

Modern Technology Availability and Challenges in Tertiary Institutions in Abia State.

Prof. Okoye, K. R. E.

Department of Business Education
Nnamdi Azikiwe University
Awka
08037518927

&

Mrs. Gaius-Okeh, H. A.

Dept. of Office Technology and Management
Abia State Polytechnic, Aba
07067342416 (hgaiusokeh@gmail.com).

Abstract

The study focused on Modern Technology availability and challenges in tertiary education in Abia State. Two research questions were answered and one null hypothesis tested at 0.05alpha level using t-test statistics. Descriptive survey was used. The population consisted of fifty (50) lecturers – (thirty (30) from Abia State Polytechnic and twenty (20) from School of Health and Management Technology Abia). A twenty one item questionnaire (MTCTEQ) was developed as instrument for data collection with five point likert scale rating (SA – 5, A – 4, UD – 3, D – 2, and SD – 1). The instrument was subjected to face validation by three experts. Cronbach Alpha reliability method was used to determine internal consistency of the instrument which yielded reliability co-efficient of 0.82. Data was analyzed using mean. Items with mean score of 4.5 – 5.00 was regarded Strongly Agree, 3.5 – 4.49 regarded Agree, 2.5 – 3.49 regarded undecided, 1.5 – 2.49 regarded Disagree while below 1.5 regarded Strongly Disagree. The findings revealed among others that non-availability of modern technology facilities in tertiary institutions pose a big challenge to technological advancement in Abia. And lack of students exposure to the facilities during teaching and learning seasons make the impact not to be demonstrated by the products. Recommendations were made among others that there should be fund for equipping ICT laboratories for effective teaching and learning with skills. Equally, students should be given assignments, course projects and seminars work that will involve searching for information from the internet so as to expose them to the use of modern technology facilities and encourage them to maximize potentials.

Key Words: Availability, Modern Technology, Challenges and Internet

Introduction

The more equitable investments made by high-achieving nations are also more steady and more focused on critical elements of the systems: the quality of teachers and teaching, the development of curriculum and assessments that encourage

ambitious learning by both students and teachers and the design of schools as learning organizations that support continuous reflection and improvement (Darling-Hammond, 2010). There is now a growing consensus on the need to dramatically rethink how learning happens inside and outside schools. Much of this debate is centered on the potential for technology to play a more direct and central role in student-centered learning (Langworthy, Shear and Means, 2010).

In an economy driven by knowledge rather than manufacturing, employers are already valuing different skills such as creativity, communication, presentation skills and team-building. Schools are at the frontline of this change and need to think about how they could prepare young people for the future workplace (Green & Hannan, 2007). Education play a key role in ensuring our young people are equipped with necessary skills and knowledge to compete on a global stage in the 21st century. In such a society there would be as strong focus on lifelong learning with workers, including teachers, needing to continuously update their skills throughout their careers.

Darling- Hammond (2010) says education can no longer be productively focused primarily on the transmission of pieces of information that, once memorized, comprise a stable storehouse of knowledge. Instead, schools must teach disciplinary knowledge in ways that focus on central concepts and help students know how to think critically and learn for themselves, so that they could use knowledge in new situations and manage the demands of changing information, technologies, jobs and social conditions. Digital technologies as tools of the 21st century are essential to the development of these skills. This will help students develop their ability to use digital tools to construct knowledge, collaborate widely beyond traditional boundaries and communicate effectively and efficiently. Pedro (2010) added that in a knowledge economy driven by technology, people who do not acquire and master these competencies may suffer from a new form of the digital divide that may affect their capacity to fully integrate into the knowledge economy and society. At the same time, new digital divides are emerging, this time dividing those who can master the flow of information, sift, digest and use it, and those who are unable to protect their integrity on the internet and get lost in new digital landscape. Education policy makers need to respond to these challenges (Hysten, 2010).

The introduction of modern technology in higher institutions is changing the way education is being conducted paving way for a new teaching approach where students are expected to play more active role than before (that is getting more involved in the learning process, active participants of knowledge creation and more recipients of knowledge). Modern technology is in the form of teaching aids or apparatus (Abimbade, 2013). With the use of technology tools in education, students should be able to communicate, create presentation in power point, and interact with colleagues and teachers. With technology, quality of teaching and learning is improved. Oduma (2013) likened modern technology to utility like water and electricity that play major role in education impacting on quality and quantity of teaching and learning as well as research in educational methodology to initiate a new age in education.

Internet as a digital tool of information technology (ICT) has strengthened teaching and learning as it provides powerful resources and services for students and allow for networking among lecturers and students facilitating exchange of ideas and improve opportunities for connecting schools to the real life context. (Dotimi and Hamilton-Ekeke, 2013). Dickson (2012) added that the internet can provide resources and services that are used for accessing, processing, gathering, manipulating and presenting information. Etim, Akpan and Ibok (2013) defined the internet as the inter-connection of system that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchanging, transmission or reception of data/information globally.

Ogwo and Oranu (2006) asserted that teaching as a partnership enterprise between the lecturer and student leads to permanent changes in the behavior of the student. Learning is the knowledge you get from reading and studying (ADLD, 2000). Learning to Anderson and Block is a relatively permanent change in behaviour and manifests due to reinforced practices. They added that learning is knowledge and skills accumulated throughout a life time.

For effective learning there are some learning processes according to Igboke (2005), trial and errors, learning by doing, many exercises, learning and thinking, learning by installment. Modern technology has offered tremendous opportunities for learning by electronic means; the e-learning, use of internet and m-learning. A research conducted by Oye, Alahad and Abraham (2010) in Malaysia on awareness adoption and acceptance of modern technology innovations in Higher Institutions, survey method was employed; barriers to use of modern technology facilities had 42% response which said their problem is time, 4% said cost, 20% said compensation and 3% said it does not fit their program performance expectancy is most influential for the acceptance and use of modern technology by respondents. Hamilton-Ekeke (2011) in another study on competences and utilization of internet/intranet facilities among students of education noticed that internet/intranet facilities are not available and students do not make use of internet in studying. The two researchers did not mention other technological education tools and its challenges hence, this research work intends to fill the gap by determining Modern Technology availability and challenges in Tertiary Institutions in Abia State.

Statement of the Problem

Technology has changed and improved the teaching and learning of the 21st century turning it to information age. Most teachers have improved themselves digitally but, the enabling environment for the practical is not provided. A common knowledge that for effective learning to take place, there must be learning resources as real objects or representations which lecturers use to communicate effectively with learners such as projectors, textbooks, videotaped instruction, chalkboard and computers.

The development worldwide has placed pressure in educators to transform schools through modern technology. Hamilton (2011) posited that the availability of facilities and its utilization is a major challenge across higher institutions of learning. Strategic development to support teachers in coping with the challenges that new

technologies pose as developing teacher competence in using learning technologies effectively, implementing an advanced ICT infrastructure for educators, developing on-line resource for curriculum, teaching and administration. It is against this backdrop of the forgoing that this work examines modern technology availability and challenges in Tertiary Institutions in Abia State.

Objective of the Study

The object of this study is to ascertain modern technology challenges in tertiary educations in Aba. Specifically, the study intends;

1. To determine the availability of modern technology facilities for teaching and learning in tertiary institutions in Abia. state
2. To examine the challenges of modern technology for teaching and learning in tertiary institutions in Abia state.

Research Questions.

1. What are modern technology facilities available for teaching and learning in tertiary institutions in Abia State?
2. what are the challenges of modern technology on the teaching and learning in tertiary institutions in Abia State?

Null hypothesis 1: Modern Technology has not significantly enhanced Tertiary education in Abia state

Methodology

Descriptive survey design was adopted for the study. The population comprised of fifty (50) lecturers (30 from Abia State Polytechnic and 20 from School of Health Technology and Management Aba). They all constitute the sample. Structured questionnaire was the instrument for data collection distributed handy to the respondents and collected same. Section "A" sought the demographic data of the respondents while section "B" a 21 point questionnaire was used on 5 point scale rating Strongly Agree = 5, Agree = 4, Undecided = 3, Disagree = 2 and Strongly Disagree = 1 to ascertain respondents opinion. The 50 questionnaires sent were duly filled and returned. Data collected were analyzed using arithmetic mean for research questions while t – test statistic was used to test the null hypothesis at 0.05 level of significant. Any mean value of 4.5 to 5.0 indicated respondents strongly agree on the Hypothesis, a value of 3.5 to 4.49 indicated respondents agree in Hypothesis, any mean value of 2.5 to 3.49 indicated that respondents were undecided on the item. On the hand a mean value of 1.5 to 2.49 indicated that respondents were disagreeing on item while a mean value below 1.5 indicated that respondents were strongly disagreeing on the item. On the other hand, null hypothesis was rejected where the calculated t – value at 0.05 level of significance was equal to or greater than the t – value for a given degree of freedom. However, the null hypothesis was upheld where the calculated t – value was less than the table t – value at 0.05 level of significance.

Research Question 1: what are modern technology facilities available for teaching and learning in tertiary institutions in Abia State?

Table 1: Respondents rating of modern technology facilities available for teaching and learning.
 N=50

S/N	Items	modern technology facilities	Mean
1	Internet cybercafé on campus for students use	Undecided	3.00
2	Computer training centre/laboratories for students practices on campus.	Disagree	2.82
3	Computer systems and printers for printout of work by students.	Undecided	3.04
4	Wifi internet on campus for free browsing by students	Undecided	2.66
5	Use of projector by lecturers to teach students	Undecided	3.84
6	Computer power point facilities for students	Undecided	3.44
7	Audio visual instruction materials, television and radio for students studies.	Undecided	3.24
8	Central e-mail transfer system for students.	Undecided	2.90
9	Stored lecture notes on CD Rom for supplementary learning by students	Disagree	2.49
10	Electronic board for teaching and learning by students	Agree	3.50
11	An organized networking system for staff and students	Disagree	2.06
Grand Mean			3.00 Undecided

The Data in Table 1 show that eight out of eleven items on the available modern technology facilities for teaching and learning had mean values of 2.5 to 3.49 which fell within the range regarded as undecided while one item had mean value of 3.5 to 4.49 which fell within the range of agree and two items had mean values of 1.5 to 2.49 which fell within the range of disagree. The grand mean of this category was 3.00 fell within the range of undecided. Overall, tertiary institutions in Abia State does not have available/ functional modern technology facilities for teaching and learning.

Research Question 2: what ate the challenges of modern technology on the teaching and learning in tertiary educations?

Table 2: Respondents Rating on the Challenges of Modern Technology N=50

S/N	Items	X	Remarks
12	The available modern technology facilities are non-functional	4.32	Agree
13	Students do not use computer systems for research in the School.	3.68	Agree
14	Students do not make use of CD-ROMs as supplementary learning materials.	3.82	Agree
15	Students do not access the internet in search of information with school Wi-Fi though they paid for it.	3.36	Undecided
16	Student do not do practical due to poor power supply	4.40	Agree
17	Students give more time to chatting with their phone in Social media than attention in class	3.64	Agree
18	Students do not belong to online conferencing and studying Group to share information	2.46	Disagree
19	Lecturers use more of traditional method than modern Technology facilities which hinders their achieving much	3.00	undecided
20	Modern technology has increased social-media vices among youths.	4.07	Agree
21	Lack of support in equipping ICT laboratories.	3.75	Agree
Grand Mean		3.65	Agree

The data in Table 2 show that seven out of ten items on the challenges of modern technology on tertiary institutions in Abia had mean value of 3.50 to 4.49 which fell with the range regarded as agree, two items had mean value of 2.50 to 3.49 which fell within the range regarded as undecided while one item has mean value of 1.5 to 2.49 which fell within the range regarded as disagree. The grand mean of this category was 3.65 which fell within agree range. Considering the grand mean of this category which fell within agree range, it was concluded that respondent agreed that modern technology has challenges on tertiary institutions in Abia.

Result of test of Null Hypothesis

Table 3: t-test Result of Modern Technology Enhancing Tertiary Education in Abia

Decision	N	X	SD	df	t-cal	t-crit	level of Sig
Aspoly	30	2.83	0.79	48	0.81	2.01	0.05
HTM	20	2.65	0.75				not significant

Table 3 shows that the calculated t- value of 0.81 is less than the critical t- value of 2.01. This means that the null hypothesis was rejected.

Discussion of Findings

The results in Table 1 showed that respondents decided in the availability of modern technology facilities in tertiary institutions in Abia State . This finding is

against the assertion by Abimbode (2013) that modern technology are in the form of teaching aids/apparatus. Oduma (2013) likened modern technology to utility like water and electricity that play major role in education impacting on quality and quantity of teaching and learning as well as research in educational methodology to initiate a new age in education. The finding is not in consonant with Igbokwe (2005) that for effective learning, there are some learning processes that must be; trial and errors, learning and thinking, learning by doing many exercises, learning by installment. The finding is also against what Green and Hannan (2007) said that in an economy driven by knowledge rather than manufacturing, employers are already valuing very different skills such as creativity, communication, presentation skills and team-building, schools are at the front line of this change and need to think about how they can prepare young people for the future workplace.

The results showed that respondents were in agreement with the challenges modern technology posed in tertiary institutions in Abia State. The finding is in consonant with Pedro (2010) assertion that in a knowledge economy driven by technology, people who do not acquire and master these competencies may suffer from a new form of the digital divide that may affect their capacity to fully integrate into the knowledge economy and society. Adding that the same time, new digital divides are emerging, this time dividing those who can master the flow of information, sift, digest and use it and those who are unable to protect their integrity on the internet and get lost in the new digital landscape. The finding is also in agreement with Darling-Hammond (2010) that says education can no longer be productively focused primarily on the transmission of pieces of information that, once memorized, comprise a stable storehouse of knowledge, instead, schools must teach disciplinary knowledge in ways that focus on central concepts and help students learning how to think critically and learn for themselves, so that they can use knowledge in new situations and manage the demands of changing information, technologies, jobs and social conditions. The researcher is of the view that modern technology tools available and functional make valuable impact on students' learning- by- doing which will aid them in acquisition of skills and knowledge which gives them advantage on graduation.

The result of the null hypothesis showed that the null hypothesis was upheld. The test of the hypothesis revealed that the groups t - value was less than the t -critical value of 2.01 at 0.05 level of significance and 48 degree of freedom.

Conclusion

Despite the fact that modern technology is regarded as the most global influenced instrument for developing quality teaching, learning and research in the education system, the students in tertiary institutions in Aba are still conspicuously not carried along as a result of the unavailability as well as infrequent usage of modern technology facilities due to poor power supply within the institutions under study. The impact cannot be demonstrated by the products as a result of lack of exposure to the facilities during teaching and learning sessions.

Recommendations

Based on the findings of the study, the following recommendations were made:-

1. There should be fund available for the purchase of basic teaching equipment needed for effective teaching.
2. There should an organized information communication technology (ICT) centers WIFI for easy internet connectivity by all in the campus.
3. Students should be given assignments, course projects and seminars work that will involve searching for information from the internet so as to expose them to the use of modern technology facilities and encourage them to maximize potentials.
4. Students should be encouraged to use power point for presentation of seminars and projects, school web site to relate any information to the school and check their semester results to get them more conversant with these facilities.

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