreed</td>
</tr>
<tr>
<td>4.</td>
<td>ICT is a reliable teaching aid</td>
<td>26</td>
<td>15</td>
<td>17</td>
<td>5</td>
<td>3.00</td>
<td>1.00</td>
<td>Agreed</td>
</tr>
<tr>
<td>5.</td>
<td>Applying ICT causes anxiety</td>
<td>11</td>
<td>6</td>
<td>32</td>
<td>7</td>
<td>2.28</td>
<td>0.72</td>
<td>Disagreed</td>
</tr>
<tr>
<td>6.</td>
<td>ICT helps in classroom management</td>
<td>18</td>
<td>31</td>
<td>6</td>
<td>8</td>
<td>2.90</td>
<td>0.94</td>
<td>Agreed</td>
</tr>
</tbody>
</table>

Result on Table 2 reveals that respondents were in agreement that ICT makes their lesson more interesting. Respondents disagreed with the statement that using ICT causes students’ distraction. Respondents also disagreed with the statement that applying ICT makes lesson cumbersome and boring. However, respondents agreed that ICT is a reliable teaching aid while disagreed with the statement that applying ICT causes anxiety among students. Finally, respondents agreed that ICT helps the teacher in classroom management.

Hypothesis 1
There is no significant impact of ICT on the teaching and learning of business studies.

This hypothesis stated that information communication and Technology has no significant impact on the teaching and learning of business studied in schools in Tai Local Government Area. To test this hypothesis, respondents’ scores on the level of impact of ICT was divided into four group of very high extent, high extent, low extent and very low extent and Analysis of variance (ANOVA) was used in testing the level of impact of these four groups on teaching and learning and the result is presented in Table 3. Result as presented revealed that there is a significant impact of ICT on the teaching and learning of Business studies (F (\(\text{V,289}\)) = 0.693; p < 0.05). This indicated that there is significant difference between teaching and learning of Very High Extent, High extent, low extent and very low extent students and teachers.

Table 3: Analysis of variance (ANOVA) on the level of impact of ICT on teaching and learning of business studies

<table>
<thead>
<tr>
<th>Level of ICT Impact</th>
<th>N</th>
<th>(\bar{X})</th>
<th>(\sigma)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very High Extent</td>
<td>88</td>
<td>3.34</td>
<td>1.16</td>
</tr>
<tr>
<td>High Extent</td>
<td>80</td>
<td>3.02</td>
<td>1.03</td>
</tr>
<tr>
<td>Low Extent</td>
<td>70</td>
<td>2.73</td>
<td>1.05</td>
</tr>
<tr>
<td>Very Low Extent</td>
<td>62</td>
<td>3.97</td>
<td>1.00</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
<td>3.25</td>
<td>1.06</td>
</tr>
</tbody>
</table>

**ANOVA**

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>SS</th>
<th>Df</th>
<th>MS</th>
<th>F</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Group</td>
<td>100.8</td>
<td>2</td>
<td>50.4</td>
<td>0.693</td>
<td>0.05</td>
</tr>
<tr>
<td>Within Group</td>
<td>2193.4</td>
<td>297</td>
<td>727</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>21694.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Critical F = 3.03
Hypothesis 2
There is no significant difference between business studies teachers and student’s perception on the usefulness of ICT.

Table 4: Independent t-test Analysis of difference between business studies teachers and students perception on the usefulness of ICT

<table>
<thead>
<tr>
<th>Respondents Group</th>
<th>N</th>
<th></th>
<th>Df</th>
<th>t-cal</th>
<th>t-cri</th>
<th>&lt;P0</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers</td>
<td>60</td>
<td>3.53</td>
<td>59</td>
<td>0.56</td>
<td>1.98</td>
<td>0.05</td>
<td>Null Hypothesis</td>
</tr>
<tr>
<td>Students</td>
<td>240</td>
<td>2.51</td>
<td>239</td>
<td></td>
<td></td>
<td></td>
<td>Accepted</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The result on Table 4 shows that the t-calculated of 0.56 is less than the t-critical value of 1.98 at 0.05 level of significance. The result clearly revealed that there is a significant difference between teachers and students perception on usefulness of ICT. Therefore, the null hypothesis is upheld and the alternative hypothesis which states there is no significant difference between teachers and students’ perception on the usefulness of ICT is rejected.

DISCUSSION
The result portrayed that ICT has a significant impact on the teaching and learning as well enhanced students’ performance. This result is in agreement with previous researches carried out by Bolarinwa (2014), Falobi (2014) and O’hara & Pritchard (2005). Balarinwa, (2014) also found out that both business education instructors and students had favourable perception on the benefit of ICT (social median), while Falobi, (2014) revealed that ICT benefited commercial students and it provided better means of instruction delivery for subject teachers. In the research study of O’hara & Pritchard (2005) it was revealed that information and communication technology has a significant on language and skill acquisition. Therefore, students’ performances are indicator of proper utilization of ICT in the teaching and learning of Business Studies a review of studies that focused on technology’s impact on learning and teaching. Zhao (2005) concluded that ICT can be used to enhanced teaching and learning in the following ways: comprehensibility through learner control and multimedia innovations. ICT provides meaningful and authentic medium of communication between teachers and students. It was also found out in the study that there is no significant difference between teachers and students’ perception on the usefulness of ICT. This result is in agreement with study of Ajisafe (2014) who discovered that ICT has no significant difference between teachers and students perception on the usefulness. It also concluded that students need utilization of ICT skills to foster learning. The results showed that both business studies students and teachers consider ICT to be of great important to the teaching and learning of Business Studies. It was revealed that:

i. The use of ICT as instructional media bridged the gap between teachers and students.

ii. ICT encouraged self-study and coaching of students in building good communication and critical thinking.

iii. ICT reduced irregularly in school as it afford everybody to be a content creator.

iv. ICT has changed teachers and students’ perception about visualizing real world application of course concepts, documenting memories and recording of information.

There is a body of research that support subject teachers on the perception about the usefulness ICTs (Bolarinwa, 2014; Falobi, 2014; O’hara & Pritchard, 2005). In a review of studies that focused on technological impact on language and skills acquisition, Zhao (2005) concluded that ICT can be used to enhanced teaching and learning by enhancing access efficiency through digital multimedia as well as enhancing authenticity using video and the internet. The internet provides learners with access to authentic materials. This agreed with the finding of West (2002) on the regional technology in education consortium which stated that technology can be effective in teaching basic skills and can also provide the means for students with specials need to communicate via e-mail and also assist teachers to accommodate their students’ varying learning styles.
CONCLUSION
This study investigated the extent ICT enhance the teaching and learning of business studies, ICT tools used by teacher and its accessibility, teachers’ perception about the ease and usefulness of ICT. The study should that respondents are of the view that ICT enhancing teaching and learning and enhancing teaching and learning and enhancing comprehensibility through learner control and multimedia innovations. Result also showed that respondents were positive that ICT can make lesson more interesting. Video materials online can be enhanced with full captions, key word captions, and speech slowdown, allowing the readers or students more easily digest the information. It had been also revealed from the study that ICT provide meaning authentic communication opportunities. The entrance of ICT into vocational subjects had led to the review of educational program and teaching methods from the result, it appears that measures need to be put in place for proper utilization of computer technology in the school. The growth of ICT has had a profound impact on upper Basic Education. Today, students can pursue scientific, educational and self-study using the internet.

RECOMMENDATIONS
From the findings of this study, the paper recommends the followings.

i. Government should provide funds for the acquisition of ICT resources in the schools.
ii. The Nigerian communication commission and other regulatory bodies should double their effort in regular training of personnel to man and maintain ICT resource centre.
iii. Teachers should be trained periodically in line with new technological innovations.
iv. A computer-based social interaction platform should be introduced in schools.
v. Government should increase funding of educational programmes generally with particular interest in information and communication technology.

REFERENCES