INFLUENCE OF INFORMATION AND COMMUNICATION TECHNOLOGY ON TEACHING AND LEARNING OF BUSINESS EDUCATION PROGRAMMES IN UNIVERSITIES IN EDO STATE

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Abstract
This study investigated the impact of Information and Communication Technology (ICT) on the teaching and learning processes within business education programs in universities located in Edo State. Four research questions were raised to guide the study and one null hypothesis was formulated and tested at 0.05 level of significance. The study employed the descriptive survey research design. The population of this study was made up of 829 business education students in Edo State public universities. The sample size of this study was made up of 83 business education students from the two (2) public universities in the state, University of Benin and Ambrose Ali University. A proportionate sampling technique in which 10% of the total population of business education students from the two universities were used to arrive at the sampling size. The instrument used for data collection was questionnaire. It was subjected to face validity by researcher's supervisor and two other experts in the Department of Vocational and Technical Education, Faculty of Education, University of Benin, Edo State. To establish the reliability of the instrument, the internal consistency of the items was employed by using the Cronbach alpha formula. The instrument was administered to 20 students who were not part of the study population. A coefficient of 0.71 was obtained. The data collected from the respondents was analyzed using mean ($\bar{x}$), standard deviation (SD) and two sample independent t-test. The findings showed that computer, interactive board, teleconferencing, and projector influence the teaching and learning of business education programme, the findings also showed that there is no significant difference between the influence of ICT on learning of male and female business education students. It was concluded that ICT influenced the teaching and learning of business education programmes. It was also recommended among others that government should ensure that various computer facilities are provided in the universities for effective and efficient teaching and learning process of business education programme.

Keywords: Teaching, Business Education, ICT, Undergraduates, Learning

Introduction

Business education, is an aspect of vocational technical education, concerned with exposing its recipients to the internal and external foundation and functioning of the workplace. Business education is a comprehensive discipline, which instructional programme encompasses the knowledge, attitude and skills needed by all persons in order to effectively manage their personal businesses and economic system. These skills help the recipients gain entry into employment and advancement in a broad range of career. As stated by Ezenwafor and Onokpaunu (2017), the programme is built on making its recipients become job creators, wealth providers, workplace information, communication and technology consultant, entrepreneurs of small and medium enterprises and

managers of business entities. Onyesom and Onyesom (2023) stated that, one remarkable characteristics of business education is that, its products can function independently as self-employed or as employers of labour. The programme encompasses a wide coverage of courses which includes; office technology and management education, accounting education, general business management education, distributive and marketing education.

Business education as a discipline is highly regarded and influential not just for individual development but for national development hence, its objectives are entrenched in the National Universities Commission, Core Curriculum and Minimum Academic Standard (NUC, CCMAS, 2022) which are as follows;

Provide opportunity for practical job preparation or vocational studies in order to make students render effective and efficient services in office, distributive and service occupations. Prepare students, based on interest and aptitudes needed to enter into a business occupation, advance and profit in it. Provide opportunities for students to develop an understanding of business and economic system of the nation so as to enable them to participate actively as producers and consumers of goods and services. Develop in students the basic awareness of the contribution which business and office employee makes to the nation's economy. Develop and improve personal qualities and attitude of students as required in personal and employment situation. Serve as a guide for individual student for suitable placement in business and office employment. Enable students to have career consciousness and economic understanding of the free enterprise system. Prepare student to assume the role of building a future generation through teaching and knowledge impartation and to prepare students for leadership position in both public and private life.

Towards the actualization of this objectives, the importance of information and communication technology becomes evidently inevitable. In this modern era of science, the ICT (information and communication technology) is believed to be a means and an aim in itself for growth. The use of innovative technologies has transformed the world into a global homogeneous village in which individuals from all over the world can easily connect and interact with one another since they live very next to one another. There has been an exponential increase in the adoption and usage of ICT, which has far-reaching effects on society and our daily lives. Thus, educational administrators now make use of ICT as a teaching method and changing tool in the classrooms to improve students' academic performance. ICT-based instructional approaches are being adopted and ICT-oriented academic programs are being offered by educational institutions all over the world (Shahzadi, Shabbir & Abdul, 2022).

There are various areas of ICT that can facilitate teaching and learning process of business education programmes, for instance, computers. These are gadgets such as desktops, laptops, smartphones, social media, and World Wide Web. According to Bagayan (2022), computer based instructional materials were considered as good tools for teaching and learning as they proved to be wonderful instrument for exploration and research. Computer tools such as the Microsoft office suites, the Adobe Photoshop shop, Canva, Microsoft teams, slack, zoom, web browser, social media and a host of others. All these can be employed to create documents (worksheets), design instructional guide, and with the introduction of internet, a world of unlimited learning opportunities has been opened to both teachers and students. Teachers of business education can use these tools to engage students and make

them responsible for their own learning. This invariably improves learning performance of the students.

There is also the interactive board, which is a large touch sensitive board that is connected to a digital projector and a computer. The projector displays the image from the computer screen on the board. The computer can then be controlled by touching the board, either directly or with a special pen. The board can be used effectively in many different capacities. Teachers and students alike can write, erase, and perform mouse functions with a pen, a finger, or any other manoeuvrable firm surface. The major purpose of this in the classroom is stimulation. The use of this interactive board in a business education classroom changes the atmosphere from an otherwise tensed, dull one to a livelier, learning-friendly atmosphere. The implication of this is that, students will better understand the learning content which will in turn facilitate retention.

Teleconferencing is coined from the word 'tele' which means distance. The word 'conference' means consultations, discussions. Through teleconferencing, two or more locations situated at a distance are connected so that they can hear or both see and hear each other. This promotes active learning and breaking the time and space barrier. Teleconferencing can help connect students with their lecturers at any given time even while the lecturer is not present in school. There are cases where lecturers go on annual leave or some other assignments which keeps them away from being physically present at school. Most often, when this happens, all learning stops until the lecturer returns thus leading to a truncated learning process, but by adopting this digital tool (teleconferencing), there's room for a continued learning process. Business education students can also attend seminars and symposiums that will profit them and add to their knowledge without having to step a foot outside of their room.

Lastly, the projector. This is a communication gadget connected to a computer to promote audio-visual instructions and learning. The projector supplies audio-visual instructions to students. Through the use of projector, lessons can be prepared with slides presentation conveying audio and visual lessons thereby aiding understanding during the teaching and learning process. Generally, it is widely acknowledged that the presence of ICT in the classroom captivates the attention of the learners and raises their curiosity which automatically sets the tone for an effective learning process in business education. The ability of the projector to project sounds and visuals allows the teacher to adequately prepare for a lesson in a more efficient way by incorporating into the lesson, visual representation that better explains a subject. Thus, enhancing retention, understanding and learning outcome of students.

Learning is generally referred to as a change in behaviour. That is, before we can affirm that learning has taken place, there ought to be a conspicuous change in behaviour of the learner. Although behaviour in this context is not restricted to attitudinal disposition of the learner alone, but also, their mental and cognitive behaviour. Now, the process through which this is achieved, is refer to as teaching. Therefore, teaching in a simple sense is the process of transferring knowledge and ideas into a learner in order to facilitate an effective change in the behaviour of the learner. However, Kazeem (2017) argued that it's fallacious to define teaching as a way of impacting or transferring knowledge because by saying impacting, it means that everything that the teacher said or knows about the subject matter will be totally understood by the learner and, that is impossible. Therefore, he posited that teaching is a way of helping learners to incorporate ideas and knowledge so as to help them develop positive change in

behaviour (Kazeem, 2017). However, what can be deduced from the foregoing is that the end goal of any teaching and learning process is a change in learner's behaviour. Hence, learner's competence and mastery in a subject matter is the yardstick for judging if a teaching and learning process has achieved its aims. It therefore becomes imperative for teacher to explore all options (approaches and strategies) to ensure that the aim of a teaching and learning process is achieved.

In time past, the teaching process has always been mechanical, relying on traditional methods of teaching which focuses more on the teacher. The teacher is regarded as a custodian of knowledge, downloading all the information to the learners while the learners are expected to store away all this information. While this method might be effective in teaching a large class and maximization of time, it has been found to be grossly deficient and ineffective in impacting meaningful learning. Therefore, in recent times, with the repertoire of literature that has been written on teaching and learning, attention of the teaching and learning process has been shifted from the teacher centred to the learner centred. The learners are now the focal point of every meaningful teaching and learning process. This modern method of teaching incorporates teaching methods like the role play, discussion method, project method, experimental and all such methods that encourages individualized learning and learning by discovery. However, with the current wave of technology, a new innovative method of teaching has been found in information and communication technology (ICT). It becomes pertinent to determine influence of information and communication technology on teaching and learning of business education programme in universities in Edo State.

Statement of the Problem

In recent years, the integration of ICT has become a crucial factor in enhancing the quality and effectiveness of education worldwide. In business education programmes, ICT tools like projector, computer, interactive board and teleconferencing offers opportunities for interactive learning, access to up-to-date information, virtual simulations, and improved teaching methodologies. However, despite the recognised potential of ICT to transform teaching and learning processes, there is evident that its utilization in universities in Nigeria remains inadequate or inconsistent. Many business education lecturers still rely heavily on traditional teaching methods, while students may lack sufficient ICT skills or access to digital resources necessary for effective learning. Sequel to the aforementioned, it then becomes cogent, the need to investigate the challenges limiting the effective integration of ICT in teaching and learning of business education particularly, in Universities in Edo State.

Research Questions

The following research questions were raised to guide the study

1. To what extent does computer influence the teaching and learning of business education programmes?
2. To what extent does interactive board influence the teaching and learning of business education programmes?
3. To what extent does teleconferencing influence the teaching and learning of business education programmes?
4. To what extent does projector influence the teaching and learning of business education programmes?

Hypothesis

The null hypothesis was formulated and tested at 0.05 level of significance.

1. There is no significant difference between the influence of ICT on learning of male and female business education students.

Contributions of Computer to the Teaching and Learning of Business Education

Computers have been considered, as a vital part of most human's lives. Almost all aspects of daily life in developed countries depend partially or completely on the use of computers. The advances in the field of information technology and the incorporation of computers in various fields affected Nigeria and other developing countries also, from paying utility bills to flying a plane almost everything depends on the use of computer. McCubbrey cited in Ojo and Bashir (2020) corroborated this by stating that the emergence of technologies such as modern computers, word processor, the internet, automobile teller machines, reprographic machines, micrographic machines, accounting machines, the modern telephonic system, including handset and multimedia among others, have not only revolutionized the office environment but have also brought changes in the ways people are doing things. Ajunwo (2017) argued that computers improve the method of information delivery and makes learning very exciting. He added that the application of computers to the process of teaching and learning have been diversified to cover areas such as providing drill and practice exercises; using computers to visualize complex objects and process and to facilitate communication between teachers and learners. Accordingly, Ololube, Ubogu and Ossai cited in Ajunwo (2017), opined that computer usage, integration and diffusion has initiated a new age in educational methodologies, thus it has radically changed traditional method of information delivery and usage patterns in the domain as well as offering contemporary learning experience for both instructors and students.

The study of Yahaya and Ogundola (2024) also revealed that the use of computer as an instructional material in business education is possible of increasing the interest and motivation of the students. They added that computer based instructional materials were revealed to be good tools for teaching and learning, and as a wonderful instrument for exploration and research. Still in this line of thought, Bakare (2014) posited that through computers, faculty, students and administrators have easy access to one another as well as access to database resources provided through libraries and other special academic resources. He buttressed that computer and cell phones are mobile communication technologies found useful in teaching and learning. Ogugua cited in Bakare, Orji and Wogu (2018) stated that computers facilitate interaction between teachers and learners, changes learner behaviour in desired directions, makes teaching and learning more real and immediate, enhances retention of learning, makes learners to be physically involved with the learning material/process and makes learning socially interactive. Adirika and Alike cited in Bakare, et al (2018) now concluded in their assertion that these various values implied that computer related gadgets in teaching and learning process are worthwhile and need to be exploited in the Nigerian educational system in order for the nation to realize the use of education to achieve national development as stated in National Policy for Education (NPE).

Impacts of Teleconferencing on the Teaching and Learning of Business Education

Teleconferencing simply means meeting through a telecommunications medium. It is a generic term for linking people between two or more locations by

electronics (Tiwari, Gupta & Tiwari, 2015). It is a very useful tool in teaching and learning.

Teleconference according to Nwosu and Chijioke cited in Bakare, et al (2018) can take several forms such as audio conferencing, video and video-graphic conferencing, computer conferencing, multimedia conferencing, graphic communication and facsimile communications. Bakare, et al (2018) posited that teleconferencing is assisted by some software, which allows people who are geographically dispersed to hold conferences by means of sending and receiving multimedia data over networks. Bakare, et al (2018) highlighted some examples of teleconferencing applications to include videoconference, teleteaching and telepresentation. Other examples noted by Bakare, et al (2018) include video phone and audio chat. Urazbaev and Kholmatov (2019) opined that teleconferencing has been gaining popularity in the field of education across the globe. Okoye and Ahubaraezeama (2022) stated that the utilization of teleconferencing by lecturers of business education, enhance students' motivation, engagement, and online socialization. Similarly, Chen, Lui and Martinelli (2021) stated that teleconferencing helps to create flipped classrooms. This assertion helps business education students to get involved in the learning process and take charge like never before. Technology has helped to develop this method, with video conferencing playing an integral part, Students can watch a pre-recorded lesson on their own before a task, project, or in-person class. Teleconferencing technologies such as Zoom, Microsoft Teams, and Google Meet have become essential tools for implementing the flipped classroom model (Chen et al., 2021).

Methodology

The study employed the descriptive survey research design. This design was therefore suitable for this study, because it was primarily meant to describe the extent to which the independent variable (Information and communication technology) influences the dependent variable (teaching and learning of business education) using questionnaire from a representative of the total population. The population of this study was made up of 829 business education students in Edo state public universities. This comprises of 409 University of Benin students and an estimated 420 Ambrose Ali University students of the 2023/2024 academic session. The sample size of this study was made up of 83 business education students from the two (2) public universities in the state, University of Benin and Ambrose Ali University. A proportionate sampling technique in which 10% of the total population of business education students from the two universities were used.

The instrument used for data collection was a questionnaire. The questionnaire was titled "Influence of Information and Communication Technology on Teaching and Learning of Business Education Programme in Universities in Edo State (IICTTLBEP). This instrument allows the researcher to gather objective data from large number of respondents. The questionnaire was segmented into two (2) sections A and B. The section A gathers information about the respondent's demographic variables (sex, school etc.) while section B Comprised 40 item question which was patterned on a four-point rating scale of Very high extent (VHE 4), High extent (HE 3), Low Extent (LE 2), and Very Low Extent (VLE 1). To establish the validity of the instrument, each validator was given a copy of the questionnaire and requested to identify ambiguities and make suggestions for improving the instrument towards meeting

the objectives of the study. To establish the reliability of the instrument that was used for the study, the internal consistency of the items was employed by using the Cronbach alpha statistics. The instrument was administered to 20 students who were not part of the study population. The responses of the respondents were analysed and a coefficient of 0.71 was obtained, which showed that the instrument was reliable. The data collected from the respondents was analysed using mean (x), standard deviation (SD) and two sample independent t-test. The mean and standard deviation were used to answer the data collected for the research questions while two sample independent t-test was used to test hypothesis at 0.05 level of significance. Decision rule was based on mean value of 2.50 such that any calculated mean (x) equal or greater than 2.50 was regarded as high extent while any mean (x) less than 2.50 was regarded as low extent. On the basis of the hypothesis, the probability value (p) was used. If p-value rule was less than or equal to 0.05, null hypothesis was not retained, but if p-value was greater than 0.05, null hypothesis was retained.

Presentation of Results and Discussion of Findings

This chapter deals with presentation of results and discussion of findings.

Presentation of Results:

Research Question One

To what extent does computer influence the teaching and learning of business education programmes?

Table 1: Mean and standard deviation showing influence of computer on the teaching and learning of business education programmes

S/N	Item	N	Mean	SD	Remarks
1	Computer improves the teaching and learning process by making it more fascinating	88	3.35	.706	High Extent
2	Teaching and learning are concretized by use of computers	88	3.11	.767	High Extent
3	Computer promotes students' interest and motivation in the teaching and learning process	88	3.40	.872	High Extent
4	Use of computers facilitates good teaching and learning atmosphere by enhancing communication	88	3.34	.721	High Extent
5	Computers contribute little to the teaching and learning of business education	88	2.91	.863	High Extent
	Cluster Mean		**3.22**	**0.08**	**High Extent**

Note: SD (Standard Deviation), N (Sample Size)

In response to research question one, Table 1 showed that the respondents rated item one to five as high extent with a mean rating ranging from 2.91 to 3.40 while the standard deviation also ranged from .706 to .873. The cluster mean showed a mean of 3.22. With these results, the above mean score shows that computer influence the teaching and learning of business education programmes to high extent.

Research Question Two

To what extent does interactive board influence the teaching and learning of business education programmes?

Table 2: Mean and standard deviation showing influence of interactive board on the teaching and learning of business education programmes

S/N	Item	N	Mean	SD	Remarks
1	Interactive board helps teachers to diversify learning instructions to suit the differences in learner's needs	88	3.05	.781	High Extent
2	Interactive board improves student participation and interactivity in the teaching and learning process	88	3.47	.626	High Extent
3	Interactive board allows teachers to teach more effectively	88	3.15	.817	High Extent
4	Students are able to retain what they learnt using the interactive board	88	3.30	.702	High Extent
5	Interactive board has no effect on the teaching and learning of business education	88	2.87	.888	High Extent
	Cluster Mean		**3.17**	**0.10**	**High Extent**

Note: SD (Standard Deviation), N (Sample Size)

The data analysis presented in Table 2 depicts that the respondents' rated item one to five as high extent with a mean rating ranging from 2.87 to 3.47 while the standard deviation also ranges from .626 to .888. The cluster mean showed a mean of 3.17. The above mean score shows that interactive board influence the teaching and learning of business education programmes to a high extent.

Research Question Three

To what extent does teleconferencing influence the teaching and learning of business education programmes?

Table 3: Mean and standard deviation showing influence of teleconferencing on the teaching and learning of business education programmes

S/N	Item	N	Mean	SD	Remarks
1	Teleconferencing offers students the opportunity to learn anywhere	88	2.86	.910	High Extent
2	Students are able to learn directly from experts in the field through teleconferencing	88	3.03	.973	High Extent
3	Teleconferencing makes archiving of lesson for future review possible	88	2.78	.979	High Extent
4	Teleconferencing modifies the classroom into a field trip which concretize the learning	88	2.73	.981	High Extent
5	Teleconferencing offers no help to the teaching and learning process	88	2.99	.847	High Extent
	Cluster Mean		**2.89**	**0.06**	**High Extent**

Note: SD (Standard Deviation), N (Sample Size)

Research question three reveals that the respondents rated item one to five as high extent with a mean rating ranging from 2.73 to 3.03 while standard deviation also ranges from .847 to .981. The cluster mean indicated a mean of 2.89. With these results, the above mean score shows that teleconferencing influences the teaching and learning of business education programmes to a high extent.

Research Question Four

To what extent does projector influence the teaching and learning of business education programmes?

Table 4: Mean and standard deviation showing influence of projector on the teaching and learning of business education programmes

S/N	Item	N	Mean	SD	Remarks
1	Projector helps maximize the duration of the learning process which makes earning more effective	88	3.06	.879	High Extent
2	Use of projector encourages the use of more ICT gadgets which makes the learning more digital and interesting	88	3.27	1.039	High Extent
3	Projector saves teachers the stress of dictating notes thus allowing more time for productive activities	88	2.95	.944	High Extent
4	Projector increases student's awareness and attention in the teaching and learning process	88	3.26	.911	High Extent
5	Projector contribute to the teaching and learning process	88	3.13	.939	High Extent
	Cluster Mean		**3.13**	**0.06**	**High Extent**

Note: SD (Standard Deviation), N (Sample Size)

In response to research four, Table 4 showed that the respondents rated items one to five as high extent with a mean rating ranging from 2.95 to 3.27 while standard deviation also ranges from .879 to 1.039. The cluster mean showed a mean of 3.13. With these results, the above mean score shows that projector influence the teaching and learning of business education programmes to a high extent.

Hypotheses Testing

The data analysis for testing the hypothesis was carried out using two sample independent t-test. The result of the hypothesis was presented in Table 5.

Hypothesis One

There is no significant difference between the influence of ICT on learning of male and female business education students.

Table 5: t-test analysis showing the mean difference between the influence of ICT on learning of male and female business education students

Gender	N	Mean	SD	df	t-value	p-value	Decision
Male	39	3.03	0.38	86	-.318	.752	**Not Significant**
Female	49	3.05	0.36				

P-Value Not Significant at 0.05 level (2-tailed) (Retain Hypothesis) SD: Standard deviation DF: Degree of freedom

Testing hypothesis one as presented in Table 5, revealed mean responses on the difference between the influence of ICT on learning of male and female business education students. The Table revealed a mean of 3.03 for male and 3.05 for female. The corresponding standard deviations are 0.38 and 0.36 for male and female respectively. The t-value of -.318, at degree of freedom of 86, which showed not significant at p-value of .752. Testing at an alpha value of .05, the null hypothesis was retained since the p-value is higher than alpha value. Thus, there is no significant difference between the influence of ICT on learning of male and female business education students.

Discussion of Findings

The findings of research question one indicated that computer influence the teaching and learning of business education programmes to high extent. This finding supports that of Ogala, Okedion and Ojie

(2014) who revealed that the use of computer as an instructional material in business education is possible of increasing the interest and motivation of the students. They added that computer based instructional materials were revealed to be good tools for teaching and learning, and as a wonderful instrument for exploration and research. Similarly, Ajunwo (2017), opined that computer usage, integration and diffusion has initiated a new age in educational methodologies, thus it has radically changed traditional method of information delivery and usage patterns in the domain as well as offering contemporary learning experience for both instructors and students.

The finding of research question two revealed that interactive board influence the teaching and learning of business education programmes to a high extent. The finding is in line with that of Khamis (2014) who asserted that interactive board is one of the technologies that are transforming classroom activities and teachers' roles. In addition, Al-Faki and Khamis (2014) asserted that with the introduction of software such as word processing, spreadsheets and desktop publishing, the learning and teaching environments in business education have been transformed and their integration into teachers' pedagogical practices have witnessed tremendous success.

The finding of research question three depicted that teleconferencing influences the teaching and learning of business education programmes to a high extent. The finding is in agreement with that of Okoye and Ahubaraezeama (2022) who stated that the utilization of teleconferencing by lecturers of business education, enhance students' motivation, engagement, and online socialization. Moreso, by way of corroborating the aforementioned, Tiwari, Gupta and Tiwari (2015), added that teleconferencing technologies allows for interaction, including sound recording and/or video, and possibly other modalities between at least two sites. They added that it can be utilized for teaching didactic lectures, demonstration of course contents, and demonstration of use of equipment.

The findings of research question four showed that projector influence the teaching and learning of business education programmes to a high extent. The finding corroborates that of Ebuoh (2023) who stated that projector makes it easier for teachers to evaluate all forms of learning activities in the classroom so the process of improving the quality of education can be done. When the teacher communicating the material with a series of sentences some of the words cannot be received clearly by the students' memories but when an explanation accompanied by images, symbols, and sounds of music it can be easily understood.

The findings of hypothesis one showed that there is no significant difference between the influence of ICT on learning of male and female business education students.

Conclusion

Based on the findings of the study, it was concluded that ICT influenced the teaching and learning of business education programmes. These ICT facilities stem from parental computer, interactive board, teleconferencing and projector. In other words, for the university students to perform maximally in their academic performance, it rests squarely on provision and utilization of information and communication technology.

Recommendations

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

1. Government should ensure that various computer facilities are provided in the universities for

effective and efficient teaching and learning process of business education programmes.

2. School management should ensure there is provision interactive board in every classroom to facilitate effective teaching and of business education programmes.
3. Students should also be exposed to the use of teleconferencing, so that regardless of where they are, they can be part of teaching and learning process.
4. Lecturers must also engage in the use of projector in the teaching and learning process in order to stimulate their interest and widen their horizon on the subject thought.

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