
Incorporation of Environmental Education in Nigerian Colleges of Education: An Exploration Research

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ABSTRACT:

This article is in response to environmental crises, degradation and problems growing in Nigeria. In order to ensure solution to this problem, there is need to infuse environmental education into colleges of education towards the actions of sanitation, health. The Science Teachers' Association of Nigeria on its own part is pursuing a regimen of training for environmental educators for the school system through its annual workshops; however, this is not enough. It brings all teacher educators to engage in the teaching of environmental education just as sustainable development requires all players to incorporate its principles in core operations of institutions. Interview was used because it allow people to respond in both structured and in an unstructured way. Although the study revealed a heightened awareness of environmental issues among participants, it also showed negative attitudes towards integrating EE into Nigeria colleges of education. The findings show that other barriers that affect the incorporation of EE in the Nigeria Colleges of Education are institutional, dispositional and situational. The significance of the study is to promote the re-orientation of the curriculum and educator attitudes in the Nigerian Colleges of Education. The findings may be used as part of the strategy to effectively incorporate EE in the Nigeria Colleges of Education.

Key words: colleges, environmental, curriculum, educators, education.

INTRODUCTION

Both nationally and internationally there is an urgent need for incorporation of **environmental education** (EE) for sustainability in institution of learning as environmental crisis are becoming increasingly important issues. Desertification is a major problem in Nigeria, made worse by massive water impoundment and irrigation schemes. Uncontrolled grazing and livestock migration put tremendous pressure on the environment in some areas. Other environmental threats include poaching and settlement within protected areas, brushfires, increasing demand for fuelwood and timber, road expansion, and oil extraction activities (International Projects Naturvernforbundet annual report 2011).

Other issues in the country contributing to degradation include deforestation, population growth, pollution, greenhouse effect, destruction of forests, acid rain, soil erosion, disposal of toxic and hazardous waste, climate change, and global warming (Baird, 2010; Nwilo, & Badejo, 2001; Anderson, 2005:1-131). These environmental issues have economic and social impacts on the lives of people (Anderson, 2005:1-131). It is on this note that several numbers of International conferences were convened to address the global environmental issues. Among them are the World Conservation Congress (1980); and World Conference on Education for all (1990). The nature, scope, essence and place of Environmental Education

(EE) have been considered as one of the methods of responding to the global environmental problems in the international conferences mentioned above, (Dreyer, 1996: 72). Among institutions that are in support of the incorporation of EE are the United Nations Educational, Scientific and Cultural Organisation (UNESCO, 1949); United Nations Environmental Programme (UNEP, 1972), and the Environmental Protection Agency (EPA, 1970).

Despite the above developments and institutions which address the environmental crises through the incorporation of EE, there is consensus that the present scientific and philosophic framework is not adequate to deal with the global environmental crises (Clover, (2000: 213). That is why incorporation of EE as a cross-curricular theme in the Nigeria Colleges of Education is emphasised in this study as one of the ways in which social factors can be changed to empower people to acquire the skills for sustainable living.

STATEMENT OF THE PROBLEM

The Nigerian Colleges of Education are some of the educational institutions in which EE was incorporated, but not as a cross-curricular theme. As a result, there are some educators who seem inclined to incorporate EE in the Nigerian College of Education while other educators do not appear to incorporate EE in the subjects they teach. There is a great need to incorporate EE as a cross-curricular theme in the Nigerian formal education system because the teacher trainees, who may complete their pre-service teacher training in the Nigerian Colleges of Education may not be in a position to incorporate EE as a cross-curricular theme in the Nigerian formal education system because they may not have experienced it themselves as learners. The research sought to find answers to the following question: What are the opportunities and impediments in implementing environmental education within the context of Curriculum in Nigeria colleges of education?

Stemming from the above problem statement are the following sub-problems:

1. Does the colleges of education support the inclusion of environmental education in the curriculum?
2. To what extent, if at all, does the in – service teachers educator approach support environmental learning?
3. What measures are in place to facilitate the in – service teachers approach in environmental education teaching and learning in the college of education?
4. What factors impede the successful implementation of environmental education in the college of education and how can they be overcome?
5. What factors could support the successful implementation of environmental education in the college of education and how can they be strengthened?

To achieve this aim, the objectives of the study were to:

1. Establish how colleges of education provide for the inclusion of the environment in the curriculum;

2. Determine whether the in – service teachers educator approach offers any particular opportunities for successful implementation of environmental education in the curriculum;
3. Establish what measures are in place to facilitate the in – service teachers approach in environmental education teaching and learning in schools in the study;
4. Identify those factors that impede the successful implementation of environmental education in the schools being researched;
5. Determine what factors support the implementation of environmental education in the schools selected for study; and

Make recommendations towards supporting the inclusion of environmental education in colleges of education in Nigeria.

Theoretical Framework

The theories of modern environmentalism were used in this study which may guide the incorporation of EE in learning programmes; this includes: ‘Deep ecology’ and the ‘modes or theories of sustainability’. The theories focus on the characteristics and principles of each theory as well as the posture of the researcher on each theory with respect to the aims of the study.

Deep Ecology: The Great River Institute (n.d) maintains that “The concept of Deep ecology has been coined to refer to an ecology that goes deeper by placing humans within ecosystems”. “Human beings are only different but are not better or more valuable than other species” (One of the fundamental tenets of Deep ecology is the rejection of the so called Shallow ecology. Shallow ecology emphasizes resource depletion, affluence and the consumption of goods by people living in the developed world (Switzer, 2004: 45). Deep ecology values are characterised by equality and harmony with nature. Although the researcher mainly embraces the principles of deep ecology as the modern means of environmental protection, he also supports the critics of deep ecology that stems from socialists and eco-socialists.

The use of deep ecology principles was because they support sustainability of resources but their effective incorporation is hampered by the lack of the social dimension. In this study, the incorporation of Environmental Education (EE) in a cross-curricular manner is seen as an act of infusing and recognizing the social dimension. The social dimension that is emphasised in this context is that of educating and unfolding the state of nature and educating human beings so that they could embrace those values while benefitting from the resources on a sustainable basis. The concept ‘sustainability’ is subject to a variety of definitions. According to the Dictionary of Natural Resource Management (1996: 308) the term ‘sustainability’ means the “ability of an ecosystem to maintain ecological processes and functions, biological diversity and productivity over time”. This definition is in agreement with, Hardoy; Mitlin

& Satterthwaite (1992: 176) who maintain that the term ‘sustainable’ is most widely used in refer to ecological sustainability in terms of the natural resources used either in a specific project or broader programme of human activities.

In this study, sustainability is used to refer to the use of natural resources while simultaneously conserving ecosystems, life support systems and communities in order that the present and future economy, people and societies benefit fully. In other word, the concept ‘sustainability’ refers to ‘sustainable development’ because the latter includes the “implicit component of sustainability and efficiency” (Metz, Davidson, Swart,& Pan 2001:19). According to The World Commission, sustainable development is ‘the development that meets the needs of a current generation without compromising the ability of future generations to meet their needs’ (Global Development Research Center (GDRC) (n.d.) (<http://www.gdrc.org/sustdev/definitions.html>). The concepts ‘sustainability’ and ‘sustainable development’ are perceived relatedly in the context of this study because the researcher believes that there is no reference to either of these concepts that would not come down to either direct or indirect resource application. In a simple way what is to be sustained include nature, life support and community and what is to be developed are people, economy and society.

METHODOLOGY

The research was based on a qualitative research paradigm. A qualitative research explorative (Creswell 2007) method was used to gather information from different participants. The researcher choose the qualitative design approach since it deepened his understanding about this enquiry as it went beyond numbers and statistics and produce prescriptive data (people’s own written or spoken words and observable behaviour, Marvasti 2004). Henning (2005:3) maintains that in educational research the qualitative approach is a useful means to gain in-depth understanding of an interactive and dynamic phenomenon. This approach provided rich explorative data as observed by the researcher during the interactions with participants. This made the researcher sees ethnographic and phenomenological approaches the most suitable for the study because of their value in the research of this nature. Apart from describing the target group the use of the phenomenological approach enabled the researcher to understand the participants’ personal meanings they might construct from their daily or ‘lived experience’ (Johnson & Christenson 2000) as educators trained to teach adults. Welman, Kruger & Mitchel (2007) affirm that the primary task of ethnographic study is to uncover and explicate the ways a group of people understand their settings and take action to manage their situations, problems and difficulties for better improvement. Phenomenological research on the other hand focusses on the understanding of social and psychological phenomenon from the perspectives of the people involved. It is more concerned with how participants in the study experience a particular phenomenon (Welman et al, 2007).

Population and Sample

As a trainer of ABET educators since 2008, the researcher was aware of the existence of in – service teachers educator who teach in the colleges of education. He therefore targeted college of education as sites for meeting the educators for exploring their continuous

professional development needs. The researcher contracted three colleges of education officials in the country who provided him with names of trained educators working under their supervision. The target group and population of the study comprised of experienced educators who are teaching in Nigeria colleges of education. Three Colleges of Education in Nigeria (College of Education Ekiadolor, College of Education Agbor, and Federal College of Education Omoku) were selected purposively to participate in the study as they were regarded as rich informants of knowledge the research intended to gather (Patton, 1990:47). Each colleges of education had three participants. The participants were self-selected by virtue of their position as lecturers at the institutions “experiencing the phenomenon under investigation” (Giorgi in Van der Mescht, 2004:5). Thereby “purposefully informing an understanding of the research problem and central phenomenon in the study” (Creswell 2007:125). In selecting the participants, the names of the educators from each of the colleges were the study was conducted were listed on a separate sheet of papers and each uneven number was picked. With the permission of the education officials from the selected sites the participants were contracted and informed of the purpose of the study and their role in the investigation. The data collecting instruments (interviews items) were tested on three educators at one of the colleges of education which was not included in the study. The instruments were then refined before undertaking the field work.

DATA COLLECTION

Data was collected by the researcher in the natural setting of the participants. This was done by means of a semi-structured interview schedule in order to get the most reliable information about the corporation of EE as a cross-curricular theme in the Nigerian Colleges of Education. It was also done to get their experiences and perception of incorporating EE into Nigeria colleges of education. This was supplemented by field notes taken by the researcher during the study. This information answers questions about the problem of the study as well as the aims/objectives of the study. This schedule was adopted from an interview schedule that the researcher had used in a previous research project where the researcher explored 12 participants ideology and understanding regarding the subject matter. The researcher encouraged participants to use their own words in describing their experiences and perception of incorporation of EE as a cross-curricular theme in the Nigerian Colleges of Education. The reason for this was to allow the data to truly emerge from the participants.

DATA ANALYSIS

According to Cresswell (2003:190), the process of data analysis involves making sense out of text and image data. It involves preparing the data for analysis, conducting different analysis, moving deeper and deeper into understanding the data, representing the data, and making interpretations of the larger meaning of the data. An inductive approach was followed where data was analysed by using the particular information gathered to construct themes (Cresswell 2009:4). Data from the nine interviews were transcribed verbatim. The collected data were analysed using an on-going process of inductive analysis (Lincoln & Guba, 1985). The creation of analytic memos from the interviews and observations at each college formed an important strategy for capturing emerging themes and categories and help to focus the coding and further collection of data. The identified themes and patterns that emerged from

the study were described and compared to provide explanations. This was done manually through the use of open coding approach to make the analysis simple and the data manageable (Cresswell 2009; Michelle 2007). These themes were used in the analysis of the data and also in the reporting of the findings of the study. Furthermore, the themes were linked into a more comprehensive model that resulted from the findings. Three major themes emerged from the record of the interviews:

- Understanding and awareness of the concept cross-curricular teaching as a model for the incorporation of EE in the Nigeria Colleges of Education
- Reasons for not Incorporating Environmental Education (EE)
- Conditions that would facilitate the incorporation of EE

The rich and authentic data which resulted from the interviews are presented as directed extracts under the above themes.

FINDINGS AND DISCUSSION

Knowledge, Understanding and awareness of the incorporation of EE as a cross-curricular in the Nigeria Colleges of Education

The researcher believed that the incorporation of EE in the colleges of education classroom, the teaching experiences, the institutions dynamics as well as the support systems in the institutions' would depend greatly on the educators' knowledge and understanding of the concept EE. This would have an influence on the perceptions and practical inclusion of EE in the teaching and learning process in their institutions.

The research shows that many students in the colleges of education in Nigeria have low understanding of EE though they are aware of the incorporation of EE as a cross-curricular theme. Thus, they are unable to effectively incorporate it in their teaching. Based on this, the question of their understanding of the concept of EE was necessary.

The result indicated above was confirmed by the following participants' responses:

More or less like agriculture; teaching people how to plant flowers around

It has to do with keeping the surrounding clean.

It's about recycling

Not so sure

It is how to look after creatures; ...Knowing about your environment and its important.

Conserving or taking care of the biophysical dimensions of the environment were the responses of those who seems to have understanding of the concept.

Some of us do not know more about the concept EE because it is not taught as a subject

Yes but only on paper and not in practice (participant C).

Yes we are informed but the challenge with EE is that it is not official to us so, we don't teach it as a subject in our colleges of education (participant D).

It is noted that most of the teacher educators across the departments of the Nigeria Colleges of Education fall in the category of those who are 'not well inform' about the incorporation of

EE. Participants who were ‘uninformed’ about the incorporation of EE exceeded those that were ‘slightly informed’ and ‘informed’.

Reasons for not Incorporating Environmental Education (EE)

It was evident that educators’ attitudes towards incorporation of EE into colleges of education are determined, in part by the meanings which they to it and by their interpretations of the meanings attached to EE by other people. The incorporation of EE has not been an easy task for the colleges and their management team who would prefer it to be incorporated so that educators could get used to it and for it to be effective. The problems expressed by the educators for incorporation are as follows:

The fact that the environmental education is done once in a while for a few hours does not give a true picture of the educators’ abilities. It is a matter of planting flowers then it’s quickly done. I think it should become a culture of the colleges to do it from the beginning of the year until perhaps the end of the year; so that it’s a process to develop themselves rather than increase their school fees.

Lack of fund and transport to take educators on excursion is a huge problem.

Going for excursion too is a problem because some of the areas are violence-prone areas; for example: areas of Boko-Haram.

The problem from above seems to emanate from the experience of the educators that most of the colleges’ environments are not conducive for effective EE learning. What also came up was that the participants suggested that the government should provide adequate resources and that more funds, involvement from stakeholders needed to be stepped up.

Conditions that would facilitate the incorporation of EE in the Nigeria Colleges of Education

According to the participants, the condition that would facilitate the incorporation of EE in the Nigeria Colleges of Education, are many among them are the teaching and learning materials for EE, support by the government, position and status of environmental education in the colleges, in-service training, and learners attitudes towards environmental education. The following were some of their response:

The teaching and learning materials for the incorporation of EE is another huge problem. This cut across the industries and factories that could act as partners in supporting EE.

For EE to be taken seriously in the colleges, it needs various learners’ support materials This is in line with Lotz-Sistika, (2002:105) stating that contextualised approaches to curriculum development and implementation require a flexible range of learners’ support materials that can be selected and adopted for use in a local context. The participants requested that the government should stand up to their task and provide colleges with the

necessary materials. The government thus was blamed for the state of affairs in colleges as far as the teaching and learning in general and in EE in particular was concerned.

The government should stand up to their task by providing us with the necessary things we need in these colleges, rather than spending the country's money on frivolity. Our environment is not conducive for effective learning or for transformation.

The participants expressed dissatisfaction with the position and status of EE in their colleges. According to them, there were no EE projects whatsoever in the colleges and in some cases the projects are not relevant to EE.

In our college I can say there is no improvement because this is not how college of education should look like. When we call for support from stakeholders they don't respond;

stakeholders involvement in our college is zero, don't even mention it because they are not interested.

We still have a long way to go if we must incorporate EE into our teaching. Things are not really working here; we are not satisfied. The incorporation of EE is still in its initial stages; let's hope much can be done in future. We have not yet started, we are struggling; ...It is still hard because while we are trying to do our best regarding EE, others are busy throwing it away.

The participants acknowledged that the status and position of EE in their colleges' means that is yet to be done. Educators seemed to feel that the circumstances in their colleges and in the area social system does not allow them to participate in fully integrating EE into the colleges' curriculum and for this reason EE remains marginalised.

What was most fundamental to them was the in-service training. This to them will build a platform for launching possibilities for the incorporation of EE. This however is not happening and they therefore felt that it was a cumbersome and fruitless exercise which does not bring any change or benefit. The participants' responses were as follows:

Some of us work very hard to incorporate EE in our teaching but to no avail because we are not receiving adequate support in terms of seminars, workshops, on-site support or any other training.

Qualified and knowledgeable facilitators should be used in the training rather than those who are not skilled in the field of EE. This will seem to discourage some of the educators from attending workshops as we often see here. We need more workshops on EE

Finally, the researcher observed that over and above knowing what is required to be done, the participants needed more workshops, seminars and training on EE emphasizing that much help was needed in the area of teaching EE. It was cleared from the study that EE was not

held in high regard in the colleges and the attitude of some of the educators was something to worry about.

The analysis of the interview responses revealed that the challenges that the educators had for not incorporating EE in their Colleges emanated from the lack of understanding, knowledge and practical applications of environmental education into the colleges of education. Most of the colleges' environments are not conducive for effective EE learning. The support systems, the teaching and learning material in the colleges also possess a big challenge and have an influence on the perceptions and practical inclusion of EE in the teaching and learning process in their colleges.

CONCLUSION

The study offered an account of the experiences of educators, revealing the participants perceptions of incorporating EE in the Nigerian Colleges of Education. The conclusion reflects educators' awareness of the concept of EE. The findings and conclusions about reasons for not incorporating EE in the Nigerian Colleges of Education are also shown. It also shows the conditions that would support the incorporation of EE and the educators' final comments regarding the incorporation of EE in the Nigerian Colleges of Education. The study also discussed recommendations that should be implemented in order to incorporate EE in the Nigerian Colleges of Education. The study also explained how the problems of the study were addressed. Suggestions for further research are also indicated.

RECOMMENDATIONS

Teacher educators were asked to state any idea or information that they would like to share with the researcher and to indicate anything about EE that they would like to bring to the knowledge of the researcher. The question attracted a variety of divergent responses from the teacher educators in the Nigerian Colleges of Education. The responses of the educators' in the incorporation of EE in the Nigerian Colleges of Education form part of the recommendations.

The participants believe that educators need training and materials about the incorporation of Environmental Education (EE). The educators also made important assertions to justify the need for training and materials among educators in the Nigerian Colleges of Education. Among these were that EE is one of the cross-curricular themes and that it is a good idea to incorporate it in all subjects of the Nigerian Colleges of Education, to create a better understanding and create environmental awareness because all human activities depend on the environment, to incorporate it in ways that facilitate greater understanding and meaning to all the teacher trainees. Other suggestions were that educators should be provided with literature and resources that facilitate the incorporation of EE in all departments of the Nigerian Colleges of Education. They should be trained in designing teaching aids and materials such as charts, flash cards and posters because lack of teaching aids and materials negatively influence the incorporation of EE in the departments of the Nigerian Colleges of Education. Moreover, training in designing of teaching aids and materials enables teacher trainees to see the importance of using their own teaching aids and materials during lessons.

It empowers them with the know-how for the design of a classroom environment that effectively uses their own teaching aids and materials as a whole. For teacher educators to be constantly reminded of the incorporation of EE in their subjects, the government should coordinate and share efforts from all institutions regarding the incorporation of EE in the Nigerian education system in general. The participants believe that EE should be incorporated in the Nigerian Colleges of Education because it provides knowledge that could save the world from destruction and degradation. The recommendation here was that the Ministry of Education should ensure that EE be placed in the syllabus, calendar and timetable.

The main problem why EE is not incorporated in the teaching and learning situation of the Nigerian Colleges of Education is because the support systems, the teaching and learning material in the colleges are either not available or they are not relevant to EE. These possess a big challenge and have an influence on the perceptions and practical inclusion of EE in the teaching and learning process in their colleges. EE topics and themes are not included in the syllabus, calendar or timetable. The educators argue that when they plan for teaching they base their plans on the syllabus, time table and calendar and it becomes easy to omit a theme which does not form part of the syllabus, time table and calendar. The educators also suggest that if EE is to be incorporated in college and school syllabi then it should be explicitly stipulated in a manner that makes it easier for educators to incorporate it in their teaching.

LIMITATIONS

The potential limitations of the study are apparent in that it only focused on Nigerian colleges of education. Although the use of a case study allowed an in-depth study of the particular phenomenon it might have some limitations relating to generalisation of the findings. It therefore suggests a need for a broader exploration of all the colleges of education in Nigeria. This will assist with an understanding of experiences of a more varied population of educators.

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