Influence of Modern Technology Systems on Academic Performance of Business Education Students in Rivers State Universities

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ABSTRACT

The study was carried out to examineInfluence of Modern Technology Systems on Academic Performance of Business Education Students in Rivers State Universities. Two objectives, research questions and hypotheses were formulated. The study adopted the descriptive survey research design. The population for the study consisted of 555 (Five Hundred and fifty five) final year students in two institutions that offer Business Education Programmes. The sample for this study consisted of all the entire population of 555. Purposive sampling techniques were adopted for the study. Data for the study were collected by means of questionnaire titled "Influence of Modern Technology System and Academic Performance of Business Education Students (IMTSAPBESQ)". The IMTSAPBESQ adopted a four-point rating scale of Very High Extent to Very Low Extent. The instrument was validated by an expert in measurement and evaluation and two business education lecturers. Test-re-test method was used for the reliability test which yielded reliability co-efficient of 0.79. (Five hundred and fifty five) 555 Copies of questionnaire were distributed, and (Five hundred and thirty three) 533 were retrieved for analysis. Mean and Standard Deviation were used to answer the research questions. t-test was used to test the hypothesesas at 0.05 level of significance. The findings revealed that Smart Phones help Students to download class materials. Internet provides interaction with other students.Based on the findings, recommendations made amongst others shows that Modern technology facilities should be provided by the school to be used by students of Business Education to enhance their academic performance. Lecturers should make Lectures more Modern technology based as to improve the skills and competencies of utilizing ICT by the students.

Key Words: Modern Technology Systems, Academic Performance

INTRODUCTION

Education is very important in any given society. Education is a process by which abilities and capabilities of individuals are developed. These abilities might be physical abilities, emotional abilities, social abilities and intellectual abilities. Education is the actualizing of human potential so that the individual can become something more than what he was before. Education has taken a whole new meaning that it leaves us with no doubt that our educational system has been transformed owing to the ever advancing technology. Now we can prepare students for their lifelong learning which requires new approaches to education that incorporate technologies increasingly as a part of students' everyday lives, (Shapley, Sheehan, Maloney & Caranikas-Walker, 2011).

Education is a way of making people fit to live and fit to live with; it is a desirable change in human behavior as well as a process that changes the learner (Oduma, 2012). The process of education therefore, occurs whenever any influence produces a change or changes in the physical or mental behaviour of the recipient. Today, many bureaucratic activities are made easy and functions effectively through the use of one technology or the other. Invariably, no matter the occupation an individual chooses, chances are that he/she will have the need for adequate knowledge and skills in basic technology usage to be appreciated in the work environment (Koko, 2001).Technology, today, plays a very important role in our life. It is seen as a basis of growth of an economy. An economy which is poor in technology can never grow in today's scenario. This is because technology makes our work much easier and less time consuming. Technology is changing process and content to the extent that students today are immersed in a world that abounds with information, Koko, (2015). The increasing amount of time children spend on modern technology has raised questions about the use of the technology. Technology today is a tool used to remove geographical barriers and facilitates everybody to learn anytime and anywhere without the presence of the lecturer, Koko &Nlem (2019). The Internet as an aspect of a technology has become one of the vital ways to make available resources for research and learning for both Lecturers and students to share and acquire information (Richard & Haya, 2012). Anyira (2011) remarked that, lecturers with very large and or distant class of learners, e- learning is inevitable. Technology has radically and positively impacted on education and training globally by transforming teaching and learning. The whole process of education, particularly the way lecturers and learners gain access to knowledge and information in this 21st century, has been greatly affected by technology especially information and communication technology (ICT) (Butcher, 2013). Modern technology has experienced vast expansion in recent years, leading to its extensive use by people from all generations, Koko

&Okogun (2020). Technology has assumed a substantial stake in their social and educational lives.

Modern Technology system is changing process and content to the extent that Business Education students today are immersed in a world that abounds with information. The increasing amount of time student spend on modern technology has raised questions about the use of the technology (Onojetah, 2014). Technology acts as a tool for creating a constructive learning environment thereby adding quality to teaching and learning. According to Onojetah (2014) modern technology system are also known as information and communication technology (ICT), electronic technologies and e-learning. Modern technology system is used to facilitate and support teaching-learning, incorporating a variety of learning strategies and technologies. Modern technology system consists of computers, scanners, printers, intranet, internet, email, videophone system, teleconferencing devices, wireless application protocols (WAPS), radio and microphones, television and satellites, multimedia computer and multimedia projectors. Business Educators need to revolutionize in their teaching strategies by integrating these new technologies in teaching and learning of Business education courses in order to tackle the challenges of the information age (Ololube, Kpolovie, Amaele, Amanchukwu, & Briggs, 2013).

In today's modern world, technological advancements change the behaviour and system of consumption of people around the world (Mahmood et al., 2020). Information and communication technology (ICT) influences the learning behaviour and system of gaining knowledge according to the modern situation (Abbas et al., 2014). In these advancements, a smartphone is a device, similar to a computer operating system, having computing abilities and connectivity options. The use of Smartphones seems to positively influence students" academic performance in adult education by impacting on students" academic satisfaction and learning style. Academic satisfaction involves two aspects, which include academic and facilities dimensions. The academic aspect deals with teaching styles (how lecturers use technologies to support their teaching), constructivist environment, group work and discussions and collaboration among students. The other dimension deals with the facilities available on campus. The more satisfied the students are with their universities" academics and facilities, the more likely they are to perform better. Students are very versatile in using their mobile phones and various mobile applications. Smartphones can access networks and content can be continually streamed over a network, providing content on demand and making it unnecessary to maintain a paper copy of the material, Barile& Lori. 2010. A smart phone is an advanced mobile phone device which is designed to solve daily accessibility problems. Smartphones provide so many features and allows more than make phone calls and send text messages. Smartphone have become a device highly in demand due to its power to perform basic and advanced computer functions. Any problem can be solved through one touch nowadays. That is why in modern life style, people can't live without it, and they have become the necessity in life. The use of smartphones provides high quality performance and quick access to information and entertainment, such as mobile audio and video calls, mobile teleconferencing, sending and receiving emails, and easy access to the internet for different kinds of people, including students. One more usage of it is entertainment & social media. It is a source of all kinds of social connectivity and fun. Because of which, people especially students get addicted toit, which in turn influence their studies, moral values and mental & physical health (Raza et al.,2020). However, smartphone has also made students' lives easier, as they can access their school information on the gadget through electronic learning (e-learning), and mobile learning (learning) as well as they can learn or get any kind of knowledge on them (Ali et al., 2018).

Despite so many advantages & benefits of smartphones on students, there are so many disadvantages and negative impacts as well, which cannot be neglected. Smartphones are speedily emerging technologies in the human race (Robello, 2010). Elogie, Ikenwe, and Idubor (2015) opined that smartphones allow students to have immediate access to up to date information in their academic activities within and outside the university. Hanson, Drumheller, Mckee, and Schlegel (2011) revealed that lecturers and Lecturers have reservations about the use of smartphones by students. The reservation premised on the believed that the use of smartphones by students in the universities could restrain them from their academic and stands as a hurdle to their academic pursuit. According to Boruff and Stories (2014), smartphones are commonly used by students to find and gather the information that helps capacity building in their area of specializations. Also, Bruce (2010) opined that students could also use smartphones to access links, relevant websites, videos, course materials and also they can learn at their convenient time. Litchfield (2010) defined a smartphone as a phone that runs an open operating system and is permanently connected to the internet. Also, the smartphone has been used as a general term for the kind of phone that has an independent operating system like a PC and can achieve wireless network access through mobile communications networks (Baike, 2013). Smartphones are wireless transmission devices that can receive and transmit through digital or analogue shortwave (Rouse, 2017).

The internet is a platform where millions of people engaged in the creation and exchange of information. Indeed, this fact affects a large and deep to academic achievement and social life. It is very important for the researcher to see how the authors see the use of the internet and its impact on students. In addition, it aimed at how digital online can help students in their academic. The use of the Internet for learning is seen as a means to improve accessibility, efficiency and quality of learning by facilitating access to resources and service as well as remote exchanges and collaboration (Kamba 2019). Within the Nigerian context, many people have attributed students' non-challant attitude to reading which culminates in mass failure of students in examinations to the use of the Internet (Alakpodia 2010). Internet's seemingly infinite information offers access to up-to-date research reports and global knowledge so it has become an important component of electronic services in academic institutions. Therefore, the Internet has become a valuable tool for learning, teaching and research (including collaborative research) in Nigeria (Nwokedi, 2007). Internet is a clustering of network on the computer, these networks are independent of one another but are based on the same interface and system of interactions (Adeyemi, 2001).The internet is the largest computer network.The internet offers various services, but the two most popular services are E-mail and World Wide Web. Chanlin (2009) pointed out that World.

Wide Web has introduced "Web 2.0" technologies and in particular "Social Software" where users are connected and can interact. The internet can also be called the "Information Super highway" or the "Net" which is basically a global computer network. The use of internet has helped in facilitating library services, administrative process, distance learning and instructional structures (Bear,2019). The internet has transformed education into students centered learning rather than institution and faculty-centered instruction. It has also encouraged collaboration and collaborative arrangement between academic institutions (Hayes & Robinson, 2012). The internet can be used as source of information for students in the knowledge of interest. The

process of learning has gone beyond consultation of text books and other library resources as such with the use of internet which helps students update their knowledge. Thus, E-mail, instant messages and posting of messages on websites are also source of information. The internet has become a stable means of student's interaction and information dissemination in the Universities. Success in academic fields is now strongly attached to computer/internet utilization and this is influenced by computer self-efficacy of students on surfing the net for academic information. The use of the internet to enhance the academic performance of students is an uphill task because of the way students negatively use the internet.

The internet now represents one of the most successful examples of the benefits of sustained investment and commitment to research and development of information infrastructure. The internet is a valuable source of information used by student in projects and assignments. With over 50million websites on the net, the chances are that information on any subject however obscure can be found using appropriate search tools. It also serves as a useful tool for lecturers in helping to prepare lesson plans using a number of sites dedicated to providing educational material. There are great possibilities for higher education at all levels through the use of internet because curricula can be developed collaboratively and educational materials distributed and updated more cheaply, offering additional ways for students to interact with their study materials as well as their instructors. Another importance of the internet is that it affords students (all over the world but more beneficial to those in developing countries) the opportunity to access a large pool of data which could help reduce the information gap resulting from the disadvantages of the educational opportunities. The internet has no centralized governance in either technological implementation or policies for access and usage, each constituent network sets its own standard, only the over-reaching definitions of the two principal name spaces in the internet, the internet protocol address, space and the domain name system, are directed by a maintainer organization i.e. the internet co-operation for assigned names and numbers (ICAN).The technical underpinning and standardization or the core protocol (IPV4) and (IPV6) is an activity of the Internet Engineering Task Force (IETF), a non-profit organization of loosely affiliated international participation that anyone may associate with by contributing technical expertise. According to Ani (2010), the internet is a network of linked computers which are located at different points all over the world that provides easy communication between persons and organizations no matter where they are located. The internet is used mostly in obtaining information. Researchers can publish and also access several publications across the nation through internet, even from their personal computers once they are connected to the internet. The major functional advantage of the internet stems from its willingness to share information with others so that everyone will benefit.

Chiwepa (2011) and Jagboro(2010) specified the benefits of internet to academic community as

i.   Quick, global and convenient access and exchange of information with experienced and expert in any field;
ii.   Easy dissemination of research findings
iii.   Enhanced collaborative research and other activities
iv.   Ability to use some software and expand the capability of one's competences.

Kuh and Hu (2010) suggested that using the internet has a strong relationship with an overall measure of student's engagement. In a study of "best wired campuses" (institutions that have made large investments in technology), students reported slightly more frequent contacts with faculty and participated more in active learning activities compare with their counterparts attending less wired campuses. The researcher also wants to see how well the student learning process becomes effectively by using the Internet as a source of reference information. Furthermore, this literature review is to look at the positive and negative effects of Internet usage in the learning process.

Statement of the Problem

The inevitability of education is increasing by the day because of increasing pressure to catch up with the developed nations when it comes to global competitiveness. The relevance of e-learning in facilitating the ever-growing need for equity in knowledge acquisition and quality assurance in education in Nigerian universities has been a topical issue among Educationists, Policy Makers, Administrators and School Guidance Counselors. However, in Nigerian Universities, Modern Technology system is challenged with the problem of unavailability of devices such as computer, computer laboratories, internet and e-mail facilities, videophone systems and teleconferencing devices, fax and wireless applications, digital library, digital classrooms, multimedia systems and the problem of multimedia courseware development among others. Also, there is dearth of trained lecturers for e-learning infrastructures.

Several studies have been carried out on academic performance of students in universities. Atkinson (2010) noted that those that push for educational reform contend that most students are often disconnected from the learning process without modern technologies and that traditional lecture-based method does not enhance students' academic performance as much as these modern technologies. Personal observation of the researcher shows that Modern Technology is rarely as a result of incessant power outages and sometimes lack of awareness on the part of the students. This seems to affect Business Education students' academic performance in Rivers State Universities. It is against this background that this study is carried out to ascertain the influence of Modern Technology Systems and Academic Performance of Business Education Students in Rivers State Universities

Purpose of the Study

The main aim of this study is to examine influence of modern technology systems and academic performance of Business Education students in Rivers State Universities. Specifically, the study sought to:

1.   Determine the extent to which the use of smartphones influences academic performance of Business Education students in Rivers State Universities.
2.   Examine the extent to which the use of internet influence academic performance of Business Education students in Rivers State Universities.

Research Questions:

The following research questions were posed to guide the study.

1.   To what extent does the use of smartphones influence academic performance of Business Education students in Rivers State Universities?

2.   To what extent does the use of internet influence academic performance of Business Education students in Rivers State Universities?

Hypotheses

The following hypotheses are formulated and were tested at 0.05 level of significance.

1.   There is no significant difference in the mean ratings of Business Education Students of Rivers State University and Ignatius Ajuru University of Education on the extent the use of smartphones influences their academic performance.

2.   There is no significant difference in the mean ratings of Business Education Students of Rivers State University and Ignatius Ajuru University of Education on the extent the use of internet influences their academic performance.

Methodology

The study adopted a descriptive survey research design and the population of the study consisted of 555 final year students' in two institutions that offer Business Education programmed in Universities. The sample of the study consisted of the entire population of 555 final year students' of Business Education Department in the two Universities. The entire population was used as sample because the researcher felt it is of a manageable size good enough for the study.

The instrument used for data collection was a self-structured questionnaire titled "Influence of Modern Technology System and Academic Performance of Business Education Students Questionnaire (IMTSAPBESQ)". The instruments were divided into two sections. Section A of the instrument was for demographic data of the respondents, while section B was divided into two sub-sections (B1, B2) and was used to elicit information from the respondents based on the objectives of the study. The questionnaire was designed with a four points rating scale of Very High Extent (VHE) = 4 Points, High Extent (HE) = 3Points, Low Extent (LE) = 2 Points, and Very Low Extent (VLE) – 1 Point. To establish the validity of the instrument, the questionnaire was subjected to face and content validation by the three experts: two in Business Education Department and one in Measurement and Evaluation, all in Faculty of Education, Rivers State University Nkpolu-Oroworukwo, Port Harcourt. To establish the reliability of the instrument, test-re-test method was used and the researcher administered the instrument to 30 respondents in Uniport Business Education Students. The reliability coefficient was determined using Pearson product moment correlation co-efficient (PPMCC) to establish the reliability of the instrument at 0.79. The 555 copies of questionnaire were administered to the respondents by the researcher and two research assistants.Out of the figures administered, 533 were retrieved from the respondents within one week. This was made possible because the researcher visited the institution personally with the help of two research assistants. The instrument gathered were analyzed using mean and standard deviation to answer the research questions while t-test statistical stood was used to test the hypotheses at 0.05 level of significance.

Results

Research Question 1: To what extent does the use of Smartphones influence academic performance of Business education students in Rivers State Universities?

Table 1: Mean and Standard Deviation on the Extent the Use of Smartphones Influence Academic Performance of Business Education Students in Rivers State Universities (N = 533)

S/N	Item Statements	IAUE =325			RSU =208		
		$\bar{x}$	SD	Remarks	$\bar{x}$	SD	Remarks
1	Smart Phones help Students to download class materials	3.03	1.06	High Extent	3.04	1.07	High Extent
2	Smart Phones help Students to share academic websites and links	2.89	1.09	High Extent	3.09	0.92	High Extent
3	Smart Phones enable Students to Increases searching and learning skills	3.30	0.87	High Extent	3.20	0.96	High Extent
4	The use of smart phones helps learners to Receiving text messages from Lecturers with class content	3.08	0.67	High Extent	3.30	0.82	High Extent
5	Smartphones help facilitators to make research before teaching student	3.09	1.06	High Extent	3.31	0.92	High Extent
	Grand Mean & SD =	**3.08**			**3.19**		

Source: Field Survey, (2022)

Table 1 showed that three items agreed, while one disagreed that smart phones influence academic performance of Business Education Students in Rivers State Universities. Smartphones enables Students to increases searching and learning skills. The confirmation was made with a grand mean of

3.08 and standard deviation of 0.95 for Ignatius Ajuru University of Education while that of Rivers State University were 3.19 and 0.93 for mean and standard deviation.

Research Question 2: To what extent does the use of Internet influence academic performance of Business education students in Rivers State Universities?

Table 2: Mean and Standard Deviation on the Extent the use of Internet Influence Academic Performance of Business Education Students in Rivers State Universities   (N = 533).

S/N	Item Statements	IAUE =325			RSU =208		
		$\bar{x}$	SD	Remarks	$\bar{x}$	SD	Remarks
1	Internet Offers greater convenience for the lecturers and student, and offer flexibility in scheduling	2.78	1.01	High Extent	3.23	0.87	High Extent
2	Internet provides real-time interaction with other students and teacher (live, same time)	3.05	1.01	High Extent	3.21	0.72	High Extent
3	Internet provides academic interaction with other students.	2.73	0.97	High Extent	2.97	0.87	Very High Extent
4	Internet helps with setting a clear plan for writing and speaking.	2.99	1.17	High Extent	3.31	0.81	High Extent
5	Internet provides quick feedback from the teacher.	3.70	0.67	High Extent	3.11	0.92	
	Grand Mean & SD =	**3.05**			**3.16**		

Source: Field Survey, (2022)

Table 2 showed that all the items agreed that the use of internet influence academic performance of Business Education Students in Rivers State Universities. The respondents agreed that Internet provides real-time interaction with other students and teacher (live, same time). Internet provides quick feedback from the teacher. The confirmation was made with a grand mean of 3.05 and 0.96 while standard deviation of 3.16 and 0.83 for both Ignatius Ajuru University of Education and Rivers State University.

Hypotheses 1: There is no significant difference in the mean ratings of Business Education Students of Rivers State University and Ignatius Ajuru University of Education on the extent the use of Smartphones influences their academic performance.

Table 3: t-test Analysis of Mean Ratings of Business Education Students of Rivers State University and Ignatius Ajuru University of Education on the Extent the Use of Smartphones Influences their Academic Performance.

Respondents	N	$\bar{x}$	SD	dF	α	t-cal	t-crit	Decision
IAUE	325	3.08	0.95					
				531	0.05	1.57	1.96	Accepted
RSU	208	3.19	0.93					

Source: Field Survey, (2022)

From the t-test in table 3, the t-cal value of 1.57 is less than t-crit value of 1.96 at 0.05 level of significance and 531 degree of freedom. Thus, the null hypothesis was accepted meaning that there is no significant difference in the mean ratings of Business Education Students in Rivers State University and Ignatius Ajuru University of Education on the extent the use of smartphones influences their academic performance. In other words, students of both institutions have common views on the use of smartphones.

Hypothesis 2: There is no significant difference in the mean ratings of Business Education Students of Rivers State University and Ignatius Ajuru University of Education on the extent the use of Internet influence their academic performance.

Table 4:   t-test Analysis of the Mean Ratings of Business Education Students of Rivers State University and Ignatius Ajuru University of Education on the Extent the use of Internet Influence their Academic Performance

Respondents	N	$\bar{x}$	SD	dF	α	t-cal	t-crit	Decision
IAUE	325	3.05	0.96					
				531	0.05	0.63	1.96	Accepted
RSU	208	3.16	0.83					

Source: Field Survey, (2022)

From the t-test in table 4, the t-cal value is 0.63 while the t-crit is 1.96 at 0.05 level of significance and 531 degree of freedom. Therefore, the null hypothesis was accepted owing to the lack of significant difference in the mean ratings of Business Education Students in Rivers State University and Ignatius Ajuru University of Education in the extent the use of internet influences their academic performance. Thus, students of both institutions share

common views in the use of internet.

Discussion of Findings

The Discussion of findings were done according to each research question posed in Chapter one

The findings revealed that Smart Phones helps Students to download class materials. Smart Phones enables Students to Increases searching and learning skills. This finding is in agreement with the view of Porter and Lawler (2010) opined that job performance leads to job satisfaction. Accordingly, the quality of the employee's performance may result in receiving rewards that give him satisfaction. These authors believe that performance attracts rewards; when reward is not equitable to performance, dissatisfaction sets in. This is because people engage in work so as to gain certain rewards that will lead to satisfaction and improved performance. It has been suggested that in situations where Lecturers fail to achieve expected standards, meaning that performance is poor, then plans should be made to help such Lecturers improve. Researcher opined that students should be exposed to seminars, conferences, in-service trainings, educational workshops, etc. Hanson, Drumheller, Mckee, and Schlegel (2011) revealed that lecturers and students have reservations about the use of smartphones by students. The reservation premised on the believed that the use of smartphones by students in the universities could restrain them from their academic and stands as a hurdle to their academic pursuit. In-line with the view of Boruff and Stories (2014), who opined that smartphones are commonly used by students to find and gather the information that helps capacity building in their area of specializations. Bruce (2010) opined that students could also use smartphones to access links, relevant websites, videos, course materials and also they can learn at their convenient time.

The findings also revealed that Internet provides real-time interaction with other students and teacher (live, same time). Internet provides quick feedback from the teacher. The findings is in agreement with the view of Kamba (2019), who opined that internet is a platform where millions of people engaged in the creation and exchange of information. Indeed, this fact affects a large and deep to academic achievement and social life. It is very important for the researcher to see how the authors see the use of the internet and its impact on students. In addition, it aimed at how digital online can help students in their academic. The use of the Internet for learning is seen as a means to improve accessibility, efficiency and quality of learning by facilitating access to resources and service as well as remote exchanges and collaboration. The results pointed out to a positive link between information technology and engagement in effective educational practises. Nwokedi, (2007) depicts that Internet has become a valuable tool for learning, teaching and research (including collaborative research) in Nigeria. Internet is a clustering of network on the computer, these networks are independent of one another but are based on the same interface and system of interactions. In Line with the View of Hayes and Robinson, (2012) opined that internet can be used as source of information for students in the knowledge of interest. The process of learning has gone beyond consultation of text books and other library resources as such with the use of internet which helps students update their knowledge. Thus, E-mail, instant messages and posting of messages on websites are also source of information. The internet has become a stable means of student's interaction and information dissemination in the Universities. Success in academic fields is now strongly attached to computer/internet utilization and this is influenced by computer self-efficacy of students on surfing the net for academic information. The use of the internet to enhance the academic performance of students is an uphill task because of the way students negatively use the internet. The internet now represents one of the most successful examples of the benefits of sustained investment and commitment to research and development of information infrastructure. The internet is a valuable source of information used by student in projects and assignments. The researcher also wants to see how well the student learning process becomes effectively by using the Internet as a source of reference information. Furthermore, this literature review is to look at the positive and negative effects of Internet usage in the learning process.

Conclusion

Based on the discussion of findings,the researcher concluded that Smartphones help Students to download class materials. Smart Phones enables Students to Increases searching and learning skills. Internet provides real-time interaction with other students and teacher (live, same time). Internet provides quick feedback from the teacher.

Recommendations

Based on the findings and conclusion as presented above, the following recommendations, were made by the researcher

i.   Modern technology facilities should be provided by the school to be used by students of Business Education to enhance their academic performance.

ii.   Lecturers should make Lectures more Modern technologybase as to improve the skills and competencies of utilizing ICT by the students.

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