

Innovations

Students Awareness of Environmental Education in Social Studies: A Strategy for Achieving the Sustainable Development Goals

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Abstract

This article examined Social Studies students' awareness of environmental education as a strategy for achieving the Sustainable Development Goals (SDGs) in Edo and Delta States. Five research questions were raised and answered. Survey Research Design was adopted for the research, and a sample size of 880 Basic 8 students from 36 upper basic schools in Edo and Delta states were drawn from a population of 48,095 Basic 8 students in Edo and Delta states. Multi-stage, purposive and random sampling techniques were used to sample the Local Government Areas, schools and respondents respectively. A well diligently structured and validated questionnaire was the instrument for data collection. It was titled "Social Studies Students Awareness on Environmental Education Questionnaire" (SSSAEEQ). The reliability of instrument was established with Cronbach-alpha reliability technique, with a reliability coefficient index of 0.78. Instrument was administered by the researchers and Social Studies teachers in the schools used for the study. After data collection, descriptive statistics of mean was used in answering research questions. Finding revealed that students' awareness of environmental education can be used as a strategy for achieving "no poverty"; "good health and wellbeing"; "zero hunger" and "climate action" of the Sustainable Development Goals. Following these findings, recommendations were put forward that concepts in environmental education, should be inculcated through proper Social Studies pedagogy at the Basic School level, since Social Studies is a compulsory subject of study throughout the basic level of education in Nigeria.

Keywords: Students; Awareness; Environmental Education; Strategy; Achieving; Social Studies and Sustainable Development Goals.

Introduction

Education is a key factor in influencing the world around us, it can be delineated as a tool or method used to increase people's awareness of issues, with the goal of instilling a favorable behavioral pattern and mentality in them. There are different processes involved in educating people, so they can grow up and contribute to their community's well-being in positive ways (Zhou, 2020). Using education, we have the power to change the world and find solutions to its difficulties (Davis, 2020). Educating people about the environment, in the words of Norris (2016), "help to enlighten and give them deeper insight into their own nature. Hence environmental education can be a powerful tool for empowering young individuals in adopting more environmentally responsible attitudes and behaviors that can help in achieving the Sustainable Development Goals (SDGs).

The phrase "environment" refers to everything that surrounds an individual, i.e. atmosphere, water, land, vegetation, as well as sunlight and the life people live is affected by the state of the environment. The term "environment" can be used to describe all the things one comes into contact with in their journey from conception to death. Every aspect of human's life is included in the definition of environment. A growing number of people have not realized the importance of environmental education as human activities threaten the planet's long-term stability. UNESCO, (2021) forecasts 90% probability of human-caused climate change, according to their latest report. Furthermore, UNESCO submitted that if human behavior and attitudes towards the environment continue as they have in the past, the Sustainable Development Goals (SDGs) cannot be achieved.

Nigeria like other countries around the world today is facing major challenges in the achievement of the SDGs, and the problem has taken multifarious dimensions. This is because the challenge of achieving the SDGs has a link to environmental conditions such as environmental degradation, ecosystem depletion, pollution, extinction of aquatic and biological components of the environment and so much more. Secondly, it has a direct root in the way people abuse environmental systems and resources such as water, air, and land leading to changes in the environment (Agbor, 2016). Dipeolu (2015) submitted that the major drivers of these environmental problems are high consumption rate, high population growth rate, industrial waste, lack of environment education, poor habits and attitude towards the environment and a non-existent frame work for environmental education in school curricular. Definitely, these challenges have become a stumbling block to the achievement of the Sustainable Development Goals (SDGs) 2030.

Environmental education relates to the recognition by people of environmental issues and values and the implications they have in relation to economic issues, social issues, standards of living and the SDGs. It is best produced and developed by personal exploration and discovery of people's surroundings. According to Olawuyi, (2020), environmental education and participation is vital to the objectives of achieving the Sustainable Development Goals (SDGs) for a sustainable future. Social involvement in this course of action can only happen when the people are aware of the importance of maintaining a healthy and sustainable environment. Environmental education of people can be shaped by educational, values, economic, social, professional, religious, ethnic, and cultural factors. The concept of environmental education must be well understood before an awareness campaign can be planned (United Nations, 2015).

Arnhold and Bassett, (2020) posited that the erosion of landscapes, ecological imbalance, and decline in agricultural output are all clearly seen in Nigeria as a result of human impact on the environment. Man has always altered natural systems in the process of carrying out his daily activities and the quest for superior technologies, the intensity of man's inference with the natural environment is high. Bamigboye, Olawuyi, and Bamigboye, (2018) indicated that 85 percent of fishery resources in 2018 were completely, grossly misused and exhausted. Rising sea levels, biochemical loss, extensive environmental damage and degradation of environments are all results of continued land and marine-based degradation of our ocean waters.

Environmental abuse has a wide range of consequences, ranging from sea level rise and flooding to the loss of biodiversity due to environmental abuse, droughts in certain locations, and an increase in illnesses and

fatalities as a result of these consequences. Meanwhile, the effects of environmental abuse may be occurring faster than expected (Babalola and Olawuyi, 2021). In Nigeria, the biggest flood in decades killed over 600 people, displaced more than 3.2 million and thirty four out of the thirty six states of the country were affected. Crops destroyed and deadly animals such as crocodiles and hippopotamus swam into houses (Reliefweb, 2022). Storm surge in Malaysia that left huge numbers of individuals homeless. Also, there have been a number of climate change-related disasters in East Africa, the Sahel region of West Africa, and the United States in current history, including the worst rainfall in the United States in 60 years in July 2012, (Zhou, 2020). These environmental disasters have been linked to the way man treats the natural environment, therefore they portend danger to the actualization of the SDGs.

According to Akinrinmade, (2021), water pollution extraction in Africa is likely to increase while notable percent of mangroves will be destroyed or transformed in the next few decades, with 20 percent degradation. Although many people profit from socioeconomic and scientific improvement, they also have an irreversible impact on society and the environment. This paradox is one of the primary contradictions of the 21st century (Nwoko, 2021). It is in this vein that Zhou, (2020) argued that man is putting the Earth at risk by his behavior towards the environment as he scrambles for food, energy, political, and ecological security, all of which offer significant challenges to Sustainable Development Goals (SDGs).

Oil and Gas industry has increased the level pollution and soil deterioration across the country especially the oil producing states and this poses as a threat to the well and moisture territory in Niger Delta's residents, who see it as "living nightmare" (Onuegbu, 2015). Onuegbu further explained the source of tension in the fight for environmentalism as well as coordination mechanisms. In Nigeria, environmental degradation as well as life-threatening floods has become a recurring pattern in the mechanics of concern for the ecosystem, while floods has devastated more than three quarter of Nigeria's states in 2022. This proves that environmental difficulties are being exacerbated by a lack of awareness of the fundamental environmental realities of our existence. According to Iroye, (2017), future generations, particularly those living in developing countries like Nigeria, face an uncertain future as a result of these, all hands on deck should be used to reduce the risk of environmental collapse.

Norris, (2016) opined that environmental education is a necessity in order to preserve nature in every of its global biodiversity, adding that it is important to keep in mind that Sustainable Development Goals (SDGs) relies on the preservation, efficient as well as inclusive usage of the environment. In Nigeria's education sector, there has been much discussion on how to re-engineered environmental education issues as well as cultural diversity in order to better prepare students for careers in a global society that values uniqueness while also emphasizing the importance of environmental education in this regard (Ogbonna&Bissong, 2018). Achieving the Sustainable Development Goals (SDGs) 2030 in Nigeria requires more than just rethinking education plans or curricula. Ultimately, education must have implications for the core of the institutional culture, influencing the decisions, educational procedures and research actions of the education sector. Olawuyi (2020) opined that a handful of initiatives do exist in Nigeria's higher education institutions but these focus on single projects to address Sustainable Development Goals (SDGs), as opposed to taking a more systemic view of learning of environmental awareness education from the primary through secondary schools. Environmental education for sustainable development has been promoted by the United Nations to ensure that nations are able to achieve the SDGs, hence it is being embraced by researchers across universities in the world today (Castellanos & Dios, 2022). Therefore, designing environment awareness programmes to achieve Sustainable Development Goals (SDGs) such as, no poverty; zero hunger; good health and well-being; clean water and sanitation; affordable clean energy; decent work and economic growth; sustainable cities and communities; responsible consumption and production; climate action; and life on land could be a welcome development towards achieving the SDGs which this study is set out to investigate. Issues such as clean water and sanitation, affordable clean energy and responsible consumption and production amongst others in the Sustainable Development Goals (SDGs), can be effectively tackled by environmental education (Atubi, 2019). The need to raise environmental awareness through environmental

education in achieving the SDGs has become heightened because human society's dependence on the environment is undisputable. Man need plants to capture sunlight to provide food to achieve zero hunger; building materials and energy to achieve sustainable cities and communities; he need's breathable air to achieve good health and wellbeing. Man also need clean water and sanitation; environmental education for responsible consumption and production. These and other essential environmental resources expressed in the SDGs are essential to human life, and should be accessed with minimal or no human interruption. Man depends on intact natural environmental systems to provide these resources. Therefore, our environmental assets should be protected through an aggressive environmental education campaign using Social Studies as an avenue. What humans need now are healthy environmental awareness and attitudes towards the achievement of the SDGs to promote environment sustainability and conservation. The goal of this study is to minimize the negative effects of man's interference in the environment for achievement of the SDGs using environmental education. Humans are the managers of the environment, therefore, educating them on changing their behavior and attitude towards it will be very important for the SDGs. Therefore, this study is an attempt to examine how Social Studies Students' Awareness of Environmental education can be used as a strategy for achieving the Sustainable Development Goals.

Research Methodology

Survey Research Design was adopted, a sample size of 880 Basic 8 students from 36 upper basic schools in Edo and Delta states were drawn from a population of 48.095 Basic 8 students in Edo and Delta states. Multi-stage, purposive and random sampling techniques were used to sample the Local Government Areas, schools and respondents respectively. A well diligently structured and validated questionnaire was the instrument for data collection. It was titled "Social Studies Students Awareness on Environmental Education Questionnaire" (SSSAEEQ). The reliability of the instrument was established with Cronbach-alpha reliability technique, a reliability coefficient index of 0.78. The instrument was administered by the researchers and Social Studies teachers in the schools used for the study. After data collection ,descriptive statistics of mean was used for answering research questions.

Presentation of Results

Research Question 1: What is the mean score on Social Studies student's awareness of environmental education and "no poverty" of the Sustainable Development Goals (SDGs)?

Table1: Mean score on students awareness on environmental education and "no poverty"

S/N	Items	SA	A	D	SD	\bar{x}	Decision
1.	Environmental education can promote creation of wealth boosting agricultural productivity to achieve no poverty of the SDGs.	594	242	44	0	3.63	Agreed
2.	Environmental awareness will help actualize SDG "no poverty" through healthy living.	330	462	88	0	3.28	Agreed
3.	Environmental education awareness will aid agricultural growth and generate wealth.	374	462	44	0	3.38	Agreed
4.	Environmental awareness will boost productivity through protection of the environment.	528	330	22	0	3.58	Agreed
5.	Environmental awareness promotes maximum use of natural resources to curb poverty.	264	572	22	22	3.23	Agreed
	Aggregate mean					3.42	

Criterion mean

2.50

Data presented in table 1 revealed that the aggregate mean of 3.42 is higher than the criterion mean of 2.50, which implies that all of the items scored a mean above 2.50 showing that they were accepted as agreed. This signified that social studies student's awareness of environmental education can be a strategy for achieving "no poverty" of the Sustainable Development Goals (SDGs). By implication, a good knowledge of environmental education boost maximum usage of natural resources, productivity, healthy living and generation of wealth. All these will help in alleviating poverty and bring about sustainable development.

Research Question Three 2: What is the mean score on Social Studies student's awareness of environmental education and "good health and well-being" of the Sustainable Development Goals (SDGs)?

Table 2: Mean score on students awareness on environmental education and "good health and wellbeing"

S/N	Items	SA	A	D	SD	\bar{x}	Decision
1.	Environmental awareness minimizes the transmission of contagious ailments among the people thereby achieving the SDG	396	484	0	0	3.45	Agreed
2.	Environmental awareness can prevent air and water borne diseases	394	440	44	0	3.40	Agreed
3.	Good health and well- being is related to Environmental awareness	462	374	44	0	3.48	Agreed
4.	SDG "good health and well-being can be achieved through environmental education.	418	396	22	44	3.35	Agreed
5.	Environmental awareness make us to live in good health and well-being as stated in the SDGs.	396	482	22	0	3.43	Agreed
	Aggregate mean					3.43	
	Criterion mean					2.50	

Data presented in table 2, revealed that the aggregate mean of 3.43 is higher than the criterion mean of 2.50, which implies that all of the items scored a mean above 2.50 showing that they were accepted as agreed. This signified that the respondents will be able to relate their knowledge of environmental education to good health and "good health and well-being" of the Sustainable Development Goals (SDGs). This will be a welcome development as environmental education will help in minimizing the spread of diseases thereby increasing good health, wellbeing and longevity.

Research Question 3: What is the mean score on Social Studies student's awareness of environmental education and "zero hunger" of the Sustainable Development Goals (SDGs)?

Table: 4.14: Mean score on students' awareness of environmental education and "zero hunger" of the SDGs.

S/N	Items	SA	A	D	SD	\bar{x}	Decision
1.	Zero hunger is important for achieving SDGs 2030.	484	330	66	0	3.48	Agreed
2.	Zero hunger will depend on soils that have balanced nutrient	308	506	66	0	3.28	Agreed
3.	Zero hunger will depend on land that has not been polluted by man	286	528	66	0	3.25	Agreed
4.	Environmental awareness can help prevent hunger thru food security as in the SDGs.	440	440	0	0	3.50	Agreed
5.	Environmental education can lead to sustainable	418	468	0	0	3.25	Agreed

	agricultural as in the SDGs.						
	Aggregate mean					3.35	

Criterion mean

2.50

Data presented in table 3, revealed that the aggregate mean of 3.35 is higher than the criterion mean of 2.50, which implies that all of the items scored a mean above 2.50 showing that they were accepted as agreed. This signified that that social studies student’s awareness of environmental education can become a strategy for actualizing and “zero hunger” of the Sustainable Development Goals (SDGs). Polluted land and soils will lead to low agricultural output that will cause hunger, therefore proper education on how to manage land environment is key to achieving zero hunger agenda of the SDGs.

Research Question 4: What is the mean score on Social Studies student’s awareness of environmental education and “climate action” of the Sustainable Development Goals (SDGs)?

Table:4: Mean score on the environmental education and “climate action” of the SDGs.

S/N	Items	SA	A	D	SD	\bar{x}	Decision
1.	A life without environmental education will be chaotic for SDG “climate action”	374	418	88	0	3.33	Agreed
2.	Environment awareness should be used as urgent action to combat climate change as in the SDGs.	308	550	22	0	3.33	Agreed
3.	Climate action means sustainable use of our atmospheric resources	440	418	22	0	3.48	Agreed
4.	Effective care with the environment reduces climatic catastrophe	330	506	44	0	3.33	Agreed
5.	Climate action include stoppage of polluted fuel usage	440	396	44	0	3.45	Agreed
	Aggregate mean					3.38	

Criterion mean

2.50

Data presented in table 4, showed that the aggregate mean of 3.38 is higher than the criterion mean of 2.50, which implies that all of the items scored a mean above 2.50 showing that they were accepted as agreed. This mean that the respondents have a good opinion of the relationship between environmental education and “climate action” of the Sustainable Development Goals (SDGs). The result suggest that environmental education should be used as a means of combating climate change to avoid climatic catastrophe. Through teaching on the stoppage of polluting our atmospheric resource.

Research Question 5: What is the mean score on Social Studies student’s awareness of environmental education and life on land of the SDGs?

Table: 5: Mean score on the relationship between students’ awareness of environmental education and “life on land” of the SDGs.

S/N	Items	SA	A	D	SD	\bar{x}	Decision
1.	Environmental education will help achieve SDG “life on land” through educating people on how to treat land resources	396	462	22	0	3.43	Agreed
2.	Environmental education lead to changes in conduct and lifestyle on land such as illegal mining	286	506	88	0	3.23	Agreed
3.	A healthy environment promote a good life on land as in the SDGs.	440	418	22	0	3.45	Agreed
4.	Environmental pollution is a negative for life on land as in the SDGs.	418	308	154	0	3.30	Agreed

5.	Environmental education is concern about people's values and culture towards the land environment	374	462	22	22	3.35	Agreed
	Aggregate mean					3.35	
	Criterion mean					2.50	

Table 5, showed an aggregate mean of 3.35 is higher than the criterion mean of 2.50, which implies that all of the items scored a mean above 2.50 showing that they were accepted as agreed. This signified that the respondents opinion on social studies student's awareness of environmental education and "life on land" of the Sustainable Development Goals (SDGs). This result means that environmental education can bring about a positive change to peoples attitude and behavior in the way they relate with land environment, as a healthy, clean and good land environment will promote SDG.

Discussion of Results

The result from the study revealed that all the mean score on students' awareness on environmental education and the SDGs were higher than the criterion mean score of 2.5. This implies that environmental education can be a strategy that can be used to achieve about four Sustainable Goals (SDGs) which were studied. The SDGs examined in this study, are "no poverty"; "good health and well-being; "zero hunger" and "climate action". This findings signified that the respondents will be able to relate their knowledge of environmental education to the four SDGs in this study. As a good knowledge of environmental education will boost maximum usage of natural resources, productivity, healthy living and generation of wealth Furthermore, proper education on how to manage land environment is key to achieving zero hunger agenda of the SDGs. Finally, the findings revealed that environmental education can be used as a strategy in combatting climate change. The findings in this study are in line with similar studies that have been carried out in this area, such as United Nations, (2015); Dipeolu, (2015); Norris, (2016); Iroye (2017); Ogbona&Bisong, (2018); Atubi, (2019); Davis, (2020); Olawuyi, (2020) and Castellanos, et al, (2022). These studies demonstrated that quality environmental education should top the agenda for the Sustainable Development Goals. Not just that, for example, UN (2015) submitted that environmental education will end poverty, Olawuyi (2020) posited that it will promote the provision of clean water and food. While Norris (2016) said it will actualize the SDGs. Every other study in this regard discovered positive relationship of environmental education with the SDGs.

Conclusion

Based upon the major findings in this study, the study concluded that students awareness of environmental education is a major strategy to achieve "no poverty"; "good health and wellbeing"; "zero hunger" and "climate action" of the Sustainable Development Goals. This conclusion was reached because when students are well educated about the environment, it will help in the promotion of agricultural productivity of the environment thereby helping in agricultural growth, maximum utilization of natural resources and wealth creation. Environmental education is good because, environmental awareness can help in minimizing the transmission of contagious diseases, preventing air and water borne diseases and promoting good health. Similarly, environmental education can help fight zero hunger as it will depend on people's knowledge on how soil nutrient can be retained, prevention of land security, food security and sustainable agricultural patterns.

Recommendations

Since this study has established that environmental education can be a strategy for achieving the SDGs, it should be inculcated through proper Social Studies pedagogy at the Basic secondary school level. Environmental education can become a key tool for effective delivery of environmental awareness to different group of people in the society, especially the school age group. Environmental education topics on

the aspects of the SDGs should be designed in a sustainable way to assist the young and old groups through the acquisition of knowledge, skills, and attitudes that are necessary to solve vivid and local environmental problems. These recommendations can aid the actualization of the SDGs.

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