

INFLUENCE OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) ON BUSINESS EDUCATION PROGRAMME IN TERTIARY INSTITUTIONS

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Abstract

This paper examined the influence of information and communication technology (ICT) on business education programme in tertiary institution. Having reviewed related literature, survey research design was adopted with 100 students as the sample drawn randomly from the population of business education department of the College of Education. Three hypotheses were tested to ascertain the significant influence of ICT on business education. The data collected through questionnaire was analyzed. The hypotheses were also tested using chi-square inferential statistics. The results reveals that ICT facilitates learning process in business education ($\chi^2 = 20.9 > t = 12.59$), enhance internet usage in business education ($\chi^2 = 35.01 > t = 12.59$) and made business education curriculum innovation possible ($\chi^2 = 20.76 > t = 12.59$). It was therefore recommended that ICT should be better redesigned at all education levels for the purpose of contributing to the attainment of sustainable development, employment and self productivity.

The 21st century has witnessed information explosion in the area of Information and Communication Technology. The rate of growth in information handling is quite alarming and it poses a great challenge to many people including Business Educators etc. Business Education is educational programmes that prepare students not only for entry into and advancement in business, but also to handle their own business and to functions intelligently in the society.

Business Education curriculum by National Commission for Colleges of Education prepares business teachers for the teaching of pre-vocation subject at the Junior Secondary School level. Though, this curriculum did not provide for data processing and computer literacy at the inception, however, these subjects have recently been included in the NCE business education curriculum.

At the Bachelor's degree level, students spend three or four years depending on their entry qualifications in any of the universities running business education course with a view to equip the students with both theoretical and practical orientation for the business world.

Today, computers are available for use in hospitals, schools, businesses, universities, transports and individual home. Also various computer networks are available to provide users with means of communication and exchanging information electronically. A revolution has also been brought about vis-a vis access to information in various sectors like business education, agriculture etc. by the use of internet. Among the most commonly used are E-mail (Electronic mail), world wide web (www) FTP (file transfer protocol), usenet and Telnet. The use of internet and its technology has continued to have a remarkable influence on the way information is shared and promoted especially in the academic world and business world, this is enhancing global collaboration among individuals and organization. Many learning materials are contained in CD-Rom and many tertiary institutions are connected to the internet. These technologies have given many students access and participations in global issues.

Information and communication technology (ICT) education cover the use of computer's online self-learning package, interactive CDs, satellites, radio, optical fiber technologies, e-presence system and all types of information and communication technology (ICT) hardware and software. Information and communication technology is the integration of computer technology, *Knowledge Review Volume 26 No. 4, December, 2012*

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mainly in the form of internet, and information management systems. It give users the opportunities to handles text and images, numbers and graphs, instructions, sound and music and process information by organizing and re organizing storing and retrieving, sorting and analyzing, presenting and communicating.

From this background, the paper is interested in the Influence of Information and Communication Technology (ICT) on Business Education Programme in Tertiary Institution – a case study of Adeniran Ogunsanya College of Education, Ijanikin, and Lagos State.

Meaning of ICT

The Association of African Universities (2000) defined ICT as a shorthand for the computers, software, network, satellite networks, links and related systems that allow people to access, analyze, create, exchange and use data, information and knowledge in way that, until recently, were almost unimaginable. It refers to infrastructure that brings people together in order to expand the range of human capabilities (Heeks 1999). In a nutshell, it involves the electronic means of capturing, processing, storing, and communicating information.

Ekireghwo (1998) defined Information Technology as the use of three technologies computing, micro electronics and telecommunications and how these technologies are used to collect, store, process and distributes any form of information by electronic means.

Adeyeri (1999) also define information technology as a systematized body of tools, techniques and infrastructure for generating, collecting, storing, processing and transmitting of data. ICT is defined (Adeboye and Adesope 2002) as the term used to described the tools, and processes to all, retrieve, store, organize manipulate, produce, present and exchange information by electronic and other automated means.

Omesco in Osuagwu 2001 opined that Information and communications technology is the scantily technological and enginemen of technologies used in the handling of information processing and application related to computers. ICT (information and communications technology) is an umbrella term that includes any communication device or application, encompassing radio, television, cellular phone, computer and network hardware and software, satellite system and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning. ICTs are often spoken of in a particular context, such as ICTs in education, health care, or libraries. The term is somewhat more common outside of the United States.

ICT is a global collection of many different types of computers and computer networks that are linked together just as a telephone enable one to talk to someone on the other side of the earth who also has a phone, the ICT enable a person to exchange information with other computer and computer users anywhere in the world. Some call the ICT super highway. As a road allows people to travel through different parts of a country, so the ICT allows information to travel through many different interconnected computer networks.

ICT Around the World

Information and communication technology has found great use in major areas of life, including education, wealth creation, commerce, governance, entertainment, religion, banking and transportation

In education, ICT based presentation skills have been used for course delivery processes faster and more successfully. Projectors, the Webcam and powerpoint application software are common tools founds in our institution and used for teaching, seminar, project and other presentation activities. Course materials from libraries located all over the globe, can be accessed through ICT. These libraries host books, journals, magazines and coursewares.

Most coursewares are graphically oriented. Animations are used to presents problems which hither to would have been difficult to appreciate. In institutions, courses are registered and time tables

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scheduled on-line. Also, most common examination Unified Tertiary Matriculation Examination (UTME), National Examination Council (NECO), Graduate Management Admission Test (GMAT) Test of English as Foreign Language (TOEFL) etc. are registered on-line and the results also obtained on-line. These results can therefore easily be transmitted to their desired locations, result verification exercises become more straight forward and authentic.

ICT has greatly facilitated wealth creation. Several people are now employed by the improvement of ICT facilities via cybercafés, direct activities of the GSM operators such as GLO, MTN, ZAIN, telephone booths, internet service providers (skannet, infowed Hyperia Link serve etc.) presentation outfits and others.

Information and communication Technology offers obvious benefits in education at all levels especially at the tertiary level. ICT-connectivity promotes distance/remote learning over wide geographical scope. Cost effectiveness from the part of users by sharing overall cost among several users can not be underestimated.

Two major assumptions underlie the role of ICT, the first is that, the proliferation of these technologies is causing rapid transformations in all areas of life, the second is that ICT function to unify and standardize culture.

ICT and Business Education

There is growing evidence that ICT application to the core of education can accelerate and improve learning on a number of basic skills (Mann, 1999 and BECTA, 2000). It can also provide the means of gathering, collecting and analyzing data about teaching and learning in ways that enable us to more accurately diagnose student need and evaluate education programmes. To apply ICT in these ways requires changed approaches by business educators at the contribution that ICT can make to quality in teaching, learning and evaluation through improvements in cognition, pedagogies, convergence, culture, and data.

In addition information and communication technologies are being applied to the management of learning and to the business models of educational delivery. One recent report that evidence this trend is the USA-based CEO Forum School Technology and Readiness report (CEO forum 2001)

Business Educators therefore have a choice. We can push the boundaries of information and communications technology in education seeking to exploit its capacities to improve our outcomes by extending us beyond the limits and paradigms we currently experience or we can limit it to the boundaries that we currently know, challenging only our technical skills. If the teaching profession and mainstream educational institutions follow this path we will be at par by newer, more commercial models of ICT enabled education.

ICT allows us to accelerate processes for purposes of understanding. Just as an experiment allows us to reproduce, represent and experiment in a “virtual” world transferring control and concept to the learner in new ways.

We can improve safety, for example, using technology (the difference between flight simulator and learning in the air) so that the concept are transferred, confidence is built through simulated experience and skills are developed, long before the risk has to be taken. (Eliot Eisner 1998:105). ICT programme delivery, the opportunities for flexible delivery provided by ICTs, the capacity of technology to provide support for customized educational programs to meet the needs of individual learners and the growing use of the internet and www as tools for information access and communication acts as a powerful agent of change to many of the educational practice to which we have become accustomed, to explore the impact both current and emerging information and communication technologies will have in coming years on what is learned, what learning will take

place and how the learning will occur. ICT has enhanced research among students and lecturers which can also be applicable in Business Education.

Methodology

The research design adopted for the study was survey research design. The population for the study comprises of all students in Business Education Department, School of Vocational Education, Adeniran Ogunsanya College of Education (AOCOED), Lagos state. The sample of the study consists of one hundred students from the Department of Business education while the sampling techniques used was random sampling techniques. The instrument used in the paper as a means of data collection from the sample population was questionnaire. The data was analyzed using frequency table and simple percentage (%), chi-square inferential (χ^2) to test the hypothesis. The general formula for the computation of chi-square $\chi^2 = \sum \frac{(O-E)^2}{E}$

Results

Ho₁ There is no significant relationship between the use of ICT and learning processes in business education programme. To test this hypothesis question 1, 2, 3 was used.

Observed frequency

Question	SA	A	D	SD	Total
1	43	45	7	5	100
2	27	45	23	5	100
3	28	36	31	5	100
Total	98	126	61	15	300

Expected frequency $\frac{TR \times TC}{N}$

Question	SA	A	D	SD	Total
1	32.7	42	20.3	5	100
2	32.7	42	20.3	5	100
3	32.7	42	20.3	5	100
Total	98	126	61	15	300

O	E	O-E	(O-E) ²	$\frac{(O-E)^2}{E}$
43	32.7	10.3	106.09	3.24
45	42	3	9	0.21
7	20.3	-13.3	176.89	8.71
5	5	0	0	0
27	32.7	-5.7	32.49	0.99
45	42	3	9	0.21
23	20.3	2.7	7.29	0.36
5	5	0	0	0
28	32.7	-4.7	22.09	0.68
36	42	-6	36	0.86
31	20.3	10.7	114.49	5.64
5	5	0	9	0
Total				20.9

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$$\text{Chi-square } (x^2) = \frac{\sum (\text{O}-\text{E})^2}{\text{E}} = 20.9$$

Degree of freedom (df) = (r-1) (c-1)
 df = (3-1) (4-1)
 = (2) (3)
 = 6

The table value of x^2 at 0.05 level of significant with degree of freedom of 6 is 12.59

Since x^2 20.9 is greater than the table value, therefore, the hypothesis is rejected which revealed that there is significant relationship between the use of ICT and learning processes in business education programme.

Ho₂ There is no significant relationship between the knowledge of internet usage and business education programme.

To test this hypothesis question 12, 13, 14 was used.

Observed frequency

Question	SA	A	D	SD	TOTAL
12	44	45	7	4	100
13	28	45	23	4	100
14	29	36	31	4	100
Total	101	126	61	12	300

Expected frequency $\frac{TR \times TC}{N}$

Question	SA	A	DS	D	TOTAL
12	33.7	42	20.3	4	100
13	33.7	42	20.3	4	100
14	33.7	42	20.3	4	100
Total	101	126	61	12	300

O	E	O-E	(o-e) ²	$\frac{(o-e)^2}{E}$
44	33.7	10.3	106.9	2.429
45	42	3	9	0.2
7	20.3	-13.3	176.89	25.27
4	4	0	0	0
28	33.7	-5.7	32.49	1.160
45	42	3	9	0.2
23	20.3	2.7	7.29	0.317
4	4	0	0	0
29	33.7	-4.7	22.99	0.762
36	42	-6	36	1
31	20.3	10.7	114.49	3.693
Total				35.031

$$\text{Chi-square } (x^2) = \frac{\sum (\text{O}-\text{E})^2}{\text{E}} = 35.031$$

Degree of frequency (df) = (r-1) (c-1)
 df = (3-1) (4-1)
 = (2) (3)
 = 6

The table value of χ^2 at 0.05 level of significant with degree of freedom of 6 = 12.59.

Since χ^2 is 35.031 calculation is greater than the table value, therefore, the hypothesis is rejected which revealed that there is significant relationship between the knowledge of internet usage and business education programme

Ho₃ There is no significant relationship between ICT and in business education programme innovation.

To test this hypothesis question 17,18, 19 was used.

Observed frequency

Question	SA	A	D	SD	TOTAL
17	45	44	7	4	100
18	45	28	23	4	100
19	36	29	31	4	100
Total	126	101	61	12	300

Expected frequency $\frac{TR \times TC}{N}$

Question	SA	A	D	SD	TOTAL
17	42	33.7	20.3	4	100
18	42	33.7	20.3	4	100
19	42	33.7	20.3	4	100
Total	126	101	61	12	300

O	E	O-E	(o-e) ²	$\frac{(o-e)^2}{E}$
45	42	3	9	0.214
44	33.7	10.3	106.09	3.148
7	20.3	-13.3	176.89	8.174
4	4	0	0	0
45	42	3	9	0.214
28	33.7	-5.7	32.49	0.964
23	20.3	2.7	7.29	0.359
4	4	0	0	0
36	42	-6	36	0.857
29	33.7	-4.7	22.09	0.655
31	20.3	10.7	114.49	5.639
4	4	0	0	0
TOTAL				20.76

$$\text{Chi-square } (\chi^2) = \frac{\sum (O-E)^2}{E} = 20.76$$

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Degree of freedom (df) = (r-1) (c-1)

df = (3-1) (4-1)

= (2) (3)

= 6

The table value of χ^2 at 0.05 level of significant with degree of freedom of 6 is 12.59

Since χ^2 is 20.76 calculation is greater than the table value, therefore, the hypothesis is rejected which revealed that there is significant relationship between ICT and Business Education programme innovation.

The analysis of the data using chi-square inferential show the significant different between the use of ICT and learning process in business education programme. It has also showed that the use of ICT facilitates teaching and learning process in business education programme which has positive impact in student activities. ICT will definitely change student initiative towards learning. Furthermore, the results revealed that there is significant relationship between the knowledge of internet usage and business education programme, and that there is significant relationship between information and communication technology (ICT) and Business Education programme innovation.

Discussion of the Findings

The results in hypotheses 1 and 2 states that there is significant relationship between ICT and learning processes in business education programme and there is significant relationship between knowledge of internet usage and business education programme respectively. These corroborate the earlier studies which concluded that students taught business studies with ICT application achieve higher cognitively than those taught using conventional method and that students taught with computer instructional package performed better in business studies achievement test. Therefore, the ICT is an effective tool that can efficiently and effectively develop individual's cognitive structure, psychomotor and affective abilities. (Solomon Iheonunekwu, Onyemachi Kevin Egesi and Ogbenyealu Uche Uheci, 2011).

The result in hypothesis 3 which states that there is significant relationship between ICT and business education programme innovation supported the previous research studies which asserted that Economics Education should be constantly revised and enlarged to meet the dynamic nature of the society and specific manpower requirement of any nations. (Endurance Udo, 2011). In similar vein, business education curriculum should be constantly revised and enlarged to meet the dynamic nature of the society and specific manpower requirement of any nations.

Conclusion

In conclusion, the ultimate aim of ICT adoption is to facilitate effective transformation of learning. Any plan of implementation which deviates from this aim is likely to result in futility. Integration of ICT with learning should be curriculum driven instead of technology driven in view of future curriculum reform. One thing that is observed nowadays is that many programs design at all education levels are for the purpose of contributing to the attainment of sustainable development. The implementation of these programs should entails building of culture among people. It must be a matter of inculcating values and shaping of attitudes and impartation of knowledge and development of skills.

Recommendations

This paper therefore recommends that:

- i. Emphasis should be placed on the effective utilization of ICT in promoting sustainable business education programme at all levels.
- ii. ICT experts who are able to tackle ICT projects successfully in both the private and public sector are highly necessary.

- iii. Teachers of the new business education curriculum should be trained and re-trained in the use of ICT to create enabling environment to cater for different needs of individual learners.
- iv. ICT education should be re-engineered for employment and self productivity at home and abroad.

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