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APPRAISAL OF THE IMPACT OF LECTURING EXPERIENCE AND THE USE OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) ON ENVIRONMENTAL EDUCATION STUDENTS' ADEMIC ACHIEVEMENT IN SOUTH EAST UNIVERSITIES

Madu Samuel, Ekpo Chales G, & Bassey Mary Mfon

Abstract

This study appraised the Impact of lecturing Experience and the use of Information and Communication Technology (ICT), on Environmental Education Students' Academic Achievement in South Eastern Nigerian Universities. The study adopted quasi experimental design because the study does not involve secondary data collection but has to do with primary data. A simple random sampling technique was used to select two Universities. The study used all the Environmental Education lecturers and students in the two selected Universities. Two instruments used for data collection were: Students Achievement Test in Environmental Education Questionnaire (SATEEQ), and use of ICT Facilities in Environmental Education by Lecturer Questionnaire (UICTEELQ). To validate instruments it was presented to Environmental Education professionals to assess the suitability of the instruments. The reliability of the instruments was determined by KR21 measure using lecturers and students in a representative school apart from the selected schools. An index of 0.82 and 0.80 was obtained respectively. The result of the study revealed that there is no significant difference in the mean performance scores of students taught Environmental Education by experienced lecturers and those taught Environmental Education by less experienced lecturers and use of ICT facilities has no significant effect on student's achievement in Environmental Education. Based on the findings it was recommended among others that the use of experienced lecturers and non-experienced lecturers should put under a supervisory condition to teach environmental education. This will boost students' performance.

Keyword: Appraisal, Experience lecturers, information and communication technology, Environmental education, students' and academic achievement

Introduction

Environmental Education (EE) is a new field of education introduced into the educational system in order to enhance the awareness of the people on environmental issues at all levels of education. Is the teaching of individuals and the communities, in transitioning to a society that is knowledgeable of the environment and its associate problems, aware of the solutions to these problems and motivated to solve them. According to Nnawugwu (2012) Environmental Education is a new approach to education which is hoped to bring some solutions to the deteriorating relationship between man and his environment. Through environmental education, it is believed that man would be able to find a mechanism where clean environment will be adequately enhanced by consistent day-to-day increase in the knowledge of emerging environmental problems. The society will be adequately equipped

intelligently, emotionally and with the necessary manipulative skills that will help them to meet the challenges posed on them by both the present and the future environment (Shuabu 2010), The emphasis here is that the needs of the people are met in that, they are able to explore and conserve the environment naturally, reaching understanding in their own way and be able to cater for the future events.

Environmental education is a vehicle that drives sustainable development of a nation. It is education of the member of the society for the society by the society and about the society (Mgbore 2004). Environmental education refers to organized efforts to teach how natural the environment functions, particularly, how human beings can manage behavior and ecosystems to live sustainably. It is a multidisciplinary field integrating disciplines such as Biology, Chemistry, Physics, Ecology, Health science, Atmospheric science, Mathematics and Geography. However, it sometime includes all efforts to educate the public and other audiences. The united nation educational, scientific and cultural organization (UNESCO 2007), states that environmental education is vital in impacting and inherent respect for nature amongst society and in enhancing public environmental awareness. (UNESCO 2007), emphasizes the role of environmental education is safeguarding future global development of societal quality life through the protection of the environment, eradication of poverty, minimization of inequalities and insurance of sustainable development.

Environmental Education is understand to be Education about the environment (building awareness, understanding and skill necessary to obtain this understanding); Education in (or from) the environment (where learning occur in nature, outside and inside the classroom); and Education for the environment (the ultimate goal being conservation and sustainable development) bearing in mind to:

- foster clear awareness of, and concern about, economic, social, political and ecological interdependence in urban and rural areas
- provide every person with opportunities to acquire the knowledge, value, attitudes, commitment and skills needed to protect and improve the environment
- create new patterns of behavior of individuals, groups, and society as a whole towards the environment.

(National Association of Agricultural Educators 2013).

The objectives of Environmental Education

Awareness: assist individuals and groups in society to acquire a greater sensitivity and awareness of the environment in general and of its problems.

Knowledge: assist individuals and groups in society to acquire a basic comprehension of the environment in its totality and of its problems. Also, to understand the presence and role of human in this, this involves a critical responsibility

Attitudes: assist individuals and groups in society to acquire socio values and a deep interest in the environment that may drive them to actively participate in its protection and improvement.

Skills: assist individuals and groups in society to acquire the skills needed to solve environmental problems.

Participation: assist individuals and groups in society to develop their sense of responsibility and take note of the urgent needs to pay attention to environmental problems to ensure that they adopt adequate measures in this respect (National Association of agricultural Educators 2013).

The need for teaching and learning of environmental education in the universities cannot be over emphasised because of the goals and its objectives, therefore it becomes imperative to place emphasis

on the teaching and learning of environmental education in the universities by encouraging lecturers both experienced and less experience to use information and communication technology .

Lecturing experience is conceived as knowledge and skills acquired within a period of time or duration of qualitative engagement of the lecturer in the act of lecturing. In this light, Rabiū & Muhammed (2008) showed that experience is the knowledge and skill someone has gained through doing something for a period of time. Various studies have been carried out and teachers experience has been reported as one of the factors influencing teaching and learning of environmental education contents. Harbor-Peters and Ogomaka in Shuabu(2010) reported that there is no significant difference in the mean scores of experienced teachers and less experienced teachers on mastery of Environmental Education related topics and performance of students in Nigeria schools, while Popoola (2009) gave a contrary view that a significant relationship exists between the practice of continuous assessment and teachers' experience as well as teachers' qualification. In this context experienced lecturer is regarded as a lecturer that have lectured for the period of ten years and above while less experience lecturer is below ten years.

Also, most researchers have shown use of ICT facilities affect students' achievement in Environmental Education. Use of ICT facilities, whether\ CD-Rom, power point, and others, the teaching and learning of Environmental Education is interesting. According to Akachukwu 2007, internet is a valuable source of information for students looking for ideas for project and assignment. Supporting this (Yusuf and Afolabi 2010) posited that secondary school students who are exposed to Computer Based instruction had significantly better results than those were taught using the conventional method. Research on the academic achievement suggests that it has relationship with some demographic characteristics.

On the availability and use of ICT facilities, although efforts have been made to ensure that ICTs are available and used in Nigeria universities, the level of uptake is still low. It has been observed by (Goshit 2006) that most schools, both private and government, do not offer ICT training programmes and NEPAD has scored the level of African continent students' experience with ICT and their proficiency in using them very low. Fifty-five percent of students within the continent, including Nigeria, Algeria, Burkina Faso, Cameroon, Republic of Congo, Egypt, Gabon, Lesotho, Mali, Mauritius, Mozambique, Rwanda, Senegal, South Africa, and Uganda (who are participating in the first phase of the NEPAD e-Schools initiative), stated they had no experience at all in using computers. Other findings included that the typical African school environment provides neither opportunity nor training in using ICT, and that 75 percent of responding teachers have no or very limited experience and expertise regarding ICT educational applications. (Okwudishu 2005) discovered that the unavailability of some ICT components in schools hampers teachers' use of ICT. Lack of adequate search skills and of access points in the schools were reported as factors inhibiting the use of the Internet by secondary school teachers (Kaku, 2005). The absence of ICT equipment in most Nigerian secondary schools leads students to resort to cybercafés for Internet access. Most cybercafé clients in Nigeria are students (Adomi, Okiy and Ruteyan, 2003).

This new development is a strong indication that the era of teachers lecturers without ICT skills are gone. Any classroom teacher/lecturer with adequate and professional skills in ICT utilization will definitely have his students perform better. (UNESCO 2007) reported that success in the use of ICT in education depends largely on teachers and their level of skills in integrating ICT into the teaching process and in utilizing ICT to provide learner-centered, interactive education. Some students perform poorly due to level of experience of their lecturer on the use of information and communication technology because some environmental education concepts are technological based (Okwudisu 2005). Both experienced and lessexperience lecturers are lecturing environmental

education in North central universities, some students perform poorly while others perform better even with introduction of information and communication technology.

In view of the above this study was design to find out whether lecturers with more ten years of lecturing experience make impact than those below ten years of lecturing experience using ICT as regards students' achievement in Environmental Education.

Purpose of the Study

The Purpose of the Study was to Appraise the Impact of lecturing Experience Lecturers and the use of Information and Communication Technology on Environmental Education Students' Academic Achievement . Specifically seek to:

1. Determine the mean performance score students taught by experienced lecturers and those taught by less experienced lecturers.
2. Determine mean performance scores of pupils taught Environmental Education using ICT and those taught without ICT.

Hypotheses

1. There is no significant difference between mean performance scores of students taught environmental education by experienced lecturers and those taught by less experienced lecturers.
2. There is no significant difference between mean performance scores of students taught Environmental Education using ICT and those taught without ICT.

Method

The study adopted quasi experimental design because the study does not involve secondary data collection but has to do with primary data gotten after lecturer lecturing Environmental Education with information and communication technology . A simple random sampling technique was used to select two Universities. The study includes all the lecturers and 65 students in the two selected Universities that offer Environmental Education. The researcher then assigned numbers to each school. Two instruments that were used for data collection include: Students Achievement Test in Environmental Education Questionnaire (SATEEQ), and Use of ICT Facilities in Environmental Education by Lecturer Questionnaire (UICTEELQ).

The students achievement test in Environmental Education (SATEEQ) is divided into section A and B, section A covers the demographic characteristics of the respondents while section B comprises of fill in the gap test items in Environmental Education with 20 items. Use of ICT Facilities in Environmental Education by Lecturer Questionnaire (UICTEELQ) is divided into section A and B, section A covers the demographic characteristics of the respondents while section B comprises items on the use of ICT in Environmental Education with to which the teachers are asked to indicate either they use ICT or not. The statements were assigned weights as follow: Used = 2, Not use = 1. The instruments were presented to 3 Environmental Education professionals to access the suitability of the instruments for administration and clarity of ideas. Modification was done after the validation by experts, with reference to their suggestions, observations and corrections on appropriateness of the language and expression to the respondents. The reliability of the instruments was determined by KR21 measure using sample of ten lecturers and thirty students in a representative school apart from the selected schools. An index of 0.82 and 0.80 was obtained respectively indicating that the instrument is reliable for use.

Analysis of Covariance (ANCOVA) statistic was used to test the two null hypotheses at 0.05 level of significance.

Results

Hypothesis One:

There is no significant difference between mean performance scores of students taught Environmental Education by experienced lecturers and those taught by less experienced lecturers.

Table 1: ANCOVA Test of Performance Scores of students Based on Lecturing Experience.

Dependent Variable: Post Test

Source	T	type III Sum of Squares	Df	Mean Square	Sig.
Corrected Model	2652.995 ^a		2	1326.497	.000
Intercept	2596.152		1	2596.152	.000
Pre-Test	2346.700		1	2346.700	.000
Experience	1.994		1	1.994	.626
Error	2034.371		243	8.372	
Total	475678.000		246		
Corrected Total	4687.366		245		

a. R Squared = .566 (Adjusted R Squared = .562)

Table 1 presents the Analysis of Covariance (ANCOVA) of the mean difference in the performance scores of students taught Environmental Education by experienced lecturers and those taught by less experienced lecturers.

It was observed from the table that the mean performance scores of students taught by experienced lecturers and those taught by less experienced lecturers was $F(1, 245) = 0.24$, $P = 0.63 > 0.05$. Since the P-Value (0.63) is greater than 0.05 level of significance, it therefore indicates that the null hypothesis of no significant difference in the mean performance scores of pupils taught Environmental Education by experienced lecturers and those taught Environmental Education by less experienced lecturers was not rejected. This implies that the students taught by experienced lecturers did not made impact than those taught by less experienced lecturers.

Hypothesis Two:

There is no significant difference between mean performance scores of students taught Environmental Education using ICT and those taught without ICT.

Table 2: ANCOVA Test of Mean Performance Scores Between those taught using ICT and without ICT.

Dependent Variable: Post-Test

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	884.356 ^a	2	442.178	47.503	.000
Intercept	1173.513	1	1173.513	126.071	.000
Pre-Test	861.048	1	861.048	92.503	.000
ICT	2.639	1	2.639	.284	.595
Error	1126.314	121	9.308		
Total	251583.000	124			
Corrected Total	2010.669	123			

a. R Squared = .440 (Adjusted R Squared = .431)

Table 3 presents the summary of Analysis of Covariance (ANCOVA) of the mean difference in the performance scores of students using ICT.

It was observed from the table that the mean performance scores of students taught Environmental Education with ICT and the mean performance scores of students taught Environmental Education without ICT $F(1,124) = 0.29, P = 0.60 > 0.05$. Since P – value (0.60) is greater than 0.05 level of significance. It therefore indicates that the null hypothesis of no significant difference in mean performance scores of students taught Environmental Education with ICT and those taught without ICT was not rejected.

Discussion of Findings

The result of the test of hypothesis one on the Table 1 revealed that there is no significant difference in the mean performance scores of students taught Environmental Education by experienced lecturers and those taught Environmental Education by less experienced lecturers. Hence, the ANCOVA test of difference in the mean performance scores of pupils taught Environmental Education by experienced lecturers and those taught Environmental Education by less experienced lecturers was $F(1, 245) = 0.24\%, P = 0.63 > 0.05$. Since the P-Value (0.63) is greater than 0.05 level of significance it therefore means acceptance of null hypothesis which states that there is no significant difference in the mean performance scores of students taught Environmental Education by experienced lecturers and those taught Environmental Education by less experience teachers. This finding is in accordance with Harbor-Peters and Ogomaka in Shuabu (2010). reported that there is no significant difference in the mean scores of experienced teachers and less experienced teachers on mastery of Environmental Education related topics and performance of students in Nigeria schools.

The study also shows that, use of ICT facilities has no significant effect on students' achievement in Environmental Education. The reason for this could be the way and manner ICT facilities were presented to the students and the students were not motivated to handle or utilize the ICT facilities. It could also be caused by lecturer's incompetence in handling ICT facilities and in using it to meet the needs and interests of the learners. The findings is in line with the report of UNESCO (2007) which reported that, success in the use of ICT in education depends largely on teachers and their level of skills in integrating ICT into the teaching process and in utilizing ICT to provide learner-centered, interactive education. Therefore, training teachers to be able to use ICT and to integrate ICT into teaching is crucial for achieving improved educational outcomes with ICT.

Conclusion

This study concludes that there is no significant difference in the mean performance scores of students taught Environmental Education by experienced lecturers and those taught Environmental Education by less experienced lecturers and the use of ICT facilities has no significant effect on students' achievement in Environmental Education as a result of lecturers incompetence in handling ICT facilities.

Recommendations

Based on the findings, the following recommendations were made:

1. The use of experienced lecturers and non-experienced lecturers should put under a supervisory condition to teach environmental education. This will boost student's performance.
- 2 School management should motivate lecturers and students on how to handle and utilize ICT facilities for improvement.

3. Environmental Education lecturers should receive adequate training before using ICT to lecture.

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