Environmental Knowledge and Attitude as Catalysts to Promoting Environmental Practices among Senior Secondary Students in Ondo West Local Government Area, Nigeria

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Abstract

This study investigated the relationships between environmental knowledge, environmental attitudes and environmental practice. The survey was conducted involving three hundred (300) Students from ten (10) Senior Secondary Schools (both private and public). A self-constructed questionnaires on Environmental knowledge Test (EKT r=0.71), Environmental Attitude Scale (EAS r=0.78) and Environmental Practice Scale (EPSr=0.73) were used to elicit information from student. The data obtained were analyzed using SPSS Windows version 22.0 for Percentage, Mean, Standard Deviation, and Pearson Product Moment Correlation (PPMC). The findings showed that there was students' environmental knowledge (r=-.022) and environmental attitude positively and negatively correlated with environmental practice, respectively. It was recommended that Environmental Education should be introduced into school curriculum, while a progressive climb of Environmental Ladder Chart should be embraced by campaigning for environmental literacy.

Keywords: Environmental Education; Environmental knowledge, Attitudes, Practice

Introduction

Environment is seen as large space, naturally made which houses human, plant and animal interactions, relationships and interconnections. It involves physical and biological habitat that human beings live in, it can be seen, accessed, perceived and felt with endowed physical faculties. This can be physical and social as it involves all aggregate external mechanism predisposing life, growth and development. It's physical when it involves natural (Non-anthropogenic) and man-made (Anthropogenic) such as climate, relief, farmland, mineral, settlements, mountains, bridges, skyscrapers, dams etc while it's social environment when it involves social institutional arrangement such as family, peer mates etc. However, it is expedient to note that human being's quest to get more from the environment push them to inadvertently destroying the environment.

Environmental challenges have grown in leap and bound. It is growing in a geometric proportion as its impact is uncontrollable and inimical to human's health.

On many occasions, it might not be preventable. To mitigate the evil effect of human's activities on the environment, there is essential need for quality awareness, sound knowledge, positive attitude, great perception and good practices. According to Ogueri (2004), the planet is facing an unsustainable level as man-made miasmic gesture are denting and causing shortages in basic necessities. In the same vein, massive human population without corresponding efforts and resources in tending it ostracized their healthy sustainable living. In 2015, September precisely, the UN General Assembly launched Agenda 2030 which themed Sustainable Development. Out of the core theme, seventeen (17) sustainable development goalswere teased out which is based on involving all and sundry under the title "Leaving no one behind". It laid emphasis on holistic being and survival-ability. Sustainable Development Goals (SDGs)-one (No poverty), two (Zero hunger), three (Good health and well-being), six (Clean water and sanitation), seven (Affordable and clean energy), eleven (Sustainable cities and communities), twelve (Responsible consumption and production), thirteen (Climate action), fourteen (Life below water) and fifteen (Life on land) (UN, 2015).

Massive population in many third world countries is wreaking great havoc on the already scares resources. Increasing human population coupled with unprecedented technological growth has led to severe environmental stress on a global scale. Both and abiotic environmental components have been severely affected by well documented anthropogenic and non-anthropogenic in the intensive mechanized farming, fumigation (pesticides and insecticides), science and technology, generations of computers and waves among others have produced great returns in term of food, material resources, magnificent structures, internet facilities, and so many. So also, there have been detrimental effects such as in climate change, depletion of Ozone layer, radiations from internet, radio-active materials, extreme heat, anti-healthy produces due to harmful emissions, toxic chemicals disposal, large transport, global warming, water, air and land pollutions, eutrophication, overpopulation, biodiversity among others.

A major assessment of the global environment published in 2009, the UNEP Global Environment Outlook report (UNEP 2012), drew attention to two critical, recurring themes: The fact that the global human ecosystem is threatened by grave imbalances in productivity and in the distribution of goods and services- as evidence by the fact that a large proportion of the human population lives in poverty, and that a widening gap exists between those who benefit from economic and technological development and those who do not. The fact that accelerating changes are occurring at the global side, with rates of economic and social development outstripping progress in achieving internationally coordinated stewardship with the result that improvements in environmental protection due to new technologies are being "cancelled out" by the magnitude and pace of human population growth and economic development.

Table 1: Some Harmful Effects of Environmental Degradations

Non-Anthropogenic (Natural)		**Anthropogenic (Man-made)**
Physical	**Biological**	**Physical**
Snow and Ice	Poisonous Animal bites	Material depletion
Floods	Infestations in Plants and Animal	Loss of wetlands
Droughts	Fungal Diseases	Loss of land species and genetic stocks
Heat waves	Poisonous Weeds and Plants	Built up of Greenhouse gases (Global warming)
Fog, Frost, Hail	Bacterial or Viral disease	Sutomobile and the whole traffic infrastructure
Volcanic Eruptions		Energy Intensive Agricultural system
Forest Fires		Enormous population pressure
Avalanche and Land Slides		Ozone layer depletion
Hurricane, Cyclones		Deforestation and loss of biodiversity
		Rapid increasing desertification
		Oceanic despoliation and (Loss of species)
		Enormous population pressure
		Over-use of pesticides and (and species loss)

Source: World Health Organization's Information Series on School Health Document 2, 2000; Whinstone (2001)

Succinctly, the climatic condition has changed, there is increase in global warming and ecosystems are failing (Whiston, (2001). Many of these environmental hazards are caused by human beings non-challant attitude or simply put, non-environmentally responsible behaviour. The Inter-governmental panel of climate change (IPCC) asserts that knowledge is the core factor to sustainable advantage. A leap in economic growth of this country has negatively impacted on its environment. For instance, Ogoni clean up 2017-2018 was part of effort to make the area habitable for the South-south people. Also, unending terrorism in North-eastern states has also caused both environmental degradation and economic downturn in the area and its implication is still being felt everywhere in Nigeria. As a result of these, there is need for vital information as regards coastal, soil erosion, air, water, land pollution, deforestation and waste management (WWF, 2014). Thus, taking the learning route to quality and sustainable environment is not negotiable.

By and large, it has been discovered largely that many of these environmental problems on the planet earth are rising based on ignorance- lack of environmental knowledge, attitude and sound practices. The need for re-routine of daily activities is timely and needed, but when human beings continue to live a non-challant and harmful towards the future, apparently, there may not be future. The need for creating an awareness, testing the environment knowledge of individuals (especially students, group and the society) at large, surveying their environmental attitudes, observing their environmental behaviour and invariably juxtaposing these information so to unravel the extent to which people are aware of environmental issues and problem and how to contribute to a more environmentally conscious and friendly place to live in.

Knowledge most times serves as leverage for sound environmental practice, but not a force. Because an unaware of a particular thing, either due to ignorance, lack of education or belief system that they do not exist may trigger non-challant attitude as touching environmental issues and problem will becoming burgeoning by the day. It revolves around Environmental concepts mapping and understanding which are likely to propel one making crucial decision that may have positive and lasting effects on the environment. Critical judgement can be

achieved in respect of the practices put on towards the environment. Further, experiences and reflection in the environment is a veritable vehicle which allows the refine of environmentally focused skills, relevant knowledge, and development of appropriate attitudes and environmental awareness Environmental knowledge is the acquisition of idea and experience on environmental problems, conservation of resources, and how to solve the social ills and problems created by human in the course of satisfying his needs through the exploration and exploitation of the environment (Mansarray and Ajiboye, 1997).

Bartosh (2003) defines environmental education as a process aimed to produce citizenry that are intelligent and knowledgeable on biophysical environment and its problems are fully aware on how solve challenges and motivated to work their solution. He asserts that fundamental knowledge about the interactions of human and the environment, basic as well as having full understanding of the objective of sustainability in terms of global phenomenon and the way of solving them through simple daily practices. Environmental knowledge of paramount importance and needed for youths' development so that they can have well-established habits. Students hold the future in their hands and the better educated they are about the effects of fragile bio-systems, the better they will be to make environmental decisions as adults and protect the world around them.

Environment Attitude is a way of thinking about somebody or something or behaving towards somebody or something. It can be viewed as a positive or negative assessment ideas, behaviour, activities, events and human being or just about anything in your environment (Zimbardo and Lieppe1999). It is fundamentally important, widely discussed, frequently measured and poorly understood (Herberlein, 1972). The variation in people's attitude depends on many factors such as influence of altruism, culture, environmental self-efficacy, locus of control, self-concept, age, gender, level of education (awareness, knowledge, concerns and affective behaviour) and town planning layout of an area (Bartosh 2003).Eilam and Trop (2012) encapsulate it as a continuous emotional, cognitive belief, and motivations with respect to some aspect of our environment. It is also an enduring studied response which could be favourable or

unfavourable to one with respect to a given object. It is seen as diligent perusing of oneself, object, issues and events, thereby forming a predisposition. It is a person's overall evaluation of persons (including oneself), objects, and issues. Bell and Rusell (2002) viewed environmental Attitudes as people's favourable or unfavourable feeling toward some features of the physical environment, or toward an issue which pertains to the physical environment. Schultz, Shriver, Tabanico and khazian (2004) define environmental attitude as the collection of beliefs, affect and behavioural intentions, a person holds regarding an environmentally related activities or issues. Attitude has often been described as having an affective component and a cognitive component. Disinger and Tomsen (1995) perceive attitude as being closely related to the term "worldview".

In the same vein, Schatzki (2001) defined practices as an embodied, materially mediated arrays of human activities centrally organised around shared practical understanding. Realizing the needs to address these environmental issues, Nigeria embraces the sustainable development concept with the aim of promoting balanced development and preserving the environment and the ecology for the future. Nigerian's proactive effort in promoting quality environment is evident in environmental awareness programmes that are carried out at all levels including youth (UN, 2014). This is also seen in some concepts included in the education system. The goal is to equip students with the importance of promoting quality environment and sustaining natural resources for future use. However, with continuous efforts to promote quality environment, students' engagement is found to be below expectation (Ajitoni, 2005). This could be due to the approach at which such information is being passed across.

According to the National Population Commission of Nigeria (web) and National Bureau of Statistics (web), Ondo West Local Government Area consist the districts and villages of Enuowa, Obolalu, Ajagba Alafia, Gbaghengha, Gbongbo, Ifore and others, with its headquarters in Ondo town. The local government council is in charge of public administration of the area. People living within the local government are predominantly farmers and marketers of both cash and food crops. In Nigeria today, waste management is one of the demanding environmental challenges facing rural, peri-

urban, urban area in the society. Despite various policies and programmes, waste management in the local government is very challenging. Recently, the Permanent Secretary of the Waste Management Authority, Mrs Bola Akinyanmi laid emphasis on "clean and hygienic environment" when she led Environmental Officers on an enforcement tour around the state. She remarked that "it is very important for healthy living hence the huge worry generated as a result of environmental pollution due to human activities and negligence towards their environment will be contained"

In his effort to curb environmental issues and challenges, the state government launched a ZL Global codenamed Operation flush. This body is saddled with the responsibility of "carrying out waste management operations in the state. Also it has put in place tasks and responsibilities to effectively focus on all relevant clients, and employees on appropriate handling, evacuation, collection, transportation, recovery, disposal, monitoring and reporting of waste in Ondo state". The programme is massive one with core objectives of orientating Ondo people on the need to be environment-conscious. Operation Flush programme see to all activities revolving around environment challenges in Ondo state. The programmes tours local government by local government, evacuates all dumps in whichever site- inside the community, river banks, canals, sewages, water channels etc (Ondo State Ministry of Education, 2012). This initiative caters for waste containerization, general sanitation and hygiene within the operational environment to curb various disease outbreaks. On the part of the local government, there has been series of radio jingles, advertorials, market campaigns and other environment education.

Statement of Problem

A well-educated populace is the best insurance for the preservation of our environment. Throughout the years, environmental degradation has been recognized as a major threat to human socio-economic and cultural survival. The high prevalence of communicable, on communicable diseases, environmental hazards, pollutions, diseases and other negative occurrences have propelled researchers to examine if students are fully equipped with the knowledge of the environment. Various studies have been carried out and have discovered that students

are indeed educated on quality environmental activities but many of them have shown less concern for the ecological balance of nature. Therefore, the study investigated students 'environmental knowledge and attitude as correlates of environmental practice in Ondo West Local Government Area of Ondo State, Nigeria.

Hypotheses

The following two null hypotheses were tested at.05 level of significance.

HO_1: There is no significant relationship between Environmental Knowledge of Senior Secondary School Students and their Environmental Practices in Ondo West Local Government Area of Ondo State.

HO_2: There is no significant relationship between Environmental Attitudes of Senior Secondary School Students and their Environmental Practice in Ondo West Local Government Area of Ondo State.

Empirical Literature Review

Moscoso (2001)remarked that knowledge seems to have a strong positive relationship with attitudes towards environmental protection and conservation. Furthermore, people who have knowledge of environmental issues are more likely to engage in environmentally acceptable behaviour (ERB) than those who do not possess his knowledge. Finally, without a thorough understanding of human and the Environment, the biological, ecological, social and economic changes on earth cannot be controlled. A report on Environmental Influence showed that the students' environmental knowledge is likely to increase parents' knowledge, understanding and to some extent translating it into practices (Grodzinska et al, 2003). According to the parent reports, the majority of students (70%) had discussed the programme with their parents and just over one third of them (34%) had made suggestion to their parents on best means to promote and protect their waste management practices at home.

In a study carried out by Oyerinde and Ajitoni (2012) on promoting environmental knowledge and attitude of students through intergenerational educational strategy of role play, it was discovered that there is no significant difference in students' environmental knowledge and attitude based on parental education background. This simply because that the level of parents academic pursuit does not translates to their

wards exposure to knowledge about the environment and reputable attitude. Leeming, Dwyer, Porter and Cobern (1993) conducted a critical review of thirty four (34) environmental education studies published from 1974 to 1993. The majority of the studies reviewed focused on changes in attitude, knowledge, or both. Only five (5) of the thirty four (34) studies measured changes in behaviour. The authors expressed regret in that, "it is ultimately behavioural change that is required to preserve environmental quality". Another conclusion of this review was that none of the studies addressed environmental education strategies for getting children to encourage others (e.g., their parents) to change environmentally relevant behaviour.

Rovira (2000) presented an evaluation of students and parents, who concluded that transmission of environmental consciousness to families through students, might be doubtful since environmental consciousness is influenced by social factors such as social position, age, and level of education. The National Environmental Education and Training Foundation (NEETF) conducted its seventh year study in 1998 that investigated environmental knowledge, attitudes, and behavior among adult Americans. The overall "report card" was not good. There was a widespread and persistent nature of misinformation among most demographic subgroups. Many who said they knew about the environment were erroneous about the facts. However, on the positive side, Americans were concerned about the environment and wanted the government to actively take actions to protect it (NEETF, 1998).

Methodology

The study adopted the descriptive survey research design of the correlational-type. The target population for this study refers to the total number of Senior Secondary Schools in Ondo West Local Government Area of Ondo State in both public and private schools. OWLGA has a density population of 389,900 people with thirteen 13 wards in 979km^{2}area square meter (NBS, 2016).There are thirty two (32) government secondary schools and private school which are sparsely situated within the wards. Information used for this study were collected from students intern (10) secondary schools (five (5) private and five (5) public). This was done through the classification of all the 13 wards into two (2) strata and five (5) secondary schools were picked at random, making total of (10)

secondary schools within the local government. A number of thirty (30) students were selected in each school given a total of three hundred (300) students. The students were from Senior Secondary School section (S.S.S 1-2).

Results and Discussions

Testing the Null Hypotheses

HO$_1$: There is no significant relationship between Environmental Knowledge of Senior Secondary School Students and their Environmental Practices in Ondo West Local Government Area of Ondo State.

Table 1: Analysis of Correlation between Environmental Knowledge of Senior Secondary School Students and their Environmental Practices in Ondo West Local Government Area of Ondo state

Variables	N	Mean	Standard Dev.	R	P	Remark
Environmental Knowledge	300	31.25	6.537	-.022	.705	Sig. (p>.05)
Environmental Practice	300	39.11	6.760			

Table 1 shows that there is no significant relationship between Environmental Knowledge and Environmental practices of Senior Secondary School Students (r= -.029; n=300; p>.05). That is, it is statistically not significant. Since P value is greater than 0.05 level of significance, $H0_1$ is hereby accepted, there is no significant relationship between students' environmental Knowledge and Environmental practices. The negative significant relationship implies that the higher environmental knowledge acquired does not really translate to students' involvement in environmental practices. The finding agrees with Ebong (1994), on the Knowledge of environmental health which was assessed in a sample of 192 students at Ja'afaru Secondary School, Zaria, Nigeria, by means of a questionnaire. The findings indicated that the students' knowledge of environmental hygiene was high for all classes and they are likely (not assertive) to translates this to environmental practice.

HO$_2$: There is no significant relationship between Environmental Attitudes of Senior Secondary School Students and their Environmental Practice in Ondo West Local Government Area of Ondo State.

Table 2: Analysis of Correlation between Environmental Attitude of Senior Secondary School Students and their Environmental Practices in Ondo West Local Government Area of Ondo state

Variables	N	Mean	Standard Dev.	R	P	Remark
Environmental Attitude	300	32.74	5.993	.382**	.001	Sig. (p<.05)
Environmental Practice	300	39.11	6.760			

****. Correlation is significant at the 0.01 level (2-tailed).**

From the Table, it can be concluded that there is a significant and moderate relationship between Environmental attitude and Environmental practices, r= .382; n= 300; p<.05). It is statistically significant. Since P-value is lesser than .05 level of significance, therefore $H0_2$ is hereby rejected, there is positive correlation between students' environmental Attitude and environmental practices. The positive correlation implies that the higher environmental attitude exhibits, the greater students' involvement activities. The finding agrees with Raudsepp (2001) reported that age, education and gender have shown strong and consistent relations with environmentalism. Chanda (1999) reported that environmental concerns among residents of Gaborone vary according to education and income levels, while age and gender do not seem to have any significant influence on variation in concern. Kellert (1985) found no gender difference in these two attitudes for U.S. children in the 2nd grade. Eagles and Muffitt (1990), in a study of Canadian students in 6th, 7th, and 8th grade, found no attitude differences between the sexes.

Conclusion

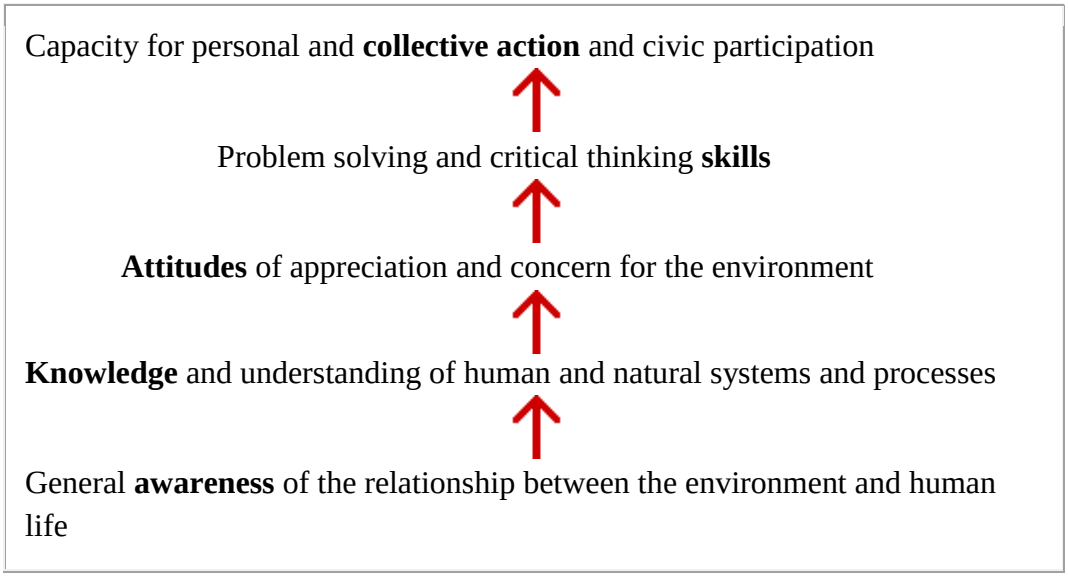
Environment is seen as large space, naturally made which houses human, plant and animal interactions, relationships and interconnections. It involves physical and biological habitat that human beings live in, it can be seen, accessed, perceived and felt with endowed physical faculties. To mitigate the evil effect of human's activities on the environment, there is essential need for quality awareness, sound knowledge, positive attitude, great perception and good practices. Sustainable development goals were teased out which is based on involving

all and sundry under the title "Leaving no one behind". It laid emphasis on holistic being and survival-ability. So also, there have been detrimental effects such as in climate change, depletion of Ozone layer, radiations from internet, radio-active materials, extreme heat, anti-healthy produces due to harmful emissions, toxic chemicals disposal, large transport, global warming, water, air and land pollutions, eutrophication, overpopulation, bio-diversity among others. Though the environment is provided for man, but for sustainability, the environment seems to warn man "care for us, to care for you".

Recommendations

The following recommendations were made;

1. Everyone must climb the Environmental literacy ladder. According to *Campaign for Environmental Literacy (2007*) professed that environmental education should flow in the direction below before an actual success can be recorded in the clamour for sustainable environment. It is a bottom-up approach which will widen the horizon of all and sundry especially the students.



2. There must be well-sound and funded Environmental education courses in schools and colleges, to raise the overall awareness of the environment to the public. This would go a long way to counteracting these problems. Such initiatives will pave way for pupils and students to learn basic natural resources and survival information from early age, to ensure that future generations

understands the value and importance of environmental quality such as pollution control, resource conservation and wildlife protection among other environmental ethics necessary for the attaining sustainable growth and development.

3. The advocacy on awareness should not be left in the hands of the government alone. It is also the responsibilities of Ondo West community members to raise the bar of campaign in environmental awareness campaigns, door-to-door talk, environment vanguards, social platforms, Think tank, monthly environmental sanitation exercise as being done. All of these are likely to increase the desirability and possibility of a greener and sustainable society.
4. Various institution of higher learning should play a pro-active role in improving the behaviour of students to care and practice in environmental conservation. This can easily be done by incorporating practically–oriented environmental education in the curriculum as General Studies (GS). The method of teaching and learning should be focused on conducting experiments as well as practical research (hands-on tasks) to solve environmental issues as well as have direct experience with environment and nature. The relationship between students and environment will directly increase the awareness and positively influence attitudes that will lead to good environment practices.
5. Stakeholders such as government agencies,non-governmental organizations and mass media should also play vital roles in improving students' practices towards the environment. Students must also change their way of life with more priority to environment and actively participate in nature society. Through this association, they can participate more actively in resolving environmental issues collectively.

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