

**CAPACITY BUILDING AND PERCEPTION OF INTERDISCIPLINARY
APPROACH TO THE TEACHING OF ENVIRONMENTAL EDUCATION
AMONG SECONDARY SCHOOL TEACHERS IN CROSS RIVER STATE,
NIGERIA.**

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Abstract

The work analyzed capacity building and perception of interdisciplinary approach to the teaching of Environmental Education among secondary school teachers in Cross River State, Nigeria. The survey research design was adopted for this study. Out of a population of 5,194 secondary school teachers in Cross River State, the stratified and simple random sampling technique(s) were employed to select a sample of 1030 for the study. The study was guided by transforming the stated research question into a research hypothesis and simple linear regression was used to analyze the hypothesis. The result shows that there was a positive significant influence of teacher's capacity building on their perception of interdisciplinary approach to the teaching of Environmental Education in the secondary school. It was therefore recommended that government and Environmental stake holders such as the ministries of Education and Environment including NGOs should organize frequent Environmental Education capacity building for secondary school teachers to enhance their capacity building and increase their perception of interdisciplinary approach to the teaching of Environmental Education.

Key words: Capacity building, Perception, Interdisciplinary approach, Environmental Education.

Introduction

In 1990, the Nigerian conservation foundation and the Institute of Education, University of Lagos organized workshop and seminar for different categories of people including secondary school teachers. In 1999, the Nigerian conservation foundation and the Institute of Education, University of Calabar organized workshop and seminar for different categories of people including secondary school teachers especially to enlighten them on the delivery of Environmental Education through the interdisciplinary or multidisciplinary approach. As a follow up to these workshops and seminars, environmental clubs were introduced in secondary schools especially in Cross River State. When skills are not

properly learned, the student who possesses the skills is unsure and undecided over what actually it is to do with the skills and how to do it. In response to the educational needs of Nigerians, it was imperative to introduce Environmental Education into the school system. Part of the reason was to make the educational system more functional and sustainable so that those who acquired the skills will be able to think globally and act locally.

But the way environmental education skills are taught in our schools, especially in Cross River State leaves much to be desired. The interdisciplinary approach of teaching environmental education may not have been understood by many teachers. This may be due to the fact that individual perception differs. Nevertheless, situations that necessitated the introduction of environmental education can be explained based on the fact that environmental degradation has today become a major problem in Nigeria. Our once scenic and beautiful environment is no more. The Nigeria tropical rain forest has almost disappeared in our efforts to develop, the air being polluted by solid, human and industrial waste. There is an alarming rate of the atmospheric changes such as ozone depletion and the building up of green house gases resulting to climate change. Fertile lands are almost turning to desert and farmers both in Nigeria and other parts of the world have lost almost 500 million tons of topsoil which is an amount equal to the tillable soil coverage of India and France combined (Obi, 1997). Lakes, rivers even whole seas have been turned into sewers and industrial slums. Tens of thousands of plants and animals that once shared the planet with us have since gone into extinction and the state of the world has gone downhill (Today Sunday Magazine, 1992).

It is this alarming state of degradation in the world that led to the formation of Nigeria Conservation Foundation (NCF) a Non-Governmental Organization aimed at promoting the standard of the Nigeria environment through formal and non-formal ways. In order to achieve her set objectives, NCF presented a draft proposal for a National Conservation Education Strategy to the Federal Ministry of Education in 1988. The proposal was adopted by the National Council on Education (NCE) in 1990. This proposal then became an official educational policy that environmental education be taught in secondary and primary schools in Nigeria from 1991 academic session as part of the citizenship education curriculum.

More so, the formal Environmental Education Curriculum consisted of primary, junior secondary and senior secondary. Using the multi-disciplinary approach, elements of Environmental Education were infused into several subjects. (Eguabor, 1999). Additionally, Noibi (1990) observed that, Environmental Education is going on at all times in many settings. Unfortunately, its content, method and emphasis are not equal to the challenge it faces. The succinct description of Environmental Education requires some special training because graduates of single-subject disciplines may have some problems in teaching students about the environment, more so because Environmental Education is very broad, teachers have individual level of perception (Nativism) and so any teacher in this field must have some reasonable knowledge of all the relevant subjects that make up Environmental science. Therefore, teacher training in form of capacity building is paramount for the successful development of Environmental Education in Nigeria, especially at primary and secondary school levels.

Pre-service and in-service teacher training programmes in Environmental Education, and organization of workshops and seminar for these teachers must be encouraged. But after the train-the-trainer course on Environmental Education curriculum implementation in schools, under the sponsorship of the UNDP-Assisted Environmental and Natural Resources Management Programme in conjunction with the Cross River State Government, as co-ordinated by the Nigeria Educational Research and Development Council, under the auspices of the Cross River State Environmental protection and Sanitation Agency, no other form of training has been organized for teachers especially within reach of the study area. This has, *ipso facto* given the researchers the impetus to carry out this research. More so, it is worrisome that the environmental clubs that existed in secondary schools have disappeared. Students and teachers no longer pay attention to environmental awareness creation. The interdisciplinary approach to the teaching of environmental education in secondary schools is not effectively practiced by teachers. The teaching of environmental education in secondary schools is jeopardized and its statutes are uncertain.

In a report by Harris and Sass (2001) it was emphasized that in-service training programme for classroom teachers of post-graduate level tends to increase the qualities possessed by a good classroom teacher which positively affect the performance of a teacher, indicating further that training of teachers was positively associated with productivity in middle and high school subjects. The report reveals further that more experience teachers appeared more effective in teaching elementary and middle school Reading. Similarly, Samupwa (2008) examined the effect of teacher training on the administrative work and teachers' behavior in the classroom. Consequently, a significant change in behavior of teachers in classroom and on the administrative work was reported. Samupwa (2008) therefore opined that, in the modern world, in-service training plays a crucial and pivotal role in improvement of education. Therefore, to meet the institutional needs in terms of skills and knowledge, the roles and capacities of the trainees can be improved through in-service training especially on environmental education. Only trained teachers and those exposed to green policy can set environmental education goals for teaching and can organize plans for reaching those goals (Pintrich & Schunk, 2002).

Hanushek (2004) reported that, there exist a significant change in perception of teachers about the knowledge category due to in-service training, that the overall scenario of a good teacher has undergone tremendous change because of training programme. Emphasizing that there is a strong relationship between students' performance and teachers' knowledge about subjects. Therefore, teachers' capacity building will increase teachers' perception of interdisciplinary approach to the teaching of Environmental Education which will reflect in students' performance or student's environmental awareness. This is in line with Shangir (1988) who reported that, there exists an empirical evidence, suggesting that in-service training is effective in improving perception of trainees. Adding that the importance of teachers training cannot be underestimated. Shangir (1988) emphasized that, the better a teacher is trained, the better he/she can educate tomorrow's generation. It is also in line with Kazmi, Pervez & Muntaz (2011) that, in-

service teachers training which elevates teachers' green policy awareness enables teachers involved to be more systematic and logical in their teaching style.

A teacher who has a broader vision delivers his/her lectures more effectively as compared to the one who restricts him/herself in a particular domain. Hence, for improving scientific methods and capabilities, we need good teachers and for good teachers, effective training is compulsory (Gautmen, 2001).

Hence, in-service teachers training which elevates teachers' green policy awareness enables teachers involved to be more systematic and logical in their teaching style (Kazmi, Pervez, Muntaz, 2011).

Accordingly, Adebayo and Olawepo (1997), Eicher, (1991), Adara (1993), Aghlor (1993) and Nwana (1992) asserted that, it may prove a slow task to bring together experts and organize the team work of various agencies to introduce environmental education with a valid content in schools.

A fearful perception will be erased by awareness and capacity building. Pellicer & Anderson (1995) states that experience and additional training through participation in staff development programmes eventually calmed teachers fears and assuaged the doubt of most teachers, that, as they gained experience and developed their teaching skills, they became more comfortable in the knowledge that they could effectively control their own destinies and perhaps even make worthwhile contributions to the lives of the learners entrusted to their care. It is on this premise that, this study is aimed at finding out the level of teachers' environmental capacity building, and their perception of interdisciplinary approach to Environmental Education in secondary schools in Cross River State.

Population of the study

The population of the study is the total number of teachers in Cross River State public secondary schools which is 5,194 as at the 2014/2015 academic year (second term) (Cross River State Secondary Education Board, 2015).

Sampling technique(s)

The stratified random sampling technique and the simple random sampling technique were used. The area of the study, Cross River State is educationally divided into three education zones for ease of administration by Cross River State Government via Cross River State Ministry of Education. The Education zones are:

- (1) Calabar education zone with seven Local Government Areas and a total of seventy-five (75) public secondary schools under it
- (2) Ikom education zone with six (6) Local Government Areas and a total of ninety-three (93) public secondary schools under it
- (3) Ogoja education zone with five (5) Local Government areas and a total of seventy-one (71) public secondary schools under it. This makes a total of (239) two hundred and thirty-nine public secondary schools in Cross River State.

The numbers of teachers in each of the education zones are as follows:

- (1) Calabar education zone, two thousand and sixty-two (2062) teachers
- (2) Ikom education zone, one thousand, seven hundred and twenty-four (1,724) teachers

(3) Ogoja education zone, one thousand, four hundred and eight (1,408) teachers

This makes a total of 5,194 teachers in Cross River State public secondary schools. The researchers decided to take 20% of schools in each of the education zones, hence 20% of the 75 public schools in Calabar education zone is 15. 20% of the 93 public secondary schools in Ikom education zone is 18.6 approximately 19. 20% of the 71 public secondary schools in Ogoja education zone is 14.2 approximately 14. This makes a total of 48 public secondary schools for the study. However, the 48 public secondary schools were gotten by simple random sampling, and the sampling was done zone by zone. In the Calabar education zone the names of all the 75 public secondary schools were written on pieces of paper, wrap into a container and blindly selected 15 schools, one after the other with replacement.

In the Ikom education zone, the names of all the 93 public secondary schools were written on piece of paper, wrap into a container and blindly selected 19 schools, one after the other with replacement. In the Ogoja education zone, the names of all the 71 public secondary schools were written on piece of paper, wrap into a container and blindly selected 14 schools, one after the other with replacement.

Therefore, using the stratified random sampling technique 412 respondents were drawn from Calabar education zone, 345 from Ikom education zone and 281 respondents from Ogoja education zone, giving a total of 1038 teachers as shown in table 1.

Table 1: Number of Cross River State teachers in each zone

Zone	No. of teachers	20%
Calabar education zone	2062	412
Ikom education zone	1724	345
Ogoja education zone	1408	281
Total	5194	1 038

Sample

A sample of one thousand and thirty (1030) which is 20% of the total study population was used for the study. These one thousand and thirty (1030) were from the forty-eight (48) sampled public secondary schools in Cross River State. Males were 549 and females were 481.

Instrumentation

The research instrument used was structured questionnaire. Nine questions on perception of interdisciplinary approach to Environmental Education and nine questions on Environmental capacity building.

Research question

How does Cross River State teachers’ capacity building influence their perception of interdisciplinary approach to the teaching of Environmental Education?

Hypothesis

There is no significant influence of Cross River State teachers’ capacity building on their perception of interdisciplinary approach to the teaching of environmental education.

Independent variable: Teachers capacity building

Dependent variable: Teachers perception of interdisciplinary approach to the teaching of environmental education

Statistical treatment: Simple linear regression

Result

The result is as presented in table 2 below

Table 2: Simple linear regression analysis of teachers’ capacity building and perception of interdisciplinary approach to the teaching of Environmental Education

Variables	N	Mean	SD	r	Sig.
Perception of interdisciplinary					
Approach to Environmental Edu.	1030	19.83	5.18	.955	.000
Teachers Capacity building	1030	11.58	3.54		
Model	SS	df	MS	F	Sig.
Regression	2519.166	1	2519.166	10759.866	.000
Residual	2409.445	1028	2.344		
Total	27628.611	1029			

*Significant at P < .05, r=.955 Adj. R = .913.

The results presented in table two (2) indicated that there was a positive significant influence of capacity building of teachers on their perception of interdisciplinary approach to the teaching of environmental education in secondary schools (r=.955, p<.05 at df 1028). The regression analysis showed that the teachers capacity building significantly predict their perception of interdisciplinary approach to the teaching of environmental education in secondary schools (F=10759.866, P<.05). In other words, the teacher’s perception of interdisciplinary approach to the teaching of environmental education is significantly influenced by their capacity building. This therefore means that the null hypothesis earlier stated was rejected.

The results indicated that the calculated r-value is 0.955, which implies that there is a strong positive influence of teachers’ capacity building for Environmental Education and their perception of interdisciplinary/multidisciplinary approach to the teaching of Environmental Education. The positive influence means that, as teachers’ capacity for Environmental Education increases, their perception of interdisciplinary/multidisciplinary approach to the teaching of Environmental Education also increases and if teachers’ capacity building for Environmental Education decreases, their perception of interdisciplinary/multidisciplinary approach to the teaching of Environmental Education also decreases. Since the significant level or p value of the calculated r-value 0.000 is less than 0.05, it means that the calculated r-value is statistically significant at 0.05 significant

level and 1028 degrees of freedom. Therefore, there is a significant influence of teachers' capacity building for Environmental Education on their perception of interdisciplinary/multidisciplinary approach to the teaching of Environmental Education. This position is in line with Gautmen (2001) who observed that teachers who have broader vision delivers their lectures more effectively as compare to those who restricts their vision in a particular domain. This is in agreement with Harris (2001) that in-service training programme for teachers of post-graduate level tends to increase the qualities possessed by good teachers which positively affects the performance of teachers, indicating further, that training of teachers was positively associated with productivity in middle and high school subjects and revealing further that more experienced teacher appeared more effective in teaching elementary and middle school reading.

The finding is also in harmony with Samupwa (2008) who examined the effect of teachers training on the administrative work and teacher's behaviour in the classroom and reported that a significant change in behaviour of teachers in classroom and on the administrative work exist. Samupwa (2008) therefore concluded that in the modern world, in-service training plays a crucial and pivotal role in improvement of education. The finding is also congruent with Pintrich and Schunk (2002) declaration that only trained teachers and those exposed to green policy can set environmental education goals for teaching and can organize plans for reaching those goals.

Conclusion

Based on the findings of this research study, it was concluded that, there is a significant influence of teachers' capacity building on their perception of the interdisciplinary approach to the teaching of Environmental Education.

Recommendation

Based on the findings and conclusion of the study, the researchers recommended that; Government and Environmental stake holders such as the Ministries of Education and Environment and NGOs should organize frequent Environmental Education Capacity building for secondary school teachers. This will help to enhance their capacity building and increase their *perception* of the interdisciplinary approach to the teaching of environmental education as recommended by the UNEP.

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