INFORMATION COMMUNICATION TECHNOLOGIES AND UNDERGRADUATES' ACADEMIC ACHIEVEMENT IN HUMAN KINETICS AND HEALTH EDUCATION, UNIVERSITY OF CALABAR, NIGERIA

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Abstract
The main thrust of this study was to examine information communication technologies and undergraduates' academic achievement in the Department of Human Kinetics and Health Education, University of Calabar, Nigeria. To achieve this purpose, three null hypotheses, were formulated and tested at 0.05 level of significance. A detailed review of literature was carried out based on the variables under study. Survey research design was considered most suitable for the study. The stratified random sampling technique was adopted in selecting one hundred and fifty three (153) year three and four students of the Department of Human Kinetics and Health Education, University of Calabar. A fifteen item modified four point Likert scale questionnaire and Students' achievement test in Human Kinetics and Health Education were the instruments used for data collection. The instruments were validated before they were administered to respondents. To test the hypotheses formulated for the study. Pearson product moment correlation statistical tool was used for data analysis. The result of the analyses revealed that there was a significant relationship between availability of computer, accessibility to cell phone services, internet services and students' academic achievement in Human Kinetics and Health Education in the study area. Based on these findings, it was recommended among others that the university authority should ensure that free and effective internet services are provided for students to enable them have greater access to online information that would boost their academic achievement.

Keywords: Information, Communication, Technologies, Undergraduates‘ academic Achievement

Introduction

Teaching is becoming one of the most challenging professions in our society today where knowledge is expanding so rapidly that modern technologies demand the use of Information and Communication Technologies (ICTs). ICT has become within a short time the basic building blocks of a modern society. In Nigeria, the Federal Government has established a fully-fledged ICT ministry to stress the importance of ICT in promoting economic growth and development. The use of computers in education is not a new phenomenon. In the 1970s, it claimed that it would transform and save education (Lockard & Abrams, 2017). The late 1980s saw a growing stuff towards computer integration which emphasized the curriculum and not the tool. Its

proponents felt that students would learn new skills as they needed them in order to make the computer work for them. The computer could now be viewed more as a partner as opposed to a completion and could be treated in a more natural manner (Lockard & Abrams, 2017).

According to Mkpa (2019) for teaching and learning to take place, there must be a change in behaviour that is a form of behaviour modification. The use of relevant instructional material to the subject matter, accessing adequate and reliable information, effective means of evaluation, teaching method as well as classroom management skills were the niti grithes of effective lesson delivery: Therefore, the strength of what to teach, to how to teach and what to teach is a serious issue that needs decisive and concerted effort. Consequent upon this the use of information and communication technology (ICT) by students or teachers becomes timely and inevitable. Moreso, the recent development in ICT has influenced the globalization of various aspects of man's life, Uche (2019) this has drastically changed or affected the objectives of education.

Infact, information and communication technology (ICT) is making dynamic changes in the society. This is influencing the educational sector. The influence is wildly believed to be felt more in schools, because ICT provides innovation to teachers and students ICT gadgets like telephone, radio, internet and television greatly facilitate the acquisition and absorption of knowledge, offering developing countries unprecedented opportunities to enhance educational goals, improve policy formulation and executive and widen the range of opportunities for effective teaching and learning.

However, the effect of ICT in teaching and learning of Human Kinetics and Health Education is not yet fully established. Yet the need to prepare students for the informative age is receiving educational theme worldwide, since today‘s students are to spread their career life in a very dynamic technological environment.

Statement of hypotheses

1. There is no significant relationship between availability of computer and undergraduates' academic achievement in Human Kinetics and Health Education.
2. Accessibility to cell phone services does not significantly relate with undergraduates' academic achievement in Human Kinetics and Health Education
3. Internet used does not significantly relate with undergraduates' academic achievement in Human Kinetics and Health Education.

Literature review

Availability of computer and undergraduates' academic achievement

For teachers and their students, the availability of modern computers, peripherals, networking and resources within an increasingly diverse range of technologies is an essential part of learning and teaching in the 21 century. ICT constitutes an input in the student learning process that should help produce better learning output. The availability of ICT resources can enhance learning by making less dependent on differing teachers‘ quality and by making education available at home throughout the day (Ibwesa, 2016). Computer technology has had a deep impact on the education sector, hence imparting education has become easier and much more interesting than before. They enable quick processing of data with very less or no chances of errors in processing, storing document on system in the form of soft copies instead of hard ones.

Computers are useful in teaching basic skills as well as advanced skills required for competency among university undergraduates. Computer Aided Instruction (CAI) helps students to learn at their own pace through the drill any practice and tutorial. Computer accepts programme installation such as Microsoft excel for statistical analysis. Azuka (2019) remarked that Microsoft Excel provides good capabilities for doing statistical analysis. Students who do not acquire the skills and proficiency in the use of Microsoft Excel are likely to perish because

lack of knowledge of the package is detrimental to teachers' competence in both teaching and research.

Amenyedzi, Lartey and Dzomeku (2016), carried out a study on the use of computers and internet as a supplementary source of educational material in senior high schools in the Yema metropolis in Ghana. The study was aimed at assessing computer and internet usage as supplementary educational materials to enhance quality education, help improve educational management and planning. How students use the computers and internet to facilitate their learning; how teachers in the Yema Senior High Schools use the computers and internet to teach and guide students. Stratified sampling method was used to select students and teachers. The results showed that a significantly high percentage of respondent-teachers (92%) were computer literate and 78% of respondent students also had basic knowledge in computer. However, less than 15% of these teachers used the interest as an innovative way of improving teaching and learning.

According to the Swedish National Agency for School Improvement (2017), ICT provide a positive impact on learning and student performance when it becomes an integrated element in the classroom and teaching. ICT use also encourages development from a teacher- focused or teacher-led model to a more student-focused model in which students work together, make their own decisions and take an active role in learning.

The lesson here is that computers are but a subset of the information communication technology facilities necessary in schools and university and then even then, they have to be furnished with accessories, installed with appropriate software and linked to necessary network to allow access to rich resources beyond the school rather than serve as a resource for minor typesetting and other word processing activities. The above studies attempted generally to explain how the availability of computer affects learning and academic performance of student does not look at how particular computer tools clearly affects students learning.

Accessibility to cellphone and undergraduates' academic achievement

Effective integration of ICT in schools would be a call for a whole institution to be networked to ensure access to multimedia and learning rich resources via the university intranet and the internet wherever students and teachers are, in or out of school. The computer laboratories and lecture hall cellphones need to be sufficient in number to allow ready access by students and staff in most courses across the department. A wide range of peripheral and remote working devices including video-conferencing, is provided and integrated into the curriculum. The technologies allow them to receive feedback, refine their understanding, build new knowledge and transfer from school to non-school settings (Committee on Developments in the Science of Learning, 2015). Much as students and staff need training on a contours basis with mordern requisite skills to fully exploit the ICT environment in their different functions, awareness skills only may not be sufficient enough but rather continuous accessibility to cellphone services and other ICT resources would do much better.

Nigeria Educational Research and Development Council (NERDC) (2018) posited that mobile devices, also called handheld devices are portable digital learning resources that can be taken from one place to another to facilitate learning and communication. Teachers and students carry them for purposes of creating knowledge. Institutions of learning are increasingly adopting information and communication technologies (e.g. mobile technologies to provide solutions to the challenges facing them. Whilst the integration of the mobile context and technologies in the learning environment has been encouraged over the years (Benta, Crmene & Padurean, 2016), and indeed many students today can use mobile phones, the effectiveness of these technologies in minimizing impediments to knowledge creation and transfer in group learning has not extensively been investigated.

Samuel, Ayodele, Alonge and Oluwafemi (2019) carried out a study to evaluate the use of mobile phones as knowledge sharing tool by students involved in problem-based learning in

three randomly selected private universities in Nigeria. A questionnaire was used as the instrument for data collection from 532 undergraduate students distributed across the three selected private universities. The result showed that as much as 96.6% of the students evaluated had mobile phones and that they used their mobile phones for communication. interactions, getting information, browsing the internet and sharing knowledge anytime. It was hoped that the study findings will help in harnessing mobile phones as instructional media and knowledge sharing technologies in societies that are struggling to rationalize the impact of technology on their education.

Globally, smartphones use among tertiary level students has increased tremendously over the last two years. Higher learning institutions need to develop sound strategies to leverage students' smartphone use in order to create a more autonomous learning environment. To date, numerous studies have been conducted to investigate the use of mobile device themselves. For most of the research reporting on the benefits and limitations of smartphones, there was very little empirical evidence to support their claims (Merchant, 2018). Although there is some evidence regarding students‘ use of smartphones in higher education, there is little research on how they have used smartphones to support learning activities and how this relates to academic performance.

Internet services and undergraduates' academic achievement

Teaching is becoming one of the most challenging professions in our society where knowledge is expanding rapidly and much of it is available to students as well as teachers at the same time. The internet is increasingly being defined by new digital technologies that empower users to develop, create, rate and distribute internet content and applications. Generally, the internet s a worldwide network of computers networks, connected to each other by telecommunication links. Over the years, the Internet has been a very important instrument for facilitating academic activities in tertiary institutions in Nigeria. The information and communication technology revolution is sweeping through the world and the gale has even caught up with developing countries like Nigeria. There has been a tremendous growth in the use of internet and the world wide for finding and sharing information. Ahmed (2017) stated that the internet is the transport vehicle for the information stored in files or documents on a computer, it carries together various information and services, such as electronic mail, online chat, file transfer, the interlined web pages and other documents of the World Wide Web.

In today's world, the internet plays a vital role in the teaching, research and learning process in academic institutions. Thus, the advent of the Internet has heralded the emergence of a new form of knowledge production and distribution-the oft forms. It was observed recently that majority of academic and research institutions provide internet services to students, teachers and researchers (Kaur, 2018). 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, 2018). Within the Nigeria 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.

Ogedebe (2015) in his study found that 79% of the respondents accepted that their academic performance has been improved by using the internet, while 13% believed otherwise, 8% made no response to that question. The study also revealed that 65% of the respondents were computer literate, while 29% were not, 6% of the respondents neglected the questions. The study further revealed that 8% of the respondents believed that their Grade Point Average has been improved remarkably as a result of the internet, 6% agreed that their Grade Point Average has been declining, 28% responded that it aids them in preparing better for continuous assessment and semester examination while 22% were indifferent about the options and therefore did not respond.

The internet has opened the door to new ways of learning. The wealth of information available therein exceeds that of any physical library. Of the various uses the internet can be put to, academic purpose occupies the highest enviable position as far as students are concerned. However, they face a lot of challenges using the internet for academic purpose. Such as incessant power outage and the disgusting network failure. The need exists for tertiary institutions to acquire high powered generators which will serve as backup in case of power outage.

Methodology

Design

The study considered survey design. A survey design gives information as the situation exists without the manipulation of the dependent or independent variables. This design was employed to find out the effect ICT has on undergraduates' academic achievement in Human Kinetics and Health Education, University of Calabar, Nigeria.

Population

The population of the study was 398 undergraduates in Human Kinetics and Health Education, University of Calabar, Cross River State, Nigeria as at 2020/2021 academic session.

Sample

The sample for this study was 153 undergraduates that were randomly selected from Human Kinetics and Health Education, University of Calabar (2020/2021 academic session).

Instrumentation

Two instruments were used for data collection. The first was a questionnaire tagged Information and Communication Technology Questionnaire (ICTQ). It was divided into two parts, Part A contained items on respondents' personal data, Part B was designed using four point Likert scale of Strongly Agree (SA) 4points, Agree (A) 3points, Disagree (D) 2points and Strongly Disagree (SD) 1point to measure the variables of the study. The second instrument was an Achievement Test that measured undergraduates‘ academic achievement in Human Kinetics and Health Education. The achievement test had ten multiple choice questions using major topics in Human Kinetics and Health Education. The ten questions had ten points.

Results and discussion

Hypothesis one

There is no significant relationship between availability of computer and undergraduates' academic achievement in Human Kinetics and Health Education. The independent variable in this hypothesis is availability of computer while the dependent variable is undergraduates' academic achievement. Pearson Product Moment Correlation statistical tool was used for data analysis. The result of this analysis is presented in Table 1.

Table 1
Pearson Product Moment Correlation analysis of the relationship between availability of computers and undergraduates' academic achievement in Human Kinetics and Health Education, University of Calabar, Calabar (N=153)

Variables	EX EY	EX^2 EY^2	EXY	Cal-r
Availability of computer	2126	8729		
			9642	0.348*
Undergraduates' academic achievement	1961	7568		

*Significant at 0.05; df=151; critical-r=0.159

The result of analysis presented in table 1 showed that the calculated r-value of 0.348 was higher than the critical r-value of 0.159 at 0.05 level of significance with 151 degree of freedom. This implies that, the null hypothesis was rejected. Therefore, there is a significant relationship between availability of computer and undergraduates' academic achievement in Human Kinetics and Health Education, University of Calabar, Calabar, Cross River State.

Hypothesis two
Accessibility to cellphone services does not significant relate with undergraduates' academic achievement in Human Kinetics and Health Education. The independent variable in this hypothesis is internet services while the dependent variable is undergraduates' academic achievement. Pearson product moment correlation statistical tool was used for data analysis. The result of this analysis is presented in Table 2.

Table 2
Pearson Product Moment Correlation Analysis of the relationship between accessibility to cellphone services and undergraduates' academic achievement in Human Kinetics and Health Education, University of Calabar, Calabar (N=153)

Variables	EX EY	EX^2 EY^2	EXY	Cal-r
Accessibility to cellphone services	2237	9317		
			10642	0.463*
Undergraduates' academic achievement	1961	7568		

*Significant at 0.05; df=151; critical-r=0.159

The result of analysis presented in table 2 showed that the calculated r-value of 0.463 was higher than the critical r-value of 0.159 at 0.05 level of significance with 151 degree of freedom. This implies that, the null hypothesis was rejected. Therefore, there is a significant relationship between accessibility to cellphone services and undergraduates' academic achievement in Human Kinetics and Health Education, University of Calabar, Calabar, Cross River State.

Hypothesis three
Internet use does not significant relate with undergraduates' academic achievement in Human Kinetics and Health Education. The independent variable in this hypothesis is accessibility to cellphone services while the dependent variable is undergraduates' academic achievement. Pearson product moment correlation statistical tool was used for data analysis. The result of this analysis is presented in Table 3.

Table 3

Pearson Product Moment Correlation Analysis of the relationship between accessibility to cellphone services and undergraduates' academic achievement in Human Kinetics and Health Education, University of Calabar, Calabar (N=153)

Variables	EX EY	EX^2 EY^2	EXY	Cal-r
Internet services	2075	8491		
			9814	0.288*
Undergraduates' academic achievement	1961	7568		

*Significant at 0.05; df=151; critical-r=0.159

The result of analysis presented in table 1 showed that the calculated r-value of 0.288 was higher than the critical r-value of 0.159 at 0.05 level of significance with 151 degree of freedom. This implies that, the null hypothesis was rejected. Therefore, there is a significant relationship between internet services and undergraduates' academic achievement in Human Kinetics and Health Education, University of Calabar, Calabar, Cross River State.

Discussion of findings

The finding obtained from analysis of data and testing of hypothesis one in the study showed that the null hypothesis was rejected. This implied that there is a significant relationship between availability of computer and undergraduates' academic achievement in Human Kinetics and Health Education, University of Calabar, Calabar, Cross River State. The finding of this study could be attributed to the increasing availability of computers in various forms. Students now have more access to computers, laptops, palmtops among others. This has enabled students to access and process relevant information that can contribute significantly to an improvement in their academic achievement. It depicts that If students have more access to computers, their academic achievement will definitely contribute to improve.

This finding is in agreement with that of Mbwesa (2016) who reported that for teachers and their students, the availability of modern computers, peripherals, networking and resources within an increasingly diverse range of technologies is an essential part of learning and teaching in the 21st century. ICT constitutes a input in the student learning process that should help produce better learning output. The availability of ICT resources can enhance learning by making less dependent on differing teachers' quality and by making education available at home throughout the day (Ibwesa, 2016). Computer technology has had a deep impact on the education sector, hence imparting education has become easier and much more interesting than before. They enable quick processing of data with very less or no chances of errors in processing, storing document on computers in the form of soft copies instead of hard ones.

The finding obtained from analysis and testing of hypothesis two showed that the null hypothesis was rejected. This implied that there is a significant relationship between accessibility to cellphones and undergraduates' academic achievement in Human Kinetics and Health Education, University of Calabar, Calabar, Cross River State. The finding of this study could be attributed to the fact that several students especially those in the Department of Human Kinetics and Health Education, University of Calabar have access to cell phones. So many students have been able to browse for relevant information. Others have made calls to inquire of certain information that would increase their knowledge base. The use of cell phone has contributed immensely to improving access to information and learning outcomes.

The finding of this study is in agreement with that of NERDC (2018) who reported that mobile devices, also called handheld devices are portable digital learning resources that can be taken from one place to another to facilitate learning and communication. Teachers and students carry them for purposes of creating knowledge. Institutions of learning are increasingly adopting information and communication technologies (e.g. mobile technologies to provide solutions to

the challenges facing them. Whilst the integration of the mobile context and technologies in the learning environment has been encouraged over the years (Benta, Crmene and Padurean 2016), and indeed many students today can use mobile phones, the effectiveness of these technologies in minimizing impediments to knowledge creation and transfer in group learning has not been investigated.

The finding obtained from analysis and testing of hypothesis three showed that the null hypothesis was rejected. This implied that there is a significant relationship between internet services and undergraduates' academic achievement in Human Kinetics and Health Education, University of Calabar. Calabar, Cross River State. The finding of this study could be attributed to the fact that access to the internet has increased in recent times. This is because, from the comfort of their rooms or in the classroom, students can easily access relevant information that would improve their learning outcomes. In the past few years, access to the internet was grossly limited to cyber café. This situation has changed tremendously in recent years. This has enabled students to access the internet at a low cost, thereby encouraging them to do so regularly. The outcome of this access has been encouraging and need to sustained, if students' academic achievement is to improve continuously.

The finding of this study is in agreement with that of Kamba (2018) who reported that in today's world, the internet plays a vital role in the teaching, research and learning process in academic institution. Thus, the advent of the internet has heralded the emergence of a new form of knowledge production and distribution-the soft forms. It was observed recently that majority of academic and research institutions provide internet services to students, teachers and researchers (Kaur, 2018). The use of the internet for learning it 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, 2018). Within the Nigeria content, 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.

Conclusion

The essence of this study was to investigate and make findings on information and communication technologies and undergraduates' academic achievement in Human Kinetics and Health Education, University of Calabar, Calabar, Cross River State, Nigeria. The findings obtained from analysis of data and testing of hypotheses revealed that there was a significant relationship between availability of computer, accessibility to cellphone services, internet services and undergraduates' academic achievement in Human Kinetics and Health Education in the study area.

Recommendations

Based on the findings obtained from analysis of data and testing of hypotheses in the study, it was recommended that:

3. The school authorities should ensure that students are granted more access to computer gadgets that would increase their access to relevant information that would improve their academic achievement.
4. Students of the Department of Human Kinetics and Health Education should be encouraged to adopt cell phone as an effective learning gadget to sustain the academic achievement.
5. The university authority should ensure that free and effective internet services are provided for students to enable them have greater access to online information that would boost their academic achievement.

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