



Effectiveness of Adult Environmental Training Programme from the Perspective of Adult Facilitators and Learners in Enugu State, Nigeria

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

The aim of the study was to determine the effectiveness of adult environmental training programme from the perspective of adult facilitators and learners in Enugu State. The study was guided by 2 research questions and two null hypotheses. The design of the study was a descriptive survey research design. The sample consisted of 668 respondents made up of 213 facilitators and 455 adult learners in 395 state owned adult education centres in Enugu State. Multi-stage sampling technique was used in drawing the sample composition of the study. Influence of Environmental Awareness and Training of Adult Facilitators on the Implementation of Environmental Adult Education Programme Questionnaire (IEATAFIEAEPQ) was the main instrument used for data collection. The instrument was validated by research experts, two in Adult Education and one in measurement and evaluation. The instrument overall reliability coefficient was 0.78, which showed

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that it was highly reliable. The data collected through the instrument was used to respond to the from the 2 research questions that guided the study using mean and standard deviations, while t-test analysis was used to test the two null-hypotheses formulated for the study. The data analyses revealed among others that: Environmental awareness creation among adults and training of environmental adult education facilitators has effect on the implementation of environmental adult education programme. Conclusion was drawn and recommendations were given.

Keywords: Environmntal education; adult facilitators; awareness; training; adult education programm.

1. INTRODUCTION

The importance of the environment and need for its positive impact on a wide range of development indicators have been a global issue. Reasons being that the environment is a very important issue in sustainable development and community development generally. Hence, it is important that the environment be protected instead of being destroyed [1]. Environmental protection is an important element of community development/sustainable development [2]. However, fulfilling man's basic needs such as food, shelter and economic pursuit in order to improve his livelihood have led to unrestricted and unrestrained utilization of the natural resources within man's environment. Man has engaged in deforestation to harvest fuel wood/charcoal for cooking, furniture and building houses. Man's activities have also increased air pollution from industrial bye products, effluents from automobiles and cooking with firewood, burst pipes, coupled with frequent release of carbon monoxide (United Nations Environmental Programme (UNEP), [3]. Other activities of man such as illegal structures, unplanned urbanization etc, have led to soil erosion of some areas with severe impacts on lives, farmlands and communities.

In fact, it is glaring that man's environment is not only threatened, but severely endangered. Yet these adults are perceived and expected to be agents of community development. Community development is the economic, physical and social revitalization of communities led by the people who live in that community [4]. Similarly, Eze [5] regarded community development to mean an effort introduced by the people, geared towards achieving the solution of community problems, raising their standard of living as well as promoting social welfare, justice, community cohesion and human resources to the fullest extent. Therefore community development processes take into considerations adult's welfare, which includes their needs and that of their environment, as well as promoting its sustainability.

Adults are heads of families, leaders in their own various communities in the society. Adult are expected to understand the implications of their socio-economic activities and man's existence in relation to the environment. Any meaningful development, safety and happiness of man must involve all who contribute to the degradation and discretion of the environment through various socio-economic activities e.g. fishing, farming, poor disposal of refuse and sewage and others. In fact, such environmental issues have given great concern and various discussions at state, national and international levels. The global concern for the environmental degradation led to Stockholm conference in 1972 which centred on awareness creation on issues concerning pollution of the environment and population. Another environmental education conference was held by UNESCO and United Nations Environment Programme (UNEP) in environmental education was at the Belgrade workshop. This very important Belgrade Workshop on the environment suggested that all UN bodies should set up international programmes in environmental adult education programme.

The document emanating from the proceedings of the Belgrade chartered spelt out the objectives that would guide Environmental Adult Education (EAE) programme as follows; awareness, knowledge, skills, attitude and participation (United Nation Environmental Programme (UNEP), [3]. Environmental Adult Education (EAE) programme according to Roth [6] is referred to as actions aimed at developing a world population that is aware of and concerned about the total environment and its associated problems, and which has the knowledge, attitude, skills, motivation and commitment to work individually and collectively towards solution of current problems and prevention of new ones. Environmental adult education serve as a remedial tool to reduce, if possible stop man's activities which degenerate the environment. Environmental adult education has been introduced and implemented concerning different levels of adult education worldwide, Nigeria

inclusive. Nigerian government keyed into the outcome of the various National and International conferences on the environment in her policies and programmes, just to reverse the environmental threats. For example, 5th June every year is celebrated as World Environmental day all over the world. Nations and their citizens are reminded of their responsibilities to protect and enhance their well being and the environment for their happiness and comfortable existence. In spite of all these efforts, and major actions taken so far at various levels of government, there is still clear evidence that the environment is still facing a lot of threats. The effects of these environmental problems are being felt around the ecosystem.

A review of current environmental situation in Enugu state depicts that if urgent attention is not channeled to the environment by proper implementation of environmental adult education programme, future environmental problems and related consequences will be very difficult to address. It is therefore imperative that environmental adult education providers and facilitators be equipped with better training for the implementation of EAE. Environmental adult education programme can rekindle people's love for land and increase environmental consciousness among youths and adults, only if environmental awareness is created among adults and the environmental adult education facilitators are trained on the creation and use of appropriate resources and instructional materials. It is against this background that this study seeks to ascertain the effectiveness of adult environmental training programme from the perspective of adult facilitators and learners in Enugu State., Nigeria.

The aim of the study was to determine the effectiveness of adult environmental training programme from the perspective of adult facilitators and learners in Enugu State.. Specifically, the study sought to:

- Ascertain the extent to which the creation of environmental awareness among adults has effect on the implementation of environmental adult education programme in Enugu State.
- Find out the extent to which training of environmental adult education facilitators on the design and instructional materials has effect the implementation of environmental adult education programme in Enugu State.

The following well structured research questions guided the study

- What is the extent to which the creation of environmental awareness among adults has effect on the implementation of environmental adult education programme in Enugu State?
- What is the extent to which training of environmental adult education facilitators on the design and instructional materials has effect on the implementation of environmental adult education programme in Enugu state?

The study was guided by two research hypotheses which were tested at 0.05 level of significance.

Ho₁: There is no significant difference in the mean ratings of facilitators and learners on the extent to which creation of environmental awareness among adults has effect on the implementation of environmental adult education programme.

Ho₂: There is no significant difference in the mean ratings of facilitators and learners on the extent to which training of environmental adult education facilitators on the design and instructional materials has effect on the implementation of environmental adult education programme.

2. METHODS

Descriptive survey research design was adopted for this study. Nworgu [7] regarded descriptive survey design as studies that aim at collecting data on, and describing in systematic manner the characteristics, features or facts about a given population. This design was considered appropriate for this study, as it aims at collecting and describing in a systematic manner, data obtained from the respondents in order to determine the effectiveness of adult environmental training programme from the perspective of adult facilitators and learners in Enugu State, Nigeria.

The study was carried out in Enugu State. Enugu state is located in the South-East Geo-Political Zone of Nigeria with its capital territory situated in Enugu. It shares borders with Abia state and Imo State to the south, Ebonyi state to the east, Benue state to the North-east, Kogi State to the

North-west and Anambra state to the west. The people of the state are well renowned for hospitality and interest in education. The State is made up of six education zones, which are; Enugu education zone which comprises three local government areas; Agbani education zone with three local government areas; Awgu Education zone with three local government areas; Udi educational zone with two local government areas; Nsukka education zone with three local government areas and Obollo-Afor education zone with three local government areas respectively.

The population of the study comprised 8095 respondents (adult education facilitators and learners in government established adult education centres) in the six education zones of Enugu state. Available statistics at the time of this study showed that the population of facilitators in Enugu state is 738, while the population of adult learners is 7357, which gives a total of 8095 respondents in the 395 adult learning centres in Enugu State.

The study sample consisted of 668 respondents, comprising 213 facilitators and 455 adult learners in the 229 adult learning centres in the three education zones of Enugu state. Namely; Enugu, Nsukka and Obollo-Afor. Multi-stage sampling technique was adopted in carrying out the sampling.

The instrument for data collection was a researcher-designed questionnaire titled "Influence of Environmental Awareness and Training of Adult Facilitators on the Implementation of Environmental Adult Education Programme Questionnaire (IEATAFIEAEPQ)". The instrument consisted of sections "A" and "B". Section "A" elicited information on the demographic characteristics of the respondents, while Section "B" was arranged into two clusters. Cluster "A" elicited information on the extent to which creation of environmental awareness among adults has enhanced the implementation of environmental adult education programme and Cluster "B" elicited information on the extent to which training of environmental adult education facilitators on the creation and use of appropriate resources and instructional materials influenced the implementation of environmental adult education programme. The instrument was based on four-point rating scale of: Very High Extent (VHE) =4 points, High Extent (HE) =3 points, Low Extent (LE) =2 points, and Very Low Extent (VLE) =1 point.

For the purpose of determining the validity of the instrument prior to its administration to the target respondents, face validation was adopted. It was validated by three experts, two from the department of Adult Education & Extra-Mural Studies and one from Measurement and Evaluation unit of the Science Education department, both in the University of Nigeria, Nsukka.

The experts examined the items on the draft questionnaire in terms of clarity of the statements, relevance of the content and suitability of the rating scale adopted. The suggestions and inputs of these experts were incorporated in the final draft of the instrument. To determine the reliability of the instrument, a trial testing was done by administering it to 20 adult education facilitators and adult learners in Anambra State which was not in the study area. The choice of this location was because they possess similar characteristics with the target population in terms of educational qualification, value system and societal demand. The Cronbach's alpha method of reliability estimate was used to determine the internal consistency of the instrument. The reliability co-efficient obtained for cluster A –was 0.72, and for cluster B was 0.71, while the grand reliability coefficient for both clusters instrument was 0.73. This was an indication that the instrument was highly reliable.

The two research questions that guided the study were responded to using mean and standard deviation. while t-test statistics was used to test the hypothesis at 0.05 level of significance. The decision rule was therefore based on the 0.05 level of significance. Hence, if the calculated 2-tailed is greater than 0.05 the null hypothesis was upheld, while if less than 0.05, it was not upheld.

3. RESULTS

Research Question 1: What is the extent to which the creation of environmental awareness among adults has effect on the implementation of environmental adult education programme in Enugu state?

Table 1 reveals that both facilitators and adult learners agreed to a high extent that creation of environmental awareness among adult learners has effect on the implementation of environmental adult education programme in Enugu State. This means that environmental

awareness creation provides necessary information about environmental challenges and/or solutions to them; provides knowledge on sustainable environmental practices; promotes positive attitudes towards healthy/sustainable environmental practices and enlightens the people on environmental education among others enhance the implementation of environmental adult education programme.

Ho₁: There is no significant difference in the mean ratings of facilitators and adult learners on the extent to which creation of environmental awareness among adult learners has effect on the implementation of environmental adult education programme.

An independent-samples t-test was run to determine if there were differences in the development of environmental awareness between trainers and learners. The environmental awareness was more engaging to facilitators (M= 2.98, SD=0.36) than adult learners (M=2.94, SD=0.32), a statistically non-

significant difference, $t(df) = 1.381(666)$, $p = 0.168$.

Research Question 2: What is the extent to which training of environmental adult education facilitators on design and instructional materials has effect on the implementation of environmental adult education programme in Enugu state?

Table 3 shows that both facilitators and adult learners agreed to a high extent that training of environmental adult education facilitators on design and instructional materials has effect on the implementation of environmental adult education programme. This means that providing facilitators with continuous refresher courses on environmental education; training facilitators on the development of instruments for measuring learning outcome in environmental education; and training of facilitators on effective pre-assessment of adult learners need as regards to environmental demands enhance the implementation of environmental adult education programme.

Table 1. Mean and standard deviation responses showing the extent environmental awareness creation among adult learners has effect on the implementation of environmental adult education programme in Enugu state

S/N	Items relating to creating environmental awareness among adults	Facilitators (N=213)			Adult learners (N=455)		
		Mean	SD	Re	Mean	SD	Re
1.	Environmental awareness creation provides necessary information about environmental challenges and/or solutions to them.	3.20	0.65	HE	3.05	0.62	HE
2.	Awareness creation provides knowledge on sustainable environmental practices	3.49	0.83	HE	3.75	0.44	HE
3.	Awareness creation promotes positive attitudes towards healthy/sustainable environmental practices	2.93	0.86	HE	2.88	0.91	HE
4.	Awareness creation enlightens the people on environmental education	2.58	0.75	HE	2.53	0.65	HE
5.	Environmental awareness keeps me informed on the healthy ways for exploiting the natural resources in the community	2.88	0.79	HE	3.00	0.62	HE
6.	Environmental awareness keeps me informed on the right method for disposing waste materials in the community	2.94	1.07	HE	3.09	0.96	HE
7.	Environmental awareness creation promotes the active participation of the people in safe keeping/protecting their environment	2.61	0.93	HE	2.89	0.66	HE
8.	Environmental awareness creation fosters personal commitment, towards the exploitation of natural resources and preservation of natural habitats for sustainable living condition	3.23	0.64	HE	3.27	0.65	HE
Grand Mean		2.98		HE	3.06		HE

NB: SD= Standard Deviation; Re= Remark and HE= High Extent

Table 2. T-test of independent showing mean and standard deviation ratings of facilitators and adult learners on the extent to which creation of environmental awareness among adults has effect on the implementation of environmental adult education programme

	Grouping	N	Mean	Std. deviation	T	Df	Sig. (2-tailed)	Decision
Overall	Adult learner	455	2.94	0.32	1.381	666	0.168	NS
	Facilitator	213	2.98	0.36				

NB: NS= Not Significant; t= t-test calculated; df= Degree of Freedom; and N= Number of Respondents

Table 3. Mean and standard deviation responses showing the extent training of environmental adult education facilitators on design and instructional materials has effect on the implementation of environmental adult education programme

S/N	Items relating to training of environmental adult education facilitators on the creation and use of appropriate resources and instructional materials	Facilitators (N=45)			Adult learners (N=213)		
		Mean	SD	Re	Mean	SD	Re
9.	Providing facilitators with continuous refresher courses on environmental education.	3.08	1.02	HE	2.83	1.06	HE
10.	Training facilitators on the development of instruments for measuring learning outcome in environmental education.	3.35	0.91	HE	3.72	0.45	VHE
11.	Training of facilitators on effective pre-assessment of adult learners need as regards to environmental demands.	2.98	0.93	HE	2.56	1.00	HE
12.	Training of facilitators on the selection of appropriate environmental caring experiences.	2.90	0.96	HE	3.58	0.57	VHE
13.	Training of the facilitators on the philosophical foundation of adult education and environmental education.	3.48	0.79	HE	2.66	1.19	HE
14.	Training/retraining of the facilitators on the selection/combination of appropriate teaching methods for effective provision of environmental education.	2.74	0.94	HE	3.06	0.61	HE
15.	Training of the facilitators on content development in adult environmental education.	3.50	0.61	VHE	3.34	0.47	HE
16.	Training of the facilitators on the development of effective instructional materials for effective facilitation of environmental education.	2.67	1.17	HE	2.97	1.07	HE
17.	Training of the facilitators on the skillful combination of two or more instructional materials for effective facilitation of environmental education.	3.21	0.64	HE	2.75	1.26	HE
18.	Training of the facilitators on the effective communication and listening skills.	3.14	0.73	HE	3.84	0.37	HE
	Grand total	3.11		HE	3.13		HE

NB: SD= Standard Deviation; Re= Remark and HE= High Extent

Table 4. T-test of independent of facilitators and adult learners on the extent to which training of environmental adult education facilitators on design and instructional materials has effect on the implementation of environmental adult education programme

Respondents	N	Mean	Std. deviation	t	df	Sig. (2-tailed)	Decision
Adult learner	455	3.04	0.39	-1.706	666	.088	NS
Facilitator	213	2.98	0.36				

NB: NS= Not Significant; t= t-test calculated; df= Degree of Freedom and N= Number of Respondents

H_{02} : There will be no significant difference in the mean ratings of facilitators and adult learners on the extent to which training of environmental adult education facilitators on design and instructional materials has effect on the implementation of environmental adult education programme.

An independent-samples t-test was run to determine if there were differences in the development of environmental awareness between trainers and learners. The environmental awareness was more engaging to learners ($M= 3.04$, $SD=0.39$) than facilitators ($M=2.98$, $SD=0.36$), a statistically non-significant difference, $t(df) = -1.706 (666)$, $p = .088$.

4. DISCUSSION

The findings in Table 1 revealed that creation of environmental awareness among adults learners has effect on the implementation of environmental adult education programme in Enugu State. These finding is in line with Obasi and Oguche [8], who made it clear that for any educational programme to achieve its objectives, it require principally the creation of awareness among the target group. In support of this, Ezeanya [9] emphasized that one of the most frightening things in our world today is ignorance, not merely lack of knowledge, but ignorance that consist in not knowing that there are better things, better ways of doing things and a social responsibility to try to see and do these better things. More so, Kpoki [10] opined that the objective of using awareness creation in promoting the sustainable environmental practice is to promote broad public awareness as an essential part of global education to strengthen attitudes, values and actions which are compatible with sustainable environment. This is an indication that creation of environmental awareness among adults will go a long way in influencing the implementation of environmental adult education programme as the findings above have revealed. The above findings are in line with the present study which revealed that adequate environmental awareness influences the effective implementation of EAE programme.

The analysis on hypothesis one (H_{01}) Table 2 revealed that there were no significant differences in the mean ratings of facilitators and adult learners on the extent to which the creation of environmental awareness among adults has effect on the implementation of environmental

adult education programme. The finding agreed with Okon [11], who said that common information and understanding are important not only for mobilizing public support, but for carrying out work, consultative and participatory approaches in all fields.

The findings in Table 2 revealed that the respondents accepted that training of environmental adult education facilitators on the creation and use of appropriate resources and instructional materials to a high extent effect on the implementation of EAE programme in Enugu State. This finding is very glaring as the quality of the teacher is probably the most crucial factor in determining the quality of any learning process. Facilitators play important roles in most adult education programmes, including environmental adult education programme. This is because, the facilitator is in the best position to give guidance to the adult learners and regulate his or her behaviour [12].

Furthermore, the findings are in line with that of Ihejirika [13] which recommended that there is no substitute for trained personnel at the local level who can help diagnose the local problems and apply the proper resources when and where they are needed. This implies that EAE facilitators must be properly trained in diverse spheres of EAE programmes for effective result and outcome. Fasokun [14] buttressed this point by stating that training of instructors on how to investigate local problems and device local solutions are central to improving the quality of all education programmes, as adult learners are problem centred. Also Okoli and Onah [15] noted that it is at problem identification stage that those who have major part to play in any programme are consulted as non-consultation at this stage often result to imposition of such programme on such people. Hence to better carry out this task of effective implementation of EAE programme, adequate training of the environmental adult education facilitators cannot be overemphasized.

Furthermore, the result of the analysis of hypothesis two revealed that there were no significant differences in the mean ratings of facilitators and adult learners on the extent to which training of environmental adult education facilitators on design and instructional materials has effect on the implementation of environmental adult education programme. This is an indication that every environmental adult education facilitator needs adequate training in these areas if the goals of effective

implementation of EAE programme is to be attained. This finding is also in line with Igbo [16] findings that facilitators should be able to motivate, communicate effectively, understand the needs of adult learners and provide support to meet such needs to be able to facilitate effective learning in the adult education centres.

5. CONCLUSION

Based on the findings, the following conclusions were drawn:

1. Creation of environmental awareness among adults' learners has effect on the implementation of environmental adult education programme in Enugu state.
2. Training of environmental adult education facilitators on design and instructional materials has effect on the implementation of environmental adult education programme.

6. RECOMMENDATIONS

The following recommendations were made.

1. The State Agency for Mass Literacy Adult and Non Formal Education in collaboration with NMEC as well as the Nigerian National Council for Adult Education (NNCAE) should work together with UNEP and other environmental management bodies towards enhancing environmental adult education programme. They should organize regular refresher courses/continuous training programmes for the facilitators in various techniques for effective implementation of their teaching/learning processes.
2. There should be more emphasis on environmental education in schools to enable people be aware and get acquaintance with environmental/ecological issues that affect them.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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