

Appraisal of Student's Computer Skills Acquisition After the Course "Use of Computer Packages" in Universities in South-East of Nigeria

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Abstract

This study dwelt on appraisal of students' computer skills acquisition after the course "use of computer packages" in State-owned universities in the South-East Zone of Nigeria. Two research questions were posed and a null hypothesis, guided the study. The study adopted a quasi-experimental design specifically referred to as the pre-test – post-test non-equivalent control group design. The study was carried out using final year students of Education/Economics at Abia State University Uturu and Imo State University Owerri respectively. The sample which consisted of one hundred and sixty (160) students was purposively sampled in terms of gender and location. The instrument used for data collect were the researcher's made text items and affective response rating scale on students affective response to the treatment. The internal consistency of the instruments were calculated using Pearson's product moment correlation coefficient statistics which had an index of 0.77 and Kuder-Richardson coefficient statistics which had reliability index of 0.87. The subjects were pre-tested before treatment and post-test was administered after treatment. Data analysis involved, mean, standard deviation and t-test. The result revealed that treatment group performed better than the controlled group. Again, female students' performed better than male students during hands-on training using computer system. Following from the findings of the study, it was recommended that lecturers teaching in the universities should ensure that undergraduates are made to practice on their own with computer systems to enable them learn these skills since constant practice makes for perfection. That effort should be made to ensure that the computer systems are connected to Internet and made functional too. It is believed that if these measures are put in place our undergraduates would be proficient in computer usage thereby joining their counterpart all over the world in this era of ICT.

Keywords: Appraisal, Computer skills acquisition and South-East Nigeria

Introduction

Globalization and technological change processes that have accelerated in cycle over the past fifteen years have created a new global economy powered by technology, fueled by information and driven by knowledge (US Department of Labor, 1999). The emergence of this new global economy has serious implications for the nature and purpose of educational institutions. As the half-life of information continues to shrink and access to information continues to grow exponentially, schools cannot remain mere venues for the transmission of a prescribed set of information from teacher to student over a fixed period of time. Rather, schools must promote "learning to learn," i.e., the acquisition of knowledge and skills that make possible continuous learning over the lifetime (Thornburg, 2000).

ICTs as also transformational tools which, when used appropriately, can promote the shift to a learner-centered environment. ICTs such as videos, television, multimedia and computer software which combines

text, sound, and colorful moving images can be used to provide challenging and authentic content that will engage the student in the learning process (Akude & Ajuzie, 2011). Educational systems around the world are under pressure to use the new information and communication technologies (ICTs) to teach the students the knowledge and skills needed in the 21st century (UNESCO, 2002). To effectively harness the power of the new information and communication technologies (ICTs) to improve learning, the following essential conditions must be met:

- Students and teachers must have sufficient access to digital technologies and the Internet in their classrooms, schools, and teacher education institutions.
- High quality, meaningful, and culturally responsive digital content must be available for teachers and learners.

Teachers must have the knowledge and skills to use the new digital tools and resources to help all students achieve high academic standards.

In developed countries, the impact of technology on the society particularly on students is greatly fascinating. The pace of technological development has dramatically accelerated in the past three decades. There has been a tremendous change and innovation in people's lives brought about by increasing diverse and powerful technological tools in schools and work places.

There is growing awareness among policy-makers, business leaders and educators that the educational system designed to prepare learners for an agrarian or industrially-based economy will not provide students with the knowledge and skills they will need to thrive in the 21st century's knowledge-based economy and society. The new knowledge-based global society is one in which:

- The world's knowledge base doubles every 2-3 years;
- 7,000 scientific and technical articles are published each day,
- Data sent from satellites orbiting the earth transmit enough data to fill 19 million volumes every two weeks,

Graduates of secondary schools in industrialized nations have been exposed to more information than their grandparents were in a life-time.

The Problem

Teaching and learning across the globe is tending towards ICT driven. Several studies revealed that undergraduates find it difficult to access information via the Internet on their own; some still quote out-dated works of others while others remain unemployed for a very long time after graduation. In the light of the above, one of the most commonly cited reasons for employing computers and newly technologies in teaching and learning has been to better prepare the present generation of students for a workplace where ICTs, particularly computers, the Internet and related technologies, are becoming more and more important. Hence, the researchers decided to appraise student's computer skills acquisition after the course "use of computer packages" in State-owned Universities in South-East Zone of Nigeria.

Purpose of the Study

The purpose of this study is to find out the level of Computer skills possessed by final year students of two State-owned universities in the South East Nigeria after been exposed to the general studies course titled "computer appreciation".

Specifically, the study sought to;

1. Determine the level at which students who were exposed to "computer appreciation" course possessed computer skills that will help them work freely with any computer system.
2. Determine the level at which students who were taught additional computer skills acquired the skills as expected.

Research Questions

In order to achieve the desired objectives of this study, the following research questions were posed;

1. At what level do students who were exposed to the compulsory course "computer Appreciation" be able to make use of any computer and achieve result?
2. At what level would students who were taught the additional computer skills be able to make use of computer and achieve results?

Hypothesis

The following hypothesis was formulated for the purpose of this study:

1. There is no significant difference in the mean scores of students taught additional computer skills and those taught "computer appreciation" ($P < 0.05$).

Method and Procedures

The research design used for this study was the quasi-experimental design. The most common reasons that experimental designs can not be employed in this study are that random assignment of subjects and control groups is impossible and that a control or comparison group is unavailable, inconvenient, or too expensive (Nworgu,1991). Fortunately, there are several good designs that can be used under either of these circumstances. They are termed quasi-experimental design because, while not true experiments, they provide reasonable control over most sources of invalidity.

Table 1:Distribution of final year degree students offering Education Economics in State-owned Universities of South-East Nigeria.

State owned-Universities in the South-East	Level	No. of male students	No. of female students.	Total No. of students.
Abia State University.	4/4	26	24	50
Anambra State University, Uli	-	-	-	-
Ebonyi State University.	4/4	28	48	76
Enugu State University, Enugu	4/4	25	53	78
Imo State University.	4/4	100	120	220
Total		179	245	424

Source: field survey from each of the Universities listed in the table, 2012.

In such a quasi-experimental research as this, the researcher purposively selected Abia State University students and Imo State University students too. To this end, all the 50 final year students offering Education/Economics in Abia State University, Uturu which is made up of 26 males and 24 females were used for the study while in Imo State University, Owerri, the researcher purposively selected 50% of each of the male and female students who also offer the programme, Education/Economics. With a consideration to gender balancing, this comprised of 50 males and 60 females. This selection was done randomly and each student was given an equal opportunity to be selected for the research study. In each of the programmes of each University, 50% of the students were randomly grouped into Group A and to be taught additional Computer skills. Then, the remaining 50% of the students into Group B which were not taught additional computer skills. The distribution was done as follows:

Table 2.

Group A			Group B		Total
Universities	Male	Female	Male	Female	
Abia State University	13	12	13	12	50
Imo State University	25	30	25	30	110

Instrument for Data Collection

The instrument for data collection was the researcher-made test items. The test items were drawn from the unit instructions covered in computer and Internet skills (Computer Science). The first instrument consisted of fifty-item multiple-choice questions that were administered to test comprehension and application. The second instrument consisted of ten-item questionnaire on affective responses for students exposed to computer skills. The unit topic was on computer skills. The unit topic was sub-divided into three sub-topics as follows:

1. Microsoft Windows Operating System (MS Windows OS)
2. Microsoft Word (MS Word)
3. Internet Skills.

The instrument used was four-point type modified likert scale: Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD). Points 4, 3, 2, 1 are assigned for positive items in that order. Draft copies of the instrument items were given to an expert in Measurement and evaluation, Alvan Ikoku Federal College of education, Owerri. Also, the reliability index of the questionnaire was calculated using the Pearson Product Moment Correlation Coefficient and it gave 0.77. Thus considered high enough in checking the consistency level of the items in the instrument. Data were analyzed accordingly and accurate statistical tools (mean, standard deviation & t-test) used.

Results

Research Question One: What differences exist in the mean scores of students taught additional computer skills and those taught use of computer packages?

Table 3: The mean scores of students taught additional computer skills and those taught use of computer packages respectively.

Group	Mean	SD	Average of the Means	Difference in Means
Computer packages	47.60	11.65	52.10	9.00
Additional Skills	56.60	14.43		

Table 3 showed that the differences in the mean scores of students taught additional computer skills and those taught use of computer packages was (9.00). The mean for additional skills group was (56.60) and was above average of the means while the mean for use of computer packages group was (47.60) and was below the average of the means. This implies that students taught additional computer skills performed better than students taught use of computer packages.

Research Question Two: What differences exist in the mean scores of male and female students taught additional computer skills?

Table 4: The mean scores of male and female students exposed to additional computer skills using the computer.

Group	Mean	SD	Average of the Means	Difference in Means
Male	50.52	13.86	56.92	12.80
Female	63.32	11.97		

Table 4 revealed that the differences in the mean scores of male and female students taught additional computer skills was (12.80). The mean for female group was (63.32) and was above average of the means while the mean for male group was (50.52) and was below the average of the means. This implies that female group performed better than male group.

Hypothesis

There is no significant difference in the mean scores of students taught additional computer skills and those taught use of computer packages.

Table 5: Result of t-test analysis testing the null hypothesis that the mean scores in the researcher-made test of students taught additional computer skills and those taught use of computer packages do not differ significantly.

Group	N	Mean	SD	df	t-computed	t-critical	LS	Prob.	Decision
Computer packages	80	47.60	11.65	158	4.45	1.96	0.05	0.00	Reject
Additional Skills	80	56.60	14.43						

The result of t-test analysis as presented in Table 5 shows that t-computed value (4.45) is greater than the t-critical value (1.96) and the level of significance value (0.05) is greater than probability value (0.00). This result rejects the null hypothesis that there is no significant difference in the mean scores of students taught additional computer skills and those taught use of computer packages and accepts the alternate hypothesis that there is significant difference in the mean scores of students taught additional computer skills and those taught use of computer packages. It could therefore be concluded that those who were taught additional computer skills and had higher mean performed better than those who were exposed to only the use of computer packages.

Summary of findings

From the analysis above, it was observed that;

1. Students taught additional computer skills performed better than students taught the use of computer packages.
2. Female students who were exposed to additional computer skills performed better than male students.
3. This result rejects the null hypothesis that there is no significant difference in the mean scores of students taught additional computer skills and those taught use of computer packages and accepts the alternate hypothesis that there is significant difference in the mean scores of students taught additional computer skills and those taught use of computer packages.

Discussion of Findings

The findings showed that students taught additional computer skills with hands-on-computer performed very well than the students who were taught only compulsory use of computer packages. The above conclusion is in agreement with the report of UNESCO (2002) which states that educational systems around the world are under pressure to use computer and other telecommunication technologies to teach the students the knowledge and basic skills needed to operate the computer in the 21st century.

The analysis showed that female students performed better on hands-on-computer than male students. This result is in agreement with the findings of Video Education Australia (2005, P14) "integrating computer into school curriculum is no longer desirable but essential, computer skills acquisition is a part of most students' lives and that female students interact with it more than male students". It has therefore become important for undergraduate students to master computer skills in order to enhance their knowledge and information base since knowledge and information has become the base of life in society. The t-test result showed that there is a significant difference between the scores of male subjects and the female subjects. This result supports the findings of Idowu, & Idowu (2004) in a case Study titled "Gender Differences in Computer Literacy among Nigerian Undergraduate Students". According to the researchers, the result showed that there is gender difference in computer study and experience.

Recommendations

In consideration of the findings of this research and their attendant implications, the researcher had to make the following recommendations:

- ❖ Since desktop computer systems have been provided in our universities by the government and private individuals, effort should be made to ensure that these computers are not there for decoration, but should be made accessible to both staff and student for their use.
- ❖ Lecturer's teaching computer appreciation in the universities should ensure that undergraduates are made to practice on their own with computer systems to enable them learn and acquire the skills. Thus, as the students practice more often, they tend to achieve perfection.

Conclusion

It is vital for authorities concerned to put measures in place in order to make students acquire basic computing and Internet skills in the Universities in the South-East of Nigeria. It is paramount to ensure that teachers teach students with hands-on computer and with ICT facilities. Also, intensive computer training should be mounted for teachers who do not have ICT competent skills to enable them join in the ICT world.

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