

Research article

Maintaining Biodiversity through Environmental Conservation Awareness Program in School Sectors: A case study of Nigeria

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Abstract

Environmental problems have become a priority on the world political agenda for the last two decades and this is inevitably linked with the general degradation of our environment which calls for ultimate attention. Therefore, this study searched for a better and more involving methods of imparting environmental knowledge to average learner with the view of creating awareness, increasing knowledge as well as changing their attitude positively towards conservation of the environment. The study also investigated the effectiveness of conservation club in creating awareness (among students) about environmental conservation. About 240 Students were randomly selected for data collection using validated instruments (questionnaires). T-test statistics, chi-square and simple percentage were the major statistical tools employed in data analysis. This study revealed that environmental conservation club plays a vital role in creating awareness as well as promoting students understanding of environmental issues to promote positive attitude towards natural environment. **Copyright © IJESTR, all rights reserved.**

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1. INTRODUCTION

The land surface is an important resource, permitting amongst other things biodiversity, settlements, agricultural land, mining and recreational use. Human activities are continually modifying the landscape, creating urban areas, roads, pits, ponds, terraces, cuttings, embankments, canals, reservoirs and areas of subsidence. All these had contributed immensely to the vexatious state of the global environment, which eventually led to the worldwide environmental crisis in the last two decades. This human activities are important factors contributing to the devastated quality of life of living organisms.

Meanwhile, one of the major environmental concern is tropical deforestation which means the widespread harvesting of trees for fuel burning and the clearing of land for agriculture as well as cattle raising, this has resulted in the destruction of tropical rain forests. Deforestation is seen as contributing to the loss of genetic diversity because tropical rain forests are home to perhaps one half of all plant and animal species.

Therefore, deforestation is seen as a major contributor to the loss of soil productivity, which in turn creates economic and development problems.

This deteriorating condition of the environment swung into actions a number of seminars and conferences at national and international level to create a global awareness of the current campaign for the propagation of environmental protection and conservation for sustainable development. Among the seminars and conferences organised specifically to address this issue of environment and sustainable development are the United Nations Conferences on environmental issues, popularly known as the Earth summit, which was held in Rio de Janeiro, Brazil in 1992 and the recent world conference on global warming held at Istanbul Turkey in July 2009, the climate change conference held at Copenhagen in December 2009 and international conference on pollution in Ho Chi Minh city, Vietnam in March, 2010 as well as other international campaign to reduce the amount of various gases to the atmosphere.

Meanwhile, at the earth summit, a lot of decisions were taken to the benefit of the nations environmental conservation, preservation, development and management. Nigeria, the most populous nation in Africa shared, similar battered environmental degradation with her contemporary developing countries in Africa. A National profile of Nigeria's subsequent environmental problems documented in "Nigeria's Threatened Environment: a National profile" (N.E.S.T, 1991) revealed land, water, atmosphere, vegetation and wildlife, population and cultural degradations as resulting from ignorance, poverty, growth and technology adopted (Olagunju, 1997).

It is quite unfortunate that, a country (Nigeria) rich in wild flora and fauna experienced threat of her biosphere, wildlife and biodiversity through habitat degradation and hunting. This has made the country to witness several environmental problems ranging from desertification, flood, erosion, deforestation, industrial pollution, municipal waste to illegal traffic in barred chemicals and hazardous wastes. This bothersome situation prompted the protection of Nigeria environment for sustainable development, to receive a strong backing and support from the federal Government. Thus several measures were taken to protect Nigeria environment, they include:

- the promulgation of legislation such as endangered species decree No. 11, 1985.
- natural resources conservation council decree and
- federal environmental protection agency (FEPA) decree 58, 1985.

Olagunju (1997), Noibi and Lawal, (1993) said , inspite of this laudable efforts (at both National and International level), the environment appears to continue to degrade the more. Therefore, the magnitude of these seemingly unstoppable problem warrants more concerted efforts and awareness training programme if the goal of sustainable development ethics must sink into individuals. Kola Olusanya, (2000) opines that, the better we learn the better is our behaviour towards our environment. He contended further that, environmental education should aim to improve the quality of the realized perceptual environment, develop understanding of the influences which restrict or modify it, by raising the quality of information, improve the capacity for acting responsibly within it and also to develop creative responsiveness.

Meanwhile, environmental knowledge is a prerequisite for changing attitudes and behaviours. Hence, knowledge, attitude and behaviour are important tools for orientating human actions towards sustaining their environment and for intelligent environmental policy making. Furthermore, the road to sustainable environment anchors on the efficacy and intellectual background and dissemination of environmental knowledge, attitude and behaviour to learners through teacher. Therefore, attention has however been drawn to the fact that complex interdisciplinary nature of environmental education would not only demand changes in teacher education programmes, but also the current lack of properly trained teachers education programmes could itself impose a constraint on the effective implementation of environmental education (Sharma and Tan,1990).

This led to the emancipation of the National Council on Education in 1990, who came out with the following recommendations- the need to

- Establish environmental education unit in ministries of education
- Set up conservation clubs in schools
- Establish conservation Resources Centre and,
- Enrich School Subjects in Environmental Education

The development of Conservation club in Nigeria, is therefore one of the recommendations that, emanated from 1988 Yankari Game Reserve Conference organised by Nigerian Conservation Foundation (NCF) (Aloba, 1999), a non-governmental organisation dedicated to protecting wild-life and conserving natural resources in Nigeria and whose primary aim is to stimulate in the citizens an awareness of the need for conservation and

environmental protection on a sustained basis.

It is interesting to know that National Conservation Foundation has its campaign to all Schools in the federation. To assist the pupils, teachers and members of the community take action to conserve natural resources including wildlife. Therefore, conservation guide for schools has become necessary (NCF 1994). This conservation guide is essential for the viability and sustainability of school conservation and it is expected that members of the conservation clubs will motivate fellow students, teachers, parents and others to take wise action to conserve natural resources, including wildlife.

Eno Ukpong, (1993) stated that conservation clubs serve as a vital propagating front and a vehicle for creating awareness about our environment, their activities have always been associated with a forestation programme, erosion control and sanitation activities. It is obvious that little research work have so far been extended to unfold the environmental conservation problems. While little efforts of no significant effect, has been geared towards utilization of conservation.

Therefore, conservation club which is synonymous with Nature, Environment and wildlife is embraced all over the world. It remains the only avenue to protect and preserve plants and animals from extinction, soil from erosion and degradation, air and water from pollution and contamination, vegetation from unnecessary burning and deforestation to maintain biodiversity. Among these global clubs of which some are governmental and others are non- governmental organisations are:

Nature clubs of India, Eco-clubs in Nepal, Kenya conservation club, conservation club of Malawi, conservation club of Zimbabwe, conservation club of Uganda, Nigerian conservation club, African wild life conservation (Kenya), Nigerian Environmental Study and Action Team (NEST).

Having convincingly established the reasons for the existence of conservation club programmes in our Secondary Schools and the need for its availability and effectiveness to create the expected knowledge, attitude and behaviour through learning outcomes of environmental education impacted by teachers. This present study arose and attempt to examine the availability and effectiveness of conservation club programme in some selected schools in Oyo-state as well as examine the level of awareness of environmental conservation club among students and their teachers. Therefore, the following questions were addressed in this study:

Research Questions

- 1) Do Students consider environmental conservation club as effective in promoting positive environmental attitude as well as increase their knowledge about the environment?
- 2) Is there a difference in students knowledge of conservation and their attitude towards environmental conservation?
- 3) Will there be any significant relationship between gender and students environmental conservation knowledge and attitude?
- 4) Will there be any significant relationship between subject specialization and students environmental conservation knowledge and attitude?

2. Materials & Methods

2.1 Participants

This study is a descriptive (Survey) research, which try to describe systematically the facts and characteristics of a given population or area of interest, factually and accurately. Therefore, environmental conservation club in 6 secondary schools in Oyo-State were selected for participation. Ex-post facto research design was used for the study and the major instruments of descriptive or survey researches are questionnaire and interviews. This design assessed conservation club programs and its effect on students environmental knowledge and attitude among selected secondary schools in Oyo-State. The researcher examined both the availability and effectiveness of conservation club. This enable the researcher to investigate the effort of environmental conservation clubs at

creating the much needed awareness to students in Oyo-State secondary schools and to establish the much needed relationship of environmental conservation knowledge and attitude among them.

Meanwhile, a total of about 240 randomly selected students from selected secondary schools (120 males and 120 female) participated in the study. The average age of the student which ranges between 14-16years were considered for the study. The schools selected met the defining criteria for selection with evidence of having presented students for the SSCE examination for at least five years and were willing to participate in the study. The students agreed to participate and had parental permission.

2.2 Research Instruments

The instruments for the study consist of eight questionnaires developed by the researcher in respect of knowledge and attitude of both the teachers and students to environmental education and conservation. The questionnaires are as follows:

1. Conservation Club Activities Scale (CCAS)
2. Questionnaire on Effectiveness of Conservation Club (QECC)
3. Questionnaire on Students' Environmental Conservation Knowledge (QSEK)
4. Questionnaire on Students Environmental Conservation Attitude (QSEA)

3. Results and Discussion

3.1 Analysis

Student's responses to questionnaires were collected and analyse using the statistical analysis as follow: Inferential statistics (t-test statistical analysis) as well as frequency and simple percentages were used to describe responses from Students.

The data was analysed using various statistical test carried out upon the data to critically considered the effect of conservation club in promoting positive environmental knowledge and attitude among students. This was based on their response of conservation club member and the comparative sample. Descriptive statistics for questions 1 above are given in the table above. Cross-tabular statistics analysis, using the chi-squared method, revealed a significant difference between the two sample groups (chi-squared = 17.42 on 4 df, $p=0.002$) concerning student's belief about the effectiveness of conservation club in promoting positive environmental knowledge and attitude. One group were more highly convinced in comparison to the second group (i.e comparative sample). 41.3% of the first group were 'very convinced' that climate change is occurring, in comparison to 11.9% of their peers. However, participants who were 'not at all convinced' that the conservation club is effective in promoting environmental conservation or who failed to answer this question, were excluded from further analysis.

According to the above table (table 2), there is no mean difference between student's conservation knowledge and their attitude towards environmental conservation because t-test calculated value of -0.62 is lesser than t-test critical value of 1.645 at 0.05 level of significant. The table above also, showed that students show a positive attitude towards environmental conservation which may be as a result of the efforts of conservation club in creating awareness about environmental issues as well as their knowledge of recent environmental disasters around the world.

TABLE 1: Descriptive statistical data for Conservation club members and comparative sample concerning conviction and self-efficacy beliefs about environmental conservation club:

Responses from Club Members (CCM) and Comparative Sample (CS)

How much of a contribution can Conservation club make to conserve the environment?

	Not at all	Very little	A little	A lot	Don't Know	Total
CCM --	1(1.5%)	12(17.6%)	27(39.7%)	26(38.2%)	2(2.9%)	68(mv=10)
CS -	2(3.6%)	4 (7.3%)	46(83.6%)	3(5.5%)	0	55(mv=2)

How convinced are you that environmental campaign posters help in promoting environmental awareness among students ?

	Not Very Convinced	Fairly Convinced	Very Convinced	Don't Know	Total
CCM-	2(2.5%)	32(40%)	33(41.3%)	11(13.8%)	78
CS-	1(1.8%)	24(42%)	32(56.1%)	0	57

How frequently do you engage in observing and learning outdoor (field trip)?

	Very Often	Often	Rarely	Never	Total
CCM-	33(41.3%)	2(2.5%)	32(40%)	11(13.8%)	78
CS-	32(56.1%)	1(1.8%)	24(42%)	0	57

How frequently do you watch film shows on nature and environmental issues?

	Very Often	Often	Rarely	Never	Total
CCM-	33(41.3%)	32(40%)	2(2.5%)	2(2.5%)	69(2 missing cases)
CS-	7(11.9%)	29(49.2%)	7(11.9%)	3(5.1%)	46

How often do you make field sketches and collection of specimens?

	Very Often	Often	Rarely	Never	Total
CCM-	26(38.2%)	27(39.7%)	12(17.6%)	1(1.5%)	66(10 missing cases)
CS-	7(12.5%)	24(42.9%)	10(17.9%)	5(8.9%)	46

Table 2: Showing t-test statistical analysis of students' knowledge of conservation club and their attitude towards environmental conservation.

Variables	N	X	SD	DF	t-calt	-crit
Knowledge	120	57.80	5.521	198	-0.62	1.645
Attitude	120	60.22	4.679			5*

5*- Significant at 0.05

Table 3: Showing t-test statistical analysis of students gender and their knowledge/attitude

Variables	N	X	SD	DF	t-calt	-crit
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Male	120	58.1	5.618	98	0.148	1.65
Female	120	57.5	5.463			5*

5* - Significant at 0.05

Table 3 above shows that there is no mean difference between male and female knowledge/attitude towards conservation because t-test calculated of 0.148 is lesser than t-test critical of 1.65 at 0.05 level of significant. The table also showed the mean score of 57.5 for female as against male 58.1 for the male which means that males are more positive in their knowledge/attitude than their female counterpart. Male and female students have different methods of expressing their opinion as well as adopt different discourse patterns in group discussion.

Table 4: Showing t-test statistical analysis of subject specialization and knowledge and attitude

Category	N	Mean	SD	DF	T	SIG
Science Students	120	32.4	2.32	203	0.915	0.355
Art Students	120	30.6	2.16			
Total	240					

The table 4 above shows a non significant outcome ($t=0.915$, $P> 0.05$), which means the observed difference in students' knowledge and attitude towards environment conservation is not significant. Hence there is no significant difference in the level of knowledge and attitude of students in Science class and student in Art Class in regards to conservation of Environment. This may be as a result of recent efforts at creating a global awareness about environmental issues as well as the recent environmental disaster around the world.

3.2 Discussion

From the results of this research, it shows that students consider environmental conservation club as effective in promoting positive environmental attitude as well as increase their knowledge about the environment and environmental issues/problems. This may be as a result of the efforts made by conservation clubs in propagating as well as creating awareness about vexatious state of the global environment, which eventually led to the worldwide environmental crisis as well as how to conserve or save our environment from its current state of deterioration. The results also suggested that male students are more positive in their attitude towards conservation compare to their female counterpart. Again, this may be as a result of their different opinion about conservation. Further analysis suggested that both science and art students shows no significant difference in knowledge and attitude towards conservation. This may be as a result of the recent environmental problem/disasters around the world (e.g Pakistan, China and Japan).

4. Conclusion

This study may not be entirely conclusive, but the results are consistent with theoretical predictions in the previous studies on the effectiveness of environmental education-based program in School settings. Therefore, this evidence can be used collectively to raise awareness among the public and policy-maker of the valuable role the environmental conservation club could play in maintaining biodiversity as well as sustainable development.

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