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COMPUTER SOFTWARE PACKAGES AND THE TEACHING-LEARNING PROCESS IN THE 21ST CENTURY: AN IMPLICATION FOR SUSTAINABLE DEVELOPMENT AND ECONOMY POWER

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Abstract
This study investigated the extent of educators' application of Computer Software Packages and the Teaching-learning Process in the 21st Century: An Implication for Sustainable Development and Economy Power. Two specific purposes, two research questions and two null hypotheses were formulated to guide the study. The study was conducted in the University of Uyo, Uyo, Akwa Ibom State with the population of 57 level two hundred students of the Department of Computer and Robotics Education of 2022/2023 academic session. The entire population was used for the study hence, there was no sampling as32 male and 25 female were randomly selected to be part of the study. The study adopted a descriptive survey design. The study adopted a 12–item questionnaire structured by the researchers titled:Computer Software Packages and the Teaching-learning Process for Sustainable Development Skills Questionnaire (CSPTPSDS) for data collection using 5-points rating scale response mode of: Very Great Extent (5), Great Extent (4), Moderate Extent (3), Small Extent (2) and Very Small Extent (1). The instrument CSPTPSDS was face-validated by two experts. Reliability instrument was administered to 30 year two hundred level Industrial and Technology Education undergraduates of the same faculty who had studied some computer courses in their previous academic level. The data collected was analyzed using Cronbach's alpha statistical analysis technique. A reliability coefficient of .81 and .64 were generated for word processing and slides presentation tools respectively. Mean statistic answered research questions while the null hypotheses were tested using t-test at 0.05 level of significance with 201 degrees of freedom.The findings of this study revealed that word processing and slide presentation tools were moderately used by lecturers in teaching-learning process in the 21st century in the University of Uyo, Uyo, Akwa Ibom State. Based on the findings of this study, it is recommended among others that heads of institution and the head of department should procure the necessary ICT gadgets for their students to enable both educators and students benefit maximally in the ongoing technological development and ICT contribution in educational advancement.

Introduction

The modern world economy requires innovation and reinvention via technological training that is significantly meant for sustainable skill encouraged by team-work, digital literacy, creativity, problem solving, collaboration, communication,decision making, social responsibility, global and environmental awareness, lifelong learning, personal management, improvedindividual's skills through self-direction, self-confidence, information acquisition and evaluation, democratic pace as well as educational sector.In order to fit well in the present era of complex work environments, 21st century educational process demands that individuals live and learn the essential economy skill set that would help becoming ethical citizens with an innovative sustainable development spirit. Sustainable development economy here calls on the adoption of technological facilities mainly known as Information and Communication Technology (ICT) which according to Achilike (2004) is defined as the use of computer applications and telecommunication system for collection, analysis, processing, manipulation, storage, retrieval, transmission and data communication. Fitria (2021) posited that ICT is a pillar of the industrial revolution that plays a central role in facilitating the learning process mediated by technology. Magyar (2004) described Information and Communication Technology as hardware and software, access to internet, competencies and skills, and content of the material to bring new structures to learning. An educational process concerned with the use of technological facilities is not limited to any subjects or course of study, and is not limited to any level of education but rather it is vast in nature accommodating individuals not minding gender, races, location, literacy level and the likes.

Today, the inclusion of ICT tools in the academic field is not just given to provide access, but it demands drastic changes in curriculum design and delivery methods. Thus, traditional education over the years has shifted towards these innovative methods of teaching and learning through the propagation of technological facilitiesas it is narrowed to computer software tools whose bases is basically on the application to teaching and learning for users' attention and retention spanexpansion for sustainable skills. Okoroh (2006) highlighted that countries globally have regarded the acquisition of ICT knowledge and skills as part of their core education, alongside reading, writing and numeracy for sustainable expansion. Also, the researchers of this work agreed that adoption of technological facilities connects information, products, people, ideas, individuals as well as communities globally at a low cost. *Aviram, Aharon; Eshet-Alkalai, Yoram* asserted that in order to be competent in life and career skills, it is necessary to be able to exercise flexibility and adaptability, initiative and self-direction, social and cross-cultural skills, productivity and accountability.

A life and career skill as centered on in this paper is on the adoption of computer software packages in teaching-learning process. Computer software packages are set of programs designed and developed to perform specific tasks such as word processing, data processing, information dissemination, slides presentation, as well as very many other tasks. Computer software varies but this paper is focused on the application software packages (Word

processing and Slides presentation). Word processing is probably the most extensive and essential tool that came into prominence with the availability of inexpensive hardware for male and female students to master and it produces the highest gains in terms of productivity. Itis a software tool used for words composition, editing, formatting, storing, retrieving and printing of text documents. Word processing tool also known as Microsoft word package according to O'Leary and O'Leary (2009) enables the educators to create a document, store it electronically on any storage media, or on a computer, display it on a screen, modify or format it by entering commands and characters from the keyboard that could be printed through a printer or read on the screen. Another vital software package is Slides presentation also known as power-point. Microsoft Slides presentation according to O'Leary and O'Leary (2009) is a presentation program developed by Microsoft office suite; it consists of number of individual slides. Slides may contain text, video images, graphics, animation, audio clips, designs and other objects which may be arrange freely in bulleted points. Elements within a slide can be animated to attract learner's attention and sequenced to closely follow the desired teaching pattern of ideas and information. The use of slides presentation tool allows educators to explain abstract concepts in stylish format, while accommodating all teaching and learning styles during instructional delivery. The process of teaching can be boring and painful to students if teaching is not supported with the use of slides presentation to enhance effective technological knowledge/skill acquisition required for sustainable development. Akdağ and Tok (2004) emphasized that the instruction enriched through the use of the slides presentation facility has a determinant role on students' success. Slides presentation is a tool that makes learning funnier by placing control over teaching in the hands of students. The adoption of technological tools does not hinder teacher–learner relationships. It rather creates interaction and communication links where the teacher manages the human, materials, time and space to make sure that instructional events recall what is taught to provide feedback and provide access to learners' performance leading to high educational productivity prior self-reliance.

A good number of researches have shown that the quality of teaching and learning can be significantly enhanced when ICT facilities are approached and applied to develop intellectuals. At this point, since the government and her institutions are serious about achieving an outstanding academic performance through the use of innovative technologies, the researchers chooses to determine how Computer Software Packages are applied in Teaching-learning Process for Sustainable Development Skill in the 21st Century Tertiary Institutions by lecturers to actualize some outstanding teaching performance. Hence, University of Uyo, Uyo is adopted as an area of this study and it is the only Federal Tertiary Institution found in Uyo Local Government Area of Akwa Ibom State.

Statement of the Problem

The growth of ICT and its adoption in education has brought great transformation to the sector. Thus, the use of technological gadget has made teaching and learning less cumbersome, effective and result-oriented. For instance, the availability of cyberspace provides avenue for sharing of ideas and information among learners. In the domain of education, particularly

teaching and learning, Computer courses has not been achieved even when lecturers' claim that they are aware of the enormous benefits of ICT facilities in teaching and learning processes.

It has been observed that classroom activities especially in the university are still predominantly carried out traditionally due to lecturers' lack of skills and experience with the various ICT facilities but most of them are particularly on Statistical Package for the Social Sciences (SPSS analyses tool) meant for their productivity than in teaching and those who are unable to use the package do many at time feel reluctant sharing same idea. For many years now, there have been expressed problems such as insufficient practical training, inadequate facilities, poor teaching techniques, inappropriate communication process, inaccessibility to visual teaching aids, lateness and abstinence of the educators' from the lesson, class size as well as poor teaching materials. Again, the problem of the study put in a question form is, to what extent are Computer Software Packages applied in Teaching-learning Process for Sustainable Development Skill in the 21st Century Tertiary Institutions by lecturers to actualize some outstanding performance meant for sustainable development?

Purpose of the Study

The main purpose of this study was to determine how Computer Software Packages are applied in Teaching-learning Process in the 21st Century Tertiary Institutions by lecturers to actualize some outstanding performance meant for Sustainable Development Skill. Specifically, the study sought to:

i. determine the extent of lecturers' application of Word processing tool in teaching Computer and Robotics Education courses in the University of Uyo
ii. ascertain the extent of lecturers' application of Slides presentation tool in teaching Computer and Robotics Education courses in the University of Uyo

Research Questions

The study was designed to provide answers to the following research questions:

i. What is the extent to which lecturers' apply Word processing tool in teaching Computer and Robotics Education courses in the University of Uyo?
ii. To what extent do lecturers' apply Slides presentation tool in teaching Computer and Robotics Education courses in the University of Uyo?

Null Hypotheses

The following null hypotheses were formulated and tested at .05 level significance

H_{01}:There is no significant difference in the mean responses of male and female Students on the extent to which lecturers' apply Word processing tool in teaching Computer and Robotics Education courses in the University of Uyo

H_{02}: There is no significant difference in the mean responses of male and female Students on the extent to which lecturers 'apply Slides presentation tool in teaching Computer and Robotics Education courses in the University of Uyo

Research method

The study adopted a descriptive survey design which employed the use of questionnaire for data collection. The study was conducted in the University of Uyo, Uyo, Akwa Ibom State with the population of 57 level two hundred students of the Department of Computer and Robotics Education of 2022/2023 academic session. The entire population was used for the study hence, there was no sampling as 32 male and 25 female were randomly selected to be part of the study. The instrument for data collection was a 12–item questionnaire structured by the researchers titled: Computer Software Packages and the Teaching-learning Process for Sustainable Development Skills Questionnaire (CSPTPSDS). The instrument had two sections; A and B. Section A sought information on the gender and academic level of the respondents, while Section B had 12-items drawn from Computer Software Packages (word processing and slides presentation). It was structured to be scored using 5-points rating scale response mode of: Very Great Extent (5), Great Extent (4), Moderate Extent (3), Small Extent (2) and Very Small Extent (1). Each item was interpreted based on the real limits of the codes assigned to the response categories. The instrument was face-validated by two experts, each from Departments of Computer and Robotics Education and Education Technology all in University of Uyo, Uyo. In determining the reliability, instrument was administered to 30 year two hundred level Industrial and Technology Education undergraduates of the same faculty who had studied some computer courses in their previous academic level.

The data collected was analyzed using Cronbach's alpha analysis technique. A reliability coefficient of .81 was shown for word processing and .64 for slides presentation, proving the instrument to be highly reliable and useful in collecting the required data for the study. The researchers arranged an intact class, administered and retrieved complete 57 copies of the instrument. Data generated was analyzed using Mean statistic with real limit in answering research questions while the null hypotheses were tested using t-test at 0.05 level of significance with 201 degrees of freedom. Hence, when t-calculated value was greater than t-critical value, the hypotheses were rejected. And when the t-calculated value was less than t-critical value, hypotheses were retained.

Results

Research Question 1: What is the extent to which lecturers' apply Word processing tool in teaching Computer and Robotics Education courses in the University of Uyo?

Table 1: Summarized mean scores of computer lecturer's application of word processing tool in teaching Computer and Robotics Education courses

Items	**N**	**Mean**	**Remark**
Application of word processing tool in teaching Computer and Robotics Education courses; My computer lecturer has instructed us on:			

	57	3.53	GE
Typing assignment personally			
Inserting table in a document where necessary	57	3.59	GE
Retrieving a saved assignment from storage media	57	3.38	ME
Moving the cursor round the active document	57	3.43	ME
Formatting assignment properly with ease	57	3.63	GE
Printing assignment personally with ease	57	3.33	ME
Weighted Mean	**57**	**3.49**	**ME**

Note: GE = Great Extent, ME = Moderate Extent, 57 = number of respondents.

Data in Table 1give the summary of the mean score regarding students' responses on the extent to which lecturers apply word processing tool in teaching Computer and Robotics Education courses. Thus, typing assignment personally, inserting table in a document where necessary and formatting assignment properly with ease were used in teaching computer studies to a great extent. Whereas, retrieving a saved assignment from storage media, moving the cursor round the active document and printing assignment personally with ease were used in moderate extent in teaching. The weightedmean value of 3.49 implies that Word processing tool was moderately used by lecturers in teaching Computer and Robotics Education courses in the University of Uyo.

Research Question 2: To what extent do lecturers' apply Slides presentation tool in teaching Computer and Robotics Education courses in the University of Uyo?

Table 2: Summarized mean scores of computer lecturer's application of Slides presentation toolin teaching Computer and Robotics Education courses

Items	**N**	**Mean**	**Remark**
Application of Slides presentation tool in teaching computer and Robotics Education courses; My computer lecturer has instructed us on:			
Moving the cursor round an active slide	57	3.34	ME
Creating some slides for presentation individually	57	3.32	ME
Opening an existing slide	57	3.27	ME
Deleting existing slides	57	3.21	ME
Introducing colours into slide	57	3.37	ME
Introducing clip arts into slides	57	3.25	ME
Weighted Mean	57	**3.35**	**ME**

Note: ME = Moderate Extent, 57 = number of respondents.

Data in Table 2give the summary of the mean score regarding students' responses on the extent to which lecturers apply slides presentation tool in teaching Computer and Robotics Education courses. Thus, moving the cursor round an active slide, creating some slides for presentation individually, opening an existing slide, deleting existing slides, introducing colours into slide and introducing clip arts into slides were used in teaching computer studies to a moderate extent. The weightedmean value of 3.35 implies that slides presentation tool was moderately used by lecturers in teaching Computer and Robotics Education courses in the University of Uyo.

Hypothesis 1

$H_{01:}$ There is no significant difference in the mean responses of male and female Students on the extent to which lecturers' apply Word processing tool in teaching Computer and Robotics Education courses in the University of Uyo

Table 3: t-test differences in male and female students' responses on lecturers' application of Word processing tool in teaching Computer and Robotics Education courses

Gender	N	Mean	SD	df	t_{cal}	$t_{crit.}$	Decision
Male	32	4.21	.691				Accept H_0
				34	1.25	1.96	@ $p \leq .05$
Female	25	4.09	.873				

Table 3 gives the summary of t-test analysis of male and female students' responses on the extent of lecturers' application of Word processing tool in teaching Computer and Robotics Education courses. The application of Word processing tool was determined on the bases of typing assignment, saving typed documents, retrieving a saved document, moving cursor around active document, formatting documents with ease, and printing documents with ease. The results indicate a calculated t-value of 1.25 which is less than critical value of 1.96 at .05 level of significance with 201 degrees of freedom. This implies that the null hypothesis is retained. Hence, there is no significant difference in the male and female students' responses regarding lecturers' application of Word processing tool in teaching Computer and Robotics Education courses

$H_{02:}$ There is no significant difference in the mean responses of male and female Students on the extent to which teachers apply Slides presentation tool in teaching Computer and Robotics Education courses in the University of Uyo

Table 4: t-test differences in male and female students' responses on lecturers' application of Slides presentation toolin teaching Computer and Robotics Education courses

Gender	N	Mean	SD	df	t_{cal}	$t_{crit.}$	Decision
Male	32	4.24	.658				H_0 rejected
				201	-4.14	1.96	@ p≤.05
Female	25	2.13	.550				

Table 4 gives the summary of t-test analysis of male and female students' responses on the extent of lecturers' application of Slides presentation tool in teaching Computer and Robotics Education courses. The application of Slides presentation tool was determined on the bases of moving cursor around active slide, creating presentation slides, opening an existing slide, deleting slides, introducing animation into slides, and combining text with sound for illustration. The results indicate a calculated t-value of -4.14 of which absolute value is greater than critical value of 1.96 at .05 level of significance with 201 degrees of freedom. This implies that the null hypothesis is rejected. Hence, there is a significant difference in the male and female students' responses regarding lecturers' application of Slides presentation tool in teaching Computer and Robotics Education courses.

Discussion of Findings

One of the basic aims of this study was to determine the extent of lecturers' application of Word processing tool in teaching Computer and Robotics Education courses in the University of Uyo. From the analysis of data, it was found out that Microsoft Word is moderately used by lecturers in teaching Computer and Robotics Education courses in the University of Uyo and that there is no significant difference between males and females responses on the extent of lecturers' application of the tool in teaching Computer and Robotics

Education courses. The results indicate a calculated t-value of 1.25 which is less than critical value of 1.96 at .05 level of significance with 201 degrees of freedom. This implies that the null hypothesis is retained. The results of the study is in line with Ozigi's (2007) observation that when educators are exposed to the use of word processing package in the classroom the computer teaching jobs are easily understood using computer system. Agreeably, as application of relevant facilities increases, teaching effectiveness of Computer courses increases. It therefore means that the application of Microsoft word package while teaching is helpful in the teaching of Computer and Robotics Education courses.

Secondly, the analysis of data on the slide presentation was found that there is a significant difference in the male and female students' responses regarding lecturers' application of Slides presentation in teaching and learning process of Computer and Robotics Education courses. Hence, the application of Slides presentations to a moderate extent by lecturers in teaching and learning process of Computer and Robotics Education courses. This requires more involvements of lecturers in the application of this facility in teaching and learning of Computer courses. The results indicate a calculated t-value of -4.14 of which absolute value is greater than critical value of 1.96 at .05 level of significance with 201 degrees of freedom. This implies that the null hypothesis is rejected. These findings indicate more involvements of lecturers' in the application of slides presentation in teaching and learning process of Computer and Robotics Education courses. Hence, Akdağ and Tok (2004) emphasized that the instruction enriched through the use of the slides presentation facility has a determinant role on students' success. In agreement with Wartinbee (2009), Slides presentation makes learning funnier by placing control over teaching in the hands of students. He further highlighted lecturers' role in supporting students with learning facility such as that of slides presentation in their learning so as to let them gain greater understanding in their study. Corbeil's study (2007) showed that students exposed to slides presentations are preferred over the textbook presentations; he further believed that the students are taught better when their attention is captured via colour, sounds, animations, different fonts styles, and visual effects. However, O'Leary and O'Leary (2009) pinpointed that the use of slides presentation allows educators to explain abstract concepts, while accommodating all learning styles.Nowadays, technology plays an important role in teaching when they use it in their classrooms; it attracts the students' attention so that they can enhance effective ways of learning.

Recommendations

Based on the findings of the study, the researchers make the following recommendations. for effective performance

1. Head of the institution and the Head of Department (HOD) should procure the necessary ICT gadgets for their students to enable both educators and students benefit maximally in the ongoing technological development and ICT contribution in educational advancement'

2. Lecturers in Computer and Robotics Education in the University of Uyo should adopt the use of instructional video and slides in teaching;
3. Educators should consider improving on their ICT skills so as to be relevant in the 21st century;
4. Institution heads and relevant authorities should provide in-service training to teaching staff as a routine
5. Educators should be trained and re-trained regularly on the application of ICT gadgets for effective instructional delivery programmes.

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