

The Role of Environmental Literacy in Curbing the Spread of Coronavirus Among Secondary School Students in Nigeria

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Abstract:

The study examined the role of environmental literacy in curbing the spread of Coronavirus among secondary school students in Nigeria. The novelty of Coronavirus infection makes it a plague that is sweeping across countries increasing frequency of zoonotic spill overs leading to human infections and transmission. Coronavirus is a respiratory virus known to cause illness such as high temperature, headache, breathing problem, common cold and severe acute respiratory syndrome. Environmental literacy is not just knowledge of environmental and ecological concepts but a combination of a set of abilities needed to put up workable behaviours, attitudes and concern for the environment. Hence, by including environmental knowledge, attitudes as well as behaviours related to environmental sustainability, environmental literacy allows exhibiting the right attitude towards tackling the spread of COVID-19. It has become obvious that environmental awareness and awakening of people's consciousness towards environment should be vigorously pursued especially in area of pandemic management which is severely affecting livelihood in Nigeria. Coughing into the elbows, washing hands with soap and water for 20seconds social distancing, wearing of masks and staying home when ill arouses the students more, rumours and misconceptions about the outbreak ran through their minds. It is the work of the social studies teacher to

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figure out how best to explain the facts and debunk the rumours plus the positive impact of environmental literacy to curb its spread.

Keywords: Environmental Literacy, Coronavirus, Students,

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Introduction

Since the pandemic started till date (30th December, 2020), globally about 82,187,911 people have contracted the virus, out of which 58.137,714 million recovered while 1,793,265 mortality were recorded (Worldometer, 2020). In Africa, 1,842,444 cases were recorded, and 24,464 mortality have occurred over time (WHO, African Regional office, 2020). In Nigeria, 84,811 cases were recorded, 71,357 discharges have been made while 1,264 deaths were documented for the virus (Nigeria Center for Disease Control, 2020), yet the figure is still counting, the world is not yet free from its grip and now the second wave of the pandemic is ravaging. It kept unsettling global activities relating to economic, educational among others., as nearly all countries of the world have shut their institutions as a way of restricting the spread of the pandemic (Azlan, 2020).

The unparalleled crisis caused by the new coronavirus (COVID-19) exposed persons across all groups all over the world to possible health hazards with the increase of the number of infected persons within a short period of time. Older people and children are highly susceptible to the fatal virus, likewise their caregivers who are also within the age range and those with underlying health conditions are potentially at risk of being exposed to this disease. Consequently, there have been lockdown in almost all countries in the bid to curb the spread of the COVID-19 disease (Thomas, 2020).

There is need for children and students to be informed about the mode of spread of COVID-19; hence, environmental literacy could go far to help students take precautions vital to reduce the spread of COVID-19. Environmental literacy, therefore, is not just knowledge of environmental and ecological concepts but a combination of a set of abilities needed to put up workable behaviours, attitudes and concern for the environment. Hence, by including environmental knowledge, attitudes as well as behaviours related to environmental sustainability, environmental literacy allows exhibiting the right attitude towards tackling the spread of COVID-19.

Conceptual Analysis of Coronavirus (COVID-19)

The novelty of Coronavirus infection makes it a plague that is sweeping across countries increasing frequency of zoonotic spill overs leading to human infections and transmission. Coronavirus also known as COVID-19 belongs to the same family of viruses responsible for severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome for which zoonotic and person-to-person transmission have been confirmed (WHO, 2020).

Coronavirus popularly known as Covid-19 was first reported in China, in Wuhan city in late December 2019. World Health Organization (WHO) and Chinese authorities worked hand in hand and the causative agent was established to be a new virus and was named Novel Corona Virus (2019-nCoV). China declared its first coronavirus related death of a 61-year-old man on 11th January (WHO, 2020). The pace of the infection spread across the globe was like wild fire (WHO, 2020).

Bhagavathula and Shehab (2020) submitted that COVID-19 is among the lethal infectious diseases to have appeared in recent history, like other pandemics, the mechanism of its emergence remains unidentified. Nevertheless, a large body of veterinary,, ecologic,



virologic and epidemiologic data established that the novel virus, SARS-Cov-2 evolved directly or indirectly from a Beta-Corona virus in the Sarbecovirus group (SARS like virus) group that naturally infects bats and pangolins in Asia and South –East Asia. Scientists have warned for decades that the Sarbeco viruses are poised to emerge again, pointed risk factors and argued for enhanced pandemic prevention and control efforts.

In the scientific brief of WHO in March, mode of transmission of COVID-19 were explained; respiratory infections can be transmitted through droplets of different sizes, when lesser than 5 micrometer, they are referred to as droplet nuclei, but when greater than 5 micrometer, they are referred to as respiratory droplets. Current evidence showed it can be transmitted through respiratory droplets and contacts (WHO 2020).

Coronavirus is a respiratory virus known to cause illness such as high temperature, headache, breathing problem, common cold and severe acute respiratory syndrome. Coronavirus can be spread from animal-to-human and human-to-human. The coronavirus is transmitted from person to person through faeco-oral, droplets and direct contact with an incubation period of 2-14 days (Baud, et al., 2020). So far, no treatment or vaccine has been recommended explicitly for coronavirus. Compliance with the preventive measure to control coronavirus is the most important critical intervention.

Having direct contact with infected person or indirect contact with objects like fomites, handkerchief among others, used by the infected person could also cause infection. On average it takes 5-6 days from when someone who is infected with the virus for symptoms to show. The virus is spread primarily through respiratory droplets and contacts with infected persons. People with underlying diseases like diabetes, chronic respiratory disease, cardiovascular conditions, and cancer will develop serious complications if they contract COVID-19. Till date, there is no cure for COVID-19 though there is ongoing clinical trials, for now prevention is the only available way to manage the virus (Azlan, 2020; Thomas, 2020; Baud, et al, 2020; Bhagavathula & Shehab, 2020).

Concept of Environmental Literacy

Environment refers to entire things which surround an organism, be it physical and non-physical space, biotic or abiotic variables. Environment, according to Eboh (2009), refers to a person's milieu and objects in there. Anikweze (2008) defined environment as the physical and non-physical space in which persons begin their lives, mature, grow, develop and eventually die.

Chinedu (2008) viewed literacy as the state of being aware and able to understand what is happening around one. Environmental literacy will help learners to acquire literacy and sensitivity to the total environment and her attending problems. It also will assist them to cultivate a positive attitude towards the surroundings. Understanding the basis of environmental literacy to facilitate environmental behaviour is advantageous, since a clear goal of environmental education is to change behaviour (Woodgate, 2016).

Hollweg (2011) proposed that environmental literacy should include awareness and understanding of environmental concepts; challenges, and facts; a set of cognitive and affective dispositions; and a set of cognitive skills and abilities; together with the appropriate



behavioural strategies to apply such knowledge and understanding in order to make sound and effective decisions in a range of environmental contexts.

The term environmental literacy means to be “well educated” about the environment. Environmental literacy involves human discourse about interrelationships with the environment. It is essentially the extent of our capacity to observe and interpret the relative functioning of environmental systems and to take appropriate action to maintain, restore or improve the health of those systems.

Environmental literacy gives a chance to understand the principles, aims and objectives of sustainable development and encourage personal action to achieve sustainable development. It also assists to identify possibilities for sustainable development. Environmental literacy will groom attitudes and practices that are in line with sustainable development. It will help the learners to comprehend matters relating to sustainable development such as the following:

- i. An understanding of ecological and economic principles;
- ii. Critical analysis of the relationship between ecological and economic principles which relate to sustainable development;
- iii. Promoting values and personal actions which are integral to the achievement of sustainable development;
- iv. Encouraging active participation in decision-making regarding sustainable development;
- v. Having the knowledge that economic, political, social and environmental forces are fundamental to sustainable development;
- vi. An understanding of the interdependence of life forms;
- vii. A commitment to protect and improve the environment;
- viii. An understanding of interdependence and interconnections of humans and the environment;
- ix. Cultivating environmentally friendly behaviour patterns; and
- x. Working for improvement of the quality of life and the environment.

The functionally literate individual will feel a sense of concern for the environment and will exhibit environmentally responsible behaviour based on the most current available knowledge and may participate in group actions.

Environmental Literacy as a Component of Social Studies

Environment is as old as man himself. It has existed prior the creation of the first man and woman on earth. The environment constitutes both God and man-made endowments. It is an undisputable fact that environment influences man and man also influences it. This implies that man needs a friendly atmosphere to carry out his cultural, social, economic and political activities. However, negative attitudes of man towards environment raise a lot of concern. It follows; therefore that man needs information as to shun activities that are capable of rendering the environment uncondusive and unproductive for the developmental processes of the society through both formal and informal procedures (McBride, 2011).

The importance of education in this crusade/process has been submitted by Ngada (2008) that “there is no doubt that the socio-economic and political development of any given society depends on the awareness of its citizens, which again is hinged on their level of



education". Thus, creation of awareness is therefore the basis of the concept of "Environmental Education" and the meeting point between this subject area and Social Studies as a curriculum package is that it helps man to be aware of his both physical and social environment.

The teaching of social studies powerfully and authentically begins with a deep knowledge and understanding of the subject and its unique goals. Social Studies programmes prepare students to identify, understand, and work to solve the challenges facing the diverse nation in an increasingly interdependent world. Education for citizenships should help students acquire and learn to use the skills, knowledge, and attitudes that will prepare them to be competent and responsible citizens throughout their lives. Competent and responsible citizens are informed and thoughtful people who participate in their communities', assignment and in their political, social and economic development and the also exhibit moral and civic virtues. Therefore, there is necessity for proper implementation of Social Studies programme in schools to instil citizenship, open mindedness and harmonious relationship between the learners and their physical environment in their prime age (Oluwagbohunmi, 2012).

Social Studies as a socializer of the societal network have a task to do in the crusade against environmental related problems. It provides the learners with the skills to identify environmental burdens, causes, effects and proffer solution.

Social Studies deals with man as he interacts with his socio-physical environment. Social Studies Education Curriculum is designed to enrich the students' understanding of societal problems and do something positive about it. That is why the curriculum of this subject area is interdisciplinary in nature- drawing its contents from diverse disciplines to give solution to various degrees of human problems through deep thinking approach. Thus, the central focus of Social Studies Education is "man and Environment" (McBride, 2011).

Some of the social practices such as dumping of refuses, cutting down of tree, artificial environmental pollution, and others can be preached against in social studies class. Social Studies and environmental education are multidisciplinary in nature whose purpose is geared towards the quality of life for mankind. Thus, the strong point behind any course of instruction in social studies is the grooming of efficient and effective citizens who are capable of using understanding from diverse disciplines in making positive decision about their milieu. Moreover, it is this "socio-civic" nature of this course of study that makes it plausible to be used as a tool per excellence to create awareness through a carefully planned course of instruction on environmental issue among the upcoming generation of the Nigerian society (McBride, 2011).

The Importance of Environmental Education in attaining Environmental Literacy

The roots of environmental education can be dated back to as early as the 18th century when Jean Jacques Rousseau stressed the significance of an education that focuses on the environment. Several decades later, Louis Agassiz, a Swiss born naturalist, emphasized Rousseau's philosophy as he encouraged students to "study nature, and not books" These two influential scholars aided in laying the basis for a concrete environmental education programme, known as Nature Study which took place in the late 19th century and early 20th century (Oruonye, 2011).



Environmental Education (EE) refers to organised efforts to teach how natural environments function and, particularly, how man can manage their behaviour and ecosystems in order to live sustainably. The term is often used to describe education within the school system, from primary to post-secondary. Environmental Education is defined as the link between nature and society by providing information on the effects that societal systems have on the living and non-living parts of ecosystem (Oruonye, 2011). Environmental Education is the link between students and their environment and how they affect it (Palmer, 2008). Environmental Education is one of the ways to achieve the sensible use, management and conservation of the environment (Palmer, 2008).

Therefore, Environmental Education means the educational process of dealing with man's relationship with his natural and manmade surrounding. It includes the relationship of population, resources allocation and depletion, conservation, transportation, technology, energy, pandemic management, pollution, energy, urban and rural planning to the total biosphere (Ogunyemi & Ifegbesan, 2017).

Kumler (2010) noted that Environmental Education focuses on making sure that students in their learning about their environment also imbibe right values and attitudes that will lead to desired behavioural changes and wise use of environmental resources. Consequently, Environmental Education is essential for developing a healthy, sustainable society.

The essential goal of Environmental Education is to produce environmentally literate citizens, who have the values, attitudes, skills, awareness, understanding, commitment, and responsible environmental behaviour to improve and maintain the quality of the environment. It nurtures the comprehension of environmental challenges to stimulate action that would lead to sound running of the available natural resources. It can be stated that Environmental Education is action oriented because it fosters cooperation among the learners through action. Kumar and Kumar (2007) maintained that Environmental Education must be continuous, pervade all subjects and learning areas at all grade levels, and must offer students experiences which are as concrete and direct as possible. It is the perfect mechanism to achieve environmental awareness among the learners.

In summary, Environmental Education is a process, which is holistic and involves the cognitive (knowledge); the affective (behavior, emotion) and psychomotor (skill) domains of human development in order to identify challenges, discover solutions and prevent new ones. It incorporates exploring and acquiring knowledge, skills, values and attitudes that may be used to recognise the interrelationship of the people and their environment, which can be natural or man-made. It also contributes to the development of environmentally literate individuals as Environmental Education can guide individuals and groups in making wise decisions in maintaining the quality of the environment and the quality of life.

The Role of Environmental Literacy in Curbing the Spread of Coronavirus

Man cannot be isolated from his environment, the personal protective equipment (PPE) used by health workers which are gloves, goggles, aprons, masks, protective gowns among others and the masses use of facemasks gives the environmentalist the task of proper disposal and handling. The health workers have been trained and retrained with focus to the infectious nature of the coronavirus but the masses may not have the wherewithal to



understand the medical terminologies if they are to join in the training. Our focus is the students; it has been observed that facemasks were dumped indiscriminately on the road thereby exposing the entire populace to infection especially if the user was a Coronavirus positive patient.

A good number of the waste collectors attached to schools too were without the N95 mask, though in this part of West Africa, they are very expensive. The government should be able to provide for their workers freely so as to protect them. Though no study in Nigeria has shown if coronavirus can affect animals like goats, the absence of running water in most schools pushed the school management to improvise with veronica buckets. Its saddening however that the receivers were seen been meddled with by thirsty goats, few students were observed to be drinking from the veronica buckets. It is the teachers' task to educate the students on relevance of environmental literacy to curb the spread of coronavirus.

Conclusion

It has become obvious that environmental awareness and awakening of people's consciousness towards environment should be vigorously pursued especially in area of pandemic management which is severely affecting livelihood in Nigeria. Coughing into the elbows, washing hands with soap and water for 20seconds social distancing, wearing of masks and staying home when ill arouses the students more, rumours and misconceptions about the outbreak ran through their minds. It is the work of the social studies teacher to figure out how best to explain the facts and debunk the rumours plus the positive impact of environmental literacy to curb its spread. The Guardian reported a US Biologist "to stop future pandemics, we need more respect for the natural world" (Weston, 2020).

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