

Assessment of Environmental Protection Awareness among Universal Basic Education Students in Nigeria

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Abstract

The 21st century is challenged by the problem of environmental degradation and hence is preoccupied by efforts geared towards the protection of the environment. A major target group is young children in schools. The universal basic education policy in Nigeria seems not to mainstream environmental literacy in the curriculum, therefore this study aims at assessing the level of environmental protection awareness of young children in Nigeria. The study employed the use of descriptive survey method. One hundred students were selected through stratified random sampling technique to cater for variables of religion, gender, school grade, accommodation and medium of communication. The sampled students responded to a twenty-two item questionnaire. Four hypotheses were formulated for the study. The SPSS computer software chi-square was used to test the hypotheses. Result of the study showed no significant difference between religion, gender, accommodation, medium of communication and environmental protection awareness. The study suggested that: environmental education should be infused into every subject; gender should be mainstreamed into environmental education curriculum; environmental education should be delivered in and out of school; formal and informal communication should be employed in environmental education; and environmental issue should equally be emphasized at both primary and secondary school levels.

KEYWORDS: Environmental Degradation, Environmental Protection, Basic Education, Environmental Literacy, Environmental Awareness

INTRODUCTION

The 21st century is challenged by the problem of environmental degradation and hence is preoccupied by efforts geared towards the protection of the environment. A major target group is young children in schools. Environmental education is germane for the young children of today in taking wise decisions for their own well-being and for the good of the planet and its inhabitants. It therefore becomes imperative for Environmental education programmes to prepare students with critical thinking skills and intellectual framework to face the most critical environmental issues of the century. The task of keeping the earth's surface safe is clearly a joint responsibility of everybody ...students must be prepared for those responsibilities as well (Scoullous and Malotidi 2004)

The environment is a critical element of the knowledge base we need to live in a safe and prosperous World'. Today's' children will one day have to participate as citizens in making

decisions regarding the environment, decisions that will be of lasting importance to themselves, their children and grandchildren, the nation and of course the planet (Massachusetts Secretaries Advisory Group on Environmental Education (nd). Environmental education is a process aimed at developing a citizenry that is aware of and concerned about the total environment and its associated problems and which has the knowledge, attitudes, motivation, commitments and skills to work individually and collectively towards the solution of current problems, as well as the prevention of new ones. (Julie n.d.)

All our material needs and many of our emotional and spiritual ones, are met from our bio-physical and social environments. The quality of the environment affects the quality of our lives. Our actions as producers, consumers, voters, and procreators have a cumulative impact on the quality of the environment that sustains us. It is therefore pertinent that nation's educational systems develop and nurture environmentally literate citizens, especially at the primary school level which is the stage man/woman form their characters. Pupils and citizens should be able to apply informed decision making process to maintain a sustainable lifestyle. In order to do so, citizens must; according to Gaffey (2002):

1. understand ecological system;
2. understand the cause and effect relationship between human attitudes and behaviour and environment;
3. be able to evaluate alternative responses to environmental issues before deciding alternative courses of action; and
4. understand the effects of multiple uses of the environment.

The universal basic education (UBE) programme is founded on Nigeria's adherence to universal declaration on human rights, which takes universal access to basic education as a compulsory social service (Obanya, 2003). It comprises primary education (of six years duration) and junior secondary education (the first segment of 3-3 structure) and is supposed to be free and compulsory. Environmental education, if given to children at this level, prepares their minds to know the effect of human attitude on the environment and the likely consequences to be suffered by human beings in the long run. It will also be clear to them the dangers that are attached to every misuse and mismanagement of their environmental resources (UNESCO, 2005a and UNESCO, 2005b). According to Gaffey (2002) the teachers can impart the following to their students in the school:

- To turn off appliances, heating and air conditioning
- To turn off and unplug computer and other electronic devices
- To encourage the parents and relatives to change the light bulbs to energy efficient ones
- To recycle papers or reuse bottles and plastics. Always remember the three R's – Reduce, Reuse and Recycle waste.
- To reuse every bit of space on paper. Do not feel shy to use paper that has been used on one side.
- To join or create an eco-club
- To plant trees
- To choose products that are environment friendly
- To walk, cycle or take a train or bus instead of the private car or bike
- To use less plastic. E.g. to carry a cloth bag when going for shopping instead of plastic bags

- To segregate domestic waste into bio-degradable and non bio-degradable. The bio-degradable items like food left-overs and vegetables and fruit wastes can be composted and non bio-degradable items like plastic can be recycled.

Panth, Verma and Gupta (2015) found that the mean score of boys is higher than girl's Environmental awareness. Thus girls have more than boys Environmental awareness. They found no significant difference found in Boys and girls Environmental awareness. Thus, on the basis of gender, girls have more Environmental awareness than boys. Girls are more aware about environment.

STATEMENT OF THE PROBLEM

The goal of Environmental education is to develop and environmentally literate citizenry that empowers individuals to deal effectively with positive and negative relationship between people and their environments. It is designed to foster and nurture growth of environmental literacy throughout the human life span (Julie n.d.). Environmental education must be encouraged where at first student become aware of environment. Then, they recognize or review the relationship between humans and nature. The students get knowledge and skills from the teachers to solve the environmental problems. The teachers motivate to develop the students' attitudes to participate various environmental protection programs in favor of environment Kaur 2013). Today's' children will one day have to participate as citizens in making decisions regarding the environment, decisions that will be of lasting importance to themselves , their children and grandchildren, the nation and of course the planet (Massachusetts Secretaries Advisory Group on Environmental Education (nd)). Environmental education, if given to children at the basic education level, prepares their minds to know the effect of human attitude on the environment and the likely consequences to be suffered by human beings in the long run. It will also be clear to them the dangers that are attached to every misuse and mismanagement of their environmental resources (UNESCO, 2005a and UNESCO,2005b). However, the universal basic education policy in Nigeria seems not to mainstream environmental literacy in the curriculum, therefore this study aims at assessing the level of environmental protection awareness of young children in Nigeria.

PURPOSE OF THE STUDY

The main purpose of this study is to carry out an assessment of environmental protection awareness among Universal basic Education students. Specifically, it is aimed at ascertaining the difference between respondents'

- religious beliefs and environment protection awareness;
 - opinions on environment protection awareness based on gender;
 - opinion on environment protection awareness and their type of accommodation; and
 - opinion environment protection awareness and their major medium of communication
- Four hypotheses were formulated for the study.

METHOD

The study employed the use of descriptive survey method. One hundred students were selected through stratified random sampling technique to cater for variables of religion, gender, accommodation and medium of communication.

A questionnaires tagged "Assessment of Environmental Protection Awareness Questionnaire" AEPAQ, with reliability co-efficient of 75.4 was used to collect data, the instrument comprised two sections, section A, comprised socio-demographic variables, while section B consisted of

twenty-two items whose response was based on four point Likert Scale: strongly agree, agree, disagree and strongly disagree. Chi-square was used to analyse data

Hypothesis 1: There is no significant difference between respondent's religious beliefs and environment protection awareness.

Table I: Respondent's religious beliefs and environment protection awareness

Religious beliefs	SA	A	D	X ² cal	X ² table	Df	Remarks
Islam	19(16.72)	11(12.92)	08 (8.36)	1.53	9.488	4	N.S
Christianity	19(21.56)	18(16.66)	12(10.78)				
Traditional Religion	06(5.72)	05(4.42)	02(2.86)				

From the above table, it can be seen that the X²table 9.488 is greater than X² calculated values of 1.53 at 0.05 significance level with degree of freedom of 4. This implies that the formulated hypothesis is accepted. From the table above it can be seen that the differences in the UBE student's religious belief has nothing to do with their environmental protection awareness. This confirms the opinion of Scoullous and Malotidi (2004) that religion barriers should not be a stumbling block to the development of sustainability; rather it should be a powerful tool to use in educating our students on their environmental protection awareness.

Hypothesis 2: There is no significant difference between the respondent's opinions on environment protection awareness based on gender.

Table II : Respondent's opinions on environment protection awareness based on gender.

Sex	SA	A	D	X ² cal	X ² table	Df	Remarks
Male	24(25.52)	21(19.72)	13(12.76)	0.431	5.991	2	N.S
Female	20(18.48)	13(14.28)	09(9.24)				

From the above table, it can be seen that the X² table 5.991 is greater than X²calculated values of 0.431 at 0.05 significance level with degree freedom of 2. This means that the above stated hypothesis is accepted. From the information displayed in table 2, it can be proved that the differences in the sex of the UBE student does not have anything to do with their environment protection awareness. According to Fyson in Unesco (2005b). Environmental education should be a general subject to be taught in schools irrespective of the social, cultural, economic background or gender.

Hypothesis 3: There is no significant association between the respondents' opinion on environment protection awareness and their type of accommodation

Table III: Respondents' opinion on environment protection awareness and their type of accommodation

Types of Accommodation	SA	A	D	X ² cal	X ² table	Df	Remarks
One room apartment	13(11.88)	07(9.18)	07(5.94)	1.375	9.488	4	N.S
Room & a parlour	14(15.40)	13(11.90)	08(7.70)				
Flats	17(16.72)	14(12.92)	07(8.36)				

From the above table, it can be seen that the X^2 table 9.488 is greater than X^2 calculated values of 1.375 at 0.05 significance level with degree freedom of 4. Thus, the hypothesis that there will be no significant association between the respondents' opinion on environment protection awareness and their type of accommodation is accepted. According to Wolsk as recorded in UNESCO (2005a), environmental education should not be seen as a thing of sentiment to be taken by the more privileged but it should be an all-embracing part of education which should be taught across all background.

Hypothesis 4: There is no significant difference between the respondents' opinion environment protection awareness and their major medium of communication.

Table IV: Respondents' opinion on environment protection awareness and major medium of communication.

Medium of Communication	SA	A	D	X^2 cal	X^2 table	Df	Remarks
Town crying	7(6.60)	5(5.10)	3(3.30)	2.01	16.507	8	N.S
Newspaper	8(7.48)	5(5.78)	4(3.74)				
School press	7(7.48)	5(5.78)	5(3.74)				
Television	9(10.56)	9(8.16)	6(5.28)				
Radio	13(11.88)	10(9.18)	4(5.94)				

From the above table, it can be seen that the X^2 table 16.507 is greater than X^2 calculated values of 2.01 at 0.05 significance level with degree freedom of 8. Hence the hypothesis that there will be no significant difference between the respondent's opinion and their major medium of communication is accepted. This is in agreement with UNESCO (2005b) that cited the work of Morrison stated that the relationship between communication and environmental education, once its aim of passing the awareness to the people is achieved, the method of communication is irrelevant; the main thing is putting a proper awareness of the environment protection to the people in a particular place at a particular time, in terms they understand best. Environmental issues should be disseminated using both formal and informal communication modes.

SUMMARY AND DISCUSSION OF FINDINGS

Findings of the study show that:

There is no significant difference between respondent's religious beliefs and environment protection awareness;

There is no significant difference between the respondent's opinions on environment protection awareness based on gender;

There is no significant association between the respondents' opinion on environment protection awareness and their type of accommodation;

There is no significant difference between the respondents' opinion on environment protection awareness and their major medium of communication.

Environmental concepts that need to be taught are taken for granted or ignored;
 Environmental education is viewed as a course to be taken in institution of higher learning;
 therefore it is being ignored at elementary level.

Shbeiri S M, Omidvar B and Prahallada N W (2007) found that the overall environmental awareness scores indicates that there is no significant difference between boy and girl students ($F=0.935$, $p<0.334$). Along the same line Aminrad, Azizi, Wahab, Hurn and Nawawi M (2010) reported that the statistical t- test in their survey between the male and female groups shows the mean for male is slightly more than female, 10.35, 10.26 and with $\pm SD$ 2.744 and $\pm SD$ 2.550 respectively, they found no significant difference in environmental awareness between the two groups [$t=0.385$ (497), $p=0.700$]. This indicates that male and female respondents have similar environmental awareness.

Aminrad, Azizi, Wahab, Hurn and Nawawi M (2010) citing Geok, 1998, submitted that high level of environmental awareness may come from the mass media or information obtained by students through their private readings and canvassed that we still need to know the media types which are effective in environmental awareness and attitude improvements. Media types vary widely and the decision makers need to decide and invest on the most powerful ones for social purposes and strengthen the weak point for improvement.

DE-Lavenga (2004) carried out a study on Awareness, Knowledge and Attitude about Environmental Education: Responses from Environmental Specialists, High School Instructors, Students and Parents in America and found no statistically significant difference when comparing urbanicity with awareness ($F_{1, 462} = .130$, $p > .05$), knowledge ($F_{1, 462} = .340$, $p > .05$), and attitude ($F_{1, 462} = .499$, $p > .05$) among all the participant groups. This is somehow in consonance with findings of this study on the influence of accommodation on environmental awareness, as accommodation in the rural areas are mainly "face me I face you" in contrast with the flat type that abound in the urban settlements, Ghosh (2014) also concluded that there is no significant difference in environmental awareness among the Secondary School rural and urban students of Golaghat district in the state of Assam

WAY FORWARD

This paper adopted the model by New Zealand Environmental Education Curriculum Framework (efs.tki.org.nz/Curriculum.../Environmental-Education.../Plann). This includes;

Step 1: Identify students' needs.

Effective Environmental Education will occur when students' learning needs are considered and when the issues chosen for study are meaningful and relevant to them. Provide opportunities for students to identify their learning needs, which will form the basis for teaching and learning programmes.

Questions that help to identify students' environmental needs include:

- What are the natural and built environments in which students live, work, and engage in leisure activities?
- What environmental issues do students encounter in the course of their daily lives?
- What environmental issues are topical for them at a global, national, local, and school level?
- What issues relating to environmental degradation are of concern to students?
- What environmental activities are students already engaged in, and what opportunities do they have for other activities?
- What attitudes do students have to environmental issues, and how do they reveal these attitudes?

- What knowledge, understandings, and skills will students need in order to engage with environmental issues?

Step 2: Review current programmes

Current teaching and learning programmes will already include aspects of environmental education. Reviewing these programmes will help to identify the extent to which they cover the, aims, concepts, and dimensions of environmental education.

These questions may help in reviewing the Environmental Education components of current programmes.

- Which of the following aims of Environmental Education are developed in our current teaching and learning programmes?
 - awareness and sensitivity to the environment and related issues;
 - knowledge and understanding of the environment and the impact of people on it;
 - attitudes and values that reflect feelings of concern for the environment;
 - skills involved in identifying, investigating, and problem solving associated with environmental issues;
 - a sense of responsibility through participation and action, as individuals or members of groups, in addressing environmental issues.
- To what extent do our programmes cover each of the following key environmental concepts:
 - interdependence,
 - sustainability,
 - biodiversity,
 - personal and social responsibility for action?
- To what extent do our current programmes include the three dimensions of environmental education?
 - education in the environment;
 - education about the environment;
 - education for the environment.

Step 3: Identify new opportunities for the inclusion of Environmental Education.

Analyzing the school's current provisions for Environmental Education is likely to identify gaps. Identify opportunities for meeting the aims and exploring the concepts and dimensions of Environmental Education in teaching and learning programmes based on Nigerian Curriculum.

Step 4: Identify possible links between school programmes and initiatives undertaken by regional and local councils and by community agencies

Community agencies and regional and local councils can provide valuable support for school programmes. By establishing links with the initiatives of these groups, schools can access specialist expertise as well as help to build community-wide partnerships.

Step 5: Decide how Environmental Education will be managed within the framework of the Nigerian Curriculum

There are a number of ways of managing programmes to meet the aims of environmental education. Schools may achieve a balanced and broad curriculum in a number of ways; for

example, by organising their programmes around subjects, by using an integrated approach, or by using topic or thematic approaches.

These ways include the following:

- Develop programmes within the context of the achievement aims and objectives in one curriculum area.
- Develop programmes based on cross-curricular themes, using achievement aims and objectives from two or more curriculum areas. This approach takes advantage of the many links between the learning areas of language and languages, mathematics, science, technology, social sciences, the arts, and health and physical well-being.
- Use an action-oriented approach. This approach focuses on helping students to develop the knowledge and understanding, skills, and attitudes and values that they need for taking action on local, national, or global environmental issues.
- Develop an environmental studies course. Such a course would enable students to undertake extended study of environmental issues.

Step 6: Develop programmes based on effective teaching and learning approaches

Learning in Environmental Education will be enhanced when students undertake purposeful learning activities in relevant situations and have opportunities to gain first-hand, practical experience. Within the context of learning in, about, and for the environment, this teaching approach will help them use their developing awareness, knowledge, attitudes, and skills in everyday life.

Effective learning in, about, and for the environment relies on teachers who can achieve the aims of Environmental Education by:

- planning programmes that are based on the aims of the national curriculum statements and that meet their achievement objectives;
- in their programmes of work, selecting and implementing teaching and learning strategies that help students to develop the essential learning skills;
- using a variety of teaching and learning approaches and encouraging students to reflect on their behaviours, attitudes, and values. These approaches could include:
 - education outside the classroom (EOTC),
 - inquiry-based learning,
 - games and simulations,
 - case-study approaches,
 - community-based learning,
 - experiential learning,
 - independent or group investigation of local environmental issues,
 - evaluation and action in environmental problem solving;
- providing opportunities for students to use their new knowledge, attitudes, values, and skills in making lifestyle decisions;
- creating and maintaining a learning environment where students can share their ideas, express their values and beliefs, and feel supported and challenged;
- effectively assessing both cognitive and affective learning in environmental education.

Step 7: Select appropriate resources to support teaching and learning programmes.

- Environmental education? Will it help students to meet the achievement objectives in relevant curriculum statements?

- Skill development: Which of the essential skills will it help students to develop?
- Language level: Will students be able to read it? What extra assistance may be needed to help students with the language?
- Student interest: Does it contain information that is relevant to students' interests? Is it presented in a way that will engage their interest?
- Date: Is it up to date? If not, does that matter?
- Bicultural perspectives: perspectives included in areas where learning about Nigeria important? If not, how will this be managed?
- Multicultural perspectives: Does it provide perspectives that acknowledge and explore different cultural views? If not, how will this be managed?
- Gender perspectives: Is it non-sexist? If not, how will this be managed?
- Balance: Does it help to provide a balance of perspectives when set alongside other resources?
- Genre: Does the way information is structured and presented complement other resources and extend the range of genres available to students?

Step 8: Plan how evaluation will be carried out

Evaluation is an important component of Environmental Education because it provides information on the extent to which the aims of Environmental Education have been met. It helps in reviewing teaching and learning programmes and considering how they might be improved.

RECOMMENDATIONS

Environmental education should be infused into every subject. Such education should emphasise:

- To turn off appliances, heating and air conditioning
- To turn off and unplug computer and other electronic devices
- To encourage the parents and relatives to change the light bulbs to energy efficient ones
- To recycle papers or reuse bottles and plastics. Always remember the three R's – Reduce, Reuse and Recycle waste.
- To reuse every bit of space on paper. Do not feel shy to use paper that has been used on one side.
- To join or create an eco-club
- To plant trees
- To choose products that are environment friendly
- To walk, cycle or take a train or bus instead of the private car or bike
- To use less plastic. E.g. to carry a cloth bag when going for shopping instead of plastic bags
- To segregate domestic waste into bio-degradable and non bio-degradable. The bio-degradable items like food left-overs and vegetables and fruit wastes can be composted and non bio-degradable items like plastic can be recycled.

Gender should be mainstreamed into environmental education curriculum.

Environmental education should be delivered in and out of school.

Formal and informal communication should be employed in environmental education.

Environmental issue should equally be emphasized at both primary and secondary school levels.

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