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Note From the Editor-in-Chief

The outburst of information superhighway has sharpened the knowledge society, especially in the area of research, considering the critical role of research in the academic world. It has therefore become imperative for professionals in the academic world to adapt to the ICT bound environment with innovativeness in research, including the quality of research blue-print; its visibility and above all, the appropriateness of issues raised in addressing the problems in today's contemporary global society.

The International Journal of Vocational Education (IJOVED), an annual publication of the Department of Vocational Education publishes issue-based research in Technical and Vocational Education and Training (TVET) and general education. This edition is unique, its quality and content leave no one in doubt, and purposes to build in the minds of would-be readers across academic disciplines and organisations factual knowledge that would further develop the academic community. I strongly recommend this publication to academic libraries within and outside vocational education.

Assoc. Professor Isaac Okeme
Editor-in-Chief

Editor s Note

This edition of International Journal of Vocational Education (IJOVED), Volume 11, No. 1, November 2021 is unique, drawing contributions across institutions and across disciplines as well as across border. Of course, we are in an era where globalisation and digitalisation combine to ease research activities. Faculty members are therefore on advantage for collaborative research.

This Journal addresses concerns in Technical and Vocational Education and Training (TVET) and other related disciplines in line with the demands of the 21st Century, home-grown demands of Nigeria's economy, institutional goals and individual aspirations in an era of global competitiveness. It is pertinent to draw the attention of our esteemed authors that they take responsibility of all rules and considerations pertaining to publication of this magnitude. Creative Commons copyright licenses and tools apply, thereby creating a balance in the traditional 'all right reserved" that copyright law creates, which is why all authors completed and returned the Creative Common open access license form.

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Dr. E. E. Okon
Production Editor

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TEACHERS' GENDER AND THEIR PERCEPTION OF INTERDISCIPLINARY APPROACH TO THE TEACHING OF ENVIRONMENTAL EDUCATION IN THE SECONDARY SCHOOLS IN CROSS RIVER STATE, NIGERIA

Egbonyi, Etuki Eborty, Ph.D
Omoogun, Remi Modukpe, Ph.D

Professor Omoogun, Ajayi Clemency
Department of Environmental Education
University of Calabar, Calabar, Nigeria
etukieborty@gmail.com

Abstract

This study investigated the influence of teachers' gender on their perception of the interdisciplinary approach to the teaching of Environmental Education in the secondary schools in Cross River State, Nigeria. The survey research design was adopted for the study. A research question was raised which was transformed into a research hypothesis and was answered with data collected from 1030 respondents out of the population of 5,194 teachers across the three education zones of the state. Questionnaire on perception of the interdisciplinary approach to the teaching of Environmental Education (PIATTEE) was the instrument used for data collection. Data was analyzed using Independent t-test and the hypothesis was tested at the 0.05 level of significance. Finding of the study indicated that, there was a significant difference between the male teachers and the female teachers in terms of their perception of the interdisciplinary approach to the teaching of Environmental Education in the secondary schools. Based on this finding the study concluded that, female teachers have higher perception of the interdisciplinary approach to the teaching of Environmental Education than their male counterparts in Cross River State, Nigeria. Based on this finding, it was recommended that, inspectors of schools and other school monitoring groups should ensure that both male and female teachers include Environmental Education in their lesson plans to enhance the manifestation of the green curriculum in the secondary schools and the effective application of the interdisciplinary approach to the teaching of Environmental Education. Seminars and workshops should also be organized for secondary school teachers to equip them on the application of the interdisciplinary approach to the teaching of Environmental Education in the secondary schools.

Introduction

The interdisciplinary approach to the teaching of Environmental Education especially in the secondary schools involves the infusion of Environmental Education contents into the traditional teaching subjects in the secondary schools. The infusion is done in such a way that Environmental Education messages are to be delivered while teaching those traditional teaching subjects like, Biology, Agricultural science, Chemistry, Physics,

Mathematics, English Language, Economics, Government, Literature in English among others. The interdisciplinary approach as explained in the model of the interdisciplinary teacher cooperation, embodied the view of environmental education for sustainability, it's methods according to Huiying (2015) include integrating and holistic characters. In the interdisciplinary teacher approach, teachers' cooperation is important. The teachers guide the students to find and resolve environmental issues by cooperation of aesthetics, social, economic, political, historical and cultural disciplines. In a bid to achieve the objectives of the interdisciplinary approach, teachers' responsibility include: Incorporating Environmental Education objectives and strategies into existing subjects and programmes as appropriates; and developing students' values and skills through values clarification and analysis, group dynamics, and decision making and encouraging participation by involving students in first–hand experience (Anijah-Obi, 2001).

The guidance students receive from their teachers is a reciprocal of the teachers' perception. This implies the way teachers organized, identifies, and interprets information especially concerning Environmental Education, which may also depend on their gender because most secondary school students exhibits negative attitude towards participation in environmental related issues especially when handled by opposite sex. Many students often withdraw from certain environmental activities like excursion, field trips and environmental clubs in schools because of teachers' gender. These have reduced most environmental activities in schools. It is worrisome that, environmental clubs and field trips are no longer in the school systems. This is in harmony with Sandra Bem's Gender Schema theory which identifies that children absorb gender stereotypes by observing the behaviour of humans around them and then imitate the action of those they deem to be of their own gender.

Gender discrimination is so common placed especially among learners until one witness its grave consequences in polities, economy, household, social activities and even in the management of environmental resources. It has revealed some influence in Nigeria politics such that, Nigeria political class have started canvassing for thirty percent (30%) and more inclusion of women in political positions.

Nigeria government have also recognizes and created ministry of women affairs. It is also generally observed that social institutions and other organized institutional authorities trust organizational fund with women as treasurers and custodians of finances. The home is not an exception, in recognizing the influence of gender discrimination. When women roles are tempered with especially in the household, many houses experience disarray resulting to disharmony in homes.

However, the problem of gender stratification in the modern educational system does not seem visible. Females and males have equal opportunities for education. This is because the issue of gender equality in education is particularly underlined in the Universal Declaration of Human Rights, stating that, everyone has the right to education without distinction of any kind, such as race, social origin or sex, but the United Nations Educational Scientific and Cultural Organization UNESCO (2013) reported that gender based inequality in education around the world are mainly determined by “poverty, geographical isolation, minority status, disability, early marriage, pregnancy and gender

based violence". This report by UNESCO implies that gender inequalities exist but are determined by the factors listed above.

Again the issue of "hidden curriculum" comes to mind, according to Gender Schema theory that was introduced by Sandra Bem in 1981, Children learn about males and females roles from the culture in which they live. Those children adjust their behaviour to align with the gender norms of their culture from the earliest stages of social development. The theory identifies that children absorb gender stereotypes by observing the behaviours of humans around them and then imitate the actions of those they deem to be of their own gender.

Therefore, if children attain gender cues from environmental stimuli, it stands to reason that the early years of a child's education are some of the most formative for developing ideas about gender identity and can potentially be responsible for reinforcing harmful notions of display in the roles of males and females especially if male teachers of Environmental Education are having different perception from the females. Do the male teachers perceive the interdisciplinary approach of teaching Environmental Education differently from the females? Could that be why teachers and students no longer pay serious attention to Environmental Education issues in the secondary schools? Guledani (2011) observed that, on elementary and secondary educational levels the female pupils and students have better academic performance than the male and this tendency also continues at the higher education levels. According to Shingan and Sharma (2011) in many less developed countries, women are the ones who collect fuel, fodder and food from trees and other plants. In the case of agriculture therefore, women see forest resources as multi-functional and use them in various forms to meet basic family needs. Shingan and Sharma (2011) emphasized that most household energy in the less developed countries is still generated by burning wood and other biomass and that most of it is collected by women and young girls. They also stated that women collect and process many wood forest products such as fodder, fibre, nuts, vegetables and wild fruits and they uses forest products to make household items such as bowls, mats and baskets. Shingan and Sharma (2011) therefore concluded that women are active partners in environmental issues so women should participate in tackling environmental degradation. Nonso (2011) opined that, in this age of environmental awareness, sustainability and conservation, there is no better group of persons to be informed and used to manage the environment other than the women, stating further that, globally, mobilization of women groups is on the increase because women play a significant role in environmental awareness, education and protection which cannot be underestimated.

Concerning the way people perceive women with regard to environmental issues, Bellamy (1995) sated that most women know the medicinal properties of various plants, can identify trees that make good wood, recommend food crops that thrive well on particular soils and locate reliable water sources. Rodda (1991) reported about women participation in environmental issues and stated that, In Malaysia, women form 63 percent of the Labour force on rubber plantation, in Swaziland, women form 59 percent of the ploughing and in Idonesia (South-East Asia) women are actively involved in rice cultivation. Nonso (2011) also stated that women are at the core of environmental management, that women daily activities in farming, gathering of fuel wood and fetching of water have made them both protectors and rehabilitators of the environment. Nonso (2011) also opined that, in order to

achieve the objective of natural resource management, the government must take into consideration feminine values and perspectives and the need to empower women to sustainable livelihoods more so because the traditional knowledge of women in preserving the natural resources would be one sure means the government and international agencies can utilize in an effort to recover and conserve the vestiges of the disappearing natural resources. Salthouse (1995) conducted a study with adults from a wide range of ages to investigate the mechanism by which a slower processing speed contributes to adult age differences in short-term environmental learning. Part of the result shows that, the percentage participation for female was higher than that of the male, specifically in age group 18-39 female were 51.5, in age group 40-59 female were 60.0 while in age group 60-88 female were 51.0.

However, in a study on secondary school mathematics teachers perception of climate change: implication for curriculum development by Ogbonna and Kadurumba (2013), it was revealed that, there was a significant difference in the perception of male and female mathematics teachers on issues of climate change and that the result tilted more in favour of the male teachers beings more aware of the degree of variability in our ecosystem than the female teachers.

In relating gender and perception, Brunswik's probabilism theory of perception propounded by Egon Brunswik in 1956 and 1959, holds that two observers might differ in their interpretation of a situation even when each receives the very same situation array. According to Brunswik, you and your companion might weight the environmental information differently in making a best guess or probabilistic judgment. But, somehow, globally, mobilization of females for Environmental Education (EE) is on the increased due to their believed significant role on EE. Does this shows that female perception may differ from that of the males?

Although gender stratification in the modern educational system may not exist, going by the universal declaration of human right which emphasis that everyone has the right to education without distinction of any kind. But the way Environmental Education is been taught and perceived in the secondary schools in Cross River State leaves much to be desired.

This work therefore sought to find out whether there exists any difference between males and females in their perception of interdisciplinary approach to the teaching of Environmental Education in the secondary schools. The question answered was:

How do male and female teachers differ in their perception of interdisciplinary approach to the teaching of Environmental Education?

The null hypothesis raised therefore was:

There is no significant difference between male and female teachers in their perception of interdisciplinary approach to the teaching of Environmental Education in the secondary schools.

Research Methods

The survey research design was adopted in this study because it permits inference and generalization of findings to the whole population of study from a study of a representative

sample of the population. It also allows the researcher to collect data to describe the nature of a current existing condition.

The research area is Cross River State of Nigeria. Cross River State is one of the 36 states in the Federal Republic of Nigeria and it is found in the south-south geopolitical zone of the country. The state is found in the tropics, specifically the Equatorial forest. Cross River State shares boundary with Benue state of Nigeria in the North, Akwa Ibom state in the South, Ebonyi and Abia state in the West and the Republic of Cameron in the East. There are 18 Local Government Areas in Cross River State. These include; Abi, Akamkpa, Akpabuyo, Bakassi, Bekware, Biase, Boki, Calabar municipality,Calabar south, Etung,Ikom, Obudu, Obanliku, Obubra, Odukpani, Ogoja, Yakurr and Yala. Politicaly, the state is divided into three senatorial districts, the southern, central, and the northern senatorial districts. Whereas in the Education sector, these senatorial districts are described as Education zones such as, Calabar, Ikom, and Ogoja Education zones respectively. Cross River State lies within latitudes 7, 50 and 9, 28 East and Longitude 5, 32 and 4, 27 North with an area of 23,074 square kilometers. There are numerous primary and secondary schools across the state including collages of education, polytechnics and universities, such as the Cross River State University and the University of Calabar. The people of Cross River State are generally peaceful and unique with very rich cultures across the state.

The population of the study was the total number of teachers in Cross River State Public Secondary Schools numbering 5,194 as at 2021/2022 academic year. The proportionate stratified and the simple random sampling techniques were adopted, where 1,038 respondents was selected for the study. The population was divided into three strata, namely: Calabar Education Zone with 75 public secondary schools and 2062 teachers; Ikom Education Zone with 93 public secondary schools and 1,724 teachers; and the Ogoja Education Zone with 71 public secondary schools and 1,408 teachers. Thus, 20% of public secondary schools and 20% of teachers were selected from each education zone. In all a sample of 1038 was gotten for the study. This is shown in Table 1.

	Population		20%	
Strata	Sec.Schs	Teachers	Sec.Schs	Teachers
Calabar Education Zone	75	2062	15	412
Ikom Education Zone	93	1724	19	345
Ogoja Education Zone	71	1408	14	281
Total	239	5,194	48	1,038

Table 1: Distribution of Sample

The research instrument used for this study was structured questionnaire. The instrument was structured into two parts, A and B. Part A elicit responses on demographic information about the respondents. Part B seeks responses on perception of interdisciplinary approach to the teaching of Environmental Education. Here statements with respect to the variable were made and respondents were expected to respond to these statements following the scale of strongly agree, agree, disagree and strongly disagree. Scores of 4, 3, 2, and 1 were assign to SA, A, D, and SD for positive statements, while scores of 1, 2, 3, and 4 were assign to SA, A, D, and SD respectively for negative statements. While in part A, respondents gender was categorized into male and female and allotted scores of 1 and 2 respectively.

Results

The data generated was analyzed using Independent t-test analysis. In testing the hypothesis, scores of respondents on gender and their scores on perception of interdisciplinary approach to the teaching of Environmental Education were obtained and analyzed using mean and standard deviation to answer the only research question and the independent t-test and test the only null hypothesis. The result of the analysis is as presented in Tables 2 and 3.

How do male and female teachers differ in their perception of interdisciplinary approach to the teaching of Environmental Education?

Descriptive statistics (Mean and standard deviation) was used to answer this research question. Result is presented in Table 2.

Table 2: Descriptive (mean and standard deviation) of how male and female teachers deffer in their perception of interdisciplinary approach to the teaching of Environmental Education

Gender	N	Mean	Std. dev
Male	549	19.186	4.838
Female	481	20.574	5.460

Answer to the only research question shows that female teachers have a higher mean score of 20.574 (Std. dev = 5.460) than their male counterparts with a mean score of 19.186 (Std. dev. = 4.838).

Null hypothesis

There is no significant difference between male and female teachers in their perception of interdisciplinary approach to the teaching of Environmental Education in the secondary schools.

Table 3: Independent t-test analysis of the differences between male and female teachers in their perception of interdisciplinary approach to the teaching of Environmental Education in the secondary Schools

Gender	N	Mean	Std. dev	t	df	p-level
Male	549	19.186	4.838	4.326*	1028	.000
Female	481	20.574	5.460			

*P<.05

The calculated t value is 4.326 and it is statistically significant at .05 significant level and 1028 degree of freedom. That means female teachers have a significantly higher perception of the interdisciplinary approach to the teaching of environmental education. The null hypothesis that there is no significant difference between male and female teachers on their perception of interdisciplinary approach to the teaching of environmental education is therefore rejected.

Discussion of findings

The results in table 2 shows that female teachers have a higher mean score of 20.574 (Std. dev. =5.460) than the male teachers with a mean score of 19.186 (std. dev. = 4.838). The calculated t value is 4.326 and is statistically significant at 0.05 significance level and 1028 degree of freedom. This implies that female teachers have a significantly higher perception of the interdisciplinary approach to the teaching of Environmental Education.

The issue of gender equality in education as was particularly underlined in the Universal Declaration of Human Rights, states that, everyone has the right to education without distinction of any kind, such as race, social origin or sex but it is obvious that the right to education is different from the interest to learn which results to effective learning. Interest awakens awareness and attitude. Awareness and attitude are components of perception. The attitude teachers put forward is a factor of how much awareness or knowledge acquired and accepted. The finding that female teachers perception of interdisciplinary approach to the teaching of Environmental Education is higher is in line with Guledani (2011) who observed that, on elementary and secondary educational levels the female pupils and students have better academic performance than the male and this tendency according to Guledani (2011) also continues at the higher education levels. The findings is also in harmony with Jhingan & Sharma (2011) who asserted that, in many developing countries, women are the ones who collect fuel, fodder and food from trees and other plants. Jhingan & Sharma (2011) opined that in agriculture (which is part of environmental concern) women see forest resources as multifunctional and uses them in various forms to meet basic family needs. The emphasis by Jhingan & Sharma involve the fact that most household energy in developing countries is still being generated by burning wood and other biomass and that most of it are collected by women and young girls who perhaps have the expertise of selective exploitation of the wood. Jhingan and Sharma also stated that women collect and process many wood forest products such as fodder, fibre, nuts, vegetables and wild fruits and they uses forest products to make household items such as bowls, mats and baskets selectively.

Therefore, Jhingan and Sharma (2011) holds that women are active partners in environmental issues so women are involved in tacking environmental degradation. The interdisciplinary approach can correspondingly be more understood and applied by female teachers. The finding is also congruent with Nonso (2011) who opined that, in this age of environmental awareness, sustainability and conservation, there is no better group of persons to be informed and used to manage the environment other than the women. Nonso explained that globally, mobilization of women groups is on the increase because women play a significant role in environmental awareness, education and protection of the environment which cannot be underestimated. The finding is also in agreement with Rodda (1991) that women participation in environmental issues in Malaysia form 63 percent of the labour force on rubber plantation, that in Swaziland, women form 59 percent of the ploughing and in Indonesia (South-East Asia) female are actively involved in rice cultivation. The finding is also in line with Nonso (2011) conclusion that women are the core of environmental management, that women daily activities in farming, gathering of fuel wood and fetching of water have made them both protectors and rehabilitators of the environment and that in order to achieve the objective of natural resource management, which is why the interdisciplinary approach to the teaching of Environmental Education is necessary. Government and other environmental stake holders must take into consideration feminine values and perspectives and the need to empower women to sustain livelihoods.

Conclusion

Based on the finding of the study, it was concluded that, teachers perception of the interdisciplinary approach to the teaching of Environmental Education is influenced by their gender. Though female teachers have higher perception of the interdisciplinary approach to the teaching of Environmental Education, than the male teachers, the teachers still need more enlightenment and training on the application of the interdisciplinary approach to the teaching of Environmental Education in the secondary schools in Cross River State.

Recommendations

Based on this finding, it was recommended that, inspectors of schools and other school monitoring groups should ensure that both male and female teachers include Environmental Education in their lesson plans to enhance the manifestation of the green curriculum in the secondary schools and the effective application of the interdisciplinary approach to the teaching of Environmental Education. Seminars and workshops should also be organized for secondary school teachers to equip them on the application of the interdisciplinary approach to the teaching of Environmental Education in the secondary schools.

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