

Science Education: A Vital Tool for Promoting National Security for Sustainable Development

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ABSTRACT

Science education enables learner to acquire certain skills and own the proper kind of values and attitudes vital for nonviolent coexistence and resolution of some security problems in the society. This paper discuss how science education can serve as a tool for promoting National security, it also highlight some of the factors that causes insecurity and how science education can help resolve some of the challenges of national security in Nigeria. The paper concludes that for sustainable and long lasting security, it is imperative to employ scientific approach such as developing new security paradigm and protocols in fighting violent conflicts and tackle insecurity in the country. The paper also point out the need to provide moral leadership that shun evil, corruption, vices, inequity, injustice and wickedness as this will compel the people to model the character of their leaders and vice versa. Democratic system in place must also begin to deliver the needed social goods so as to improve the standard of living of Nigerians and deliver many citizens from the state of abject poverty to which they have been subjected for a long while

INTRODUCTION

One of the cardinal obligation of any government is to secure lives and properties of its citizens. It also can be when one is insufficiently guarded or protected or unsafe.

In Nigeria, the phrase National security gain ascendancy, and grow to be a household parlance at the return of civil democracy in 1999, following the military withdrawal from governance at the country (Seji, 2020). Osakwe (2013) noted that the nation's economic growth and political stability is directly linked to adequate security it has.

Therefore security challenges in Nigeria which includes wanton destruction of lives and properties in different parts of the country by the menace of Boko Haram, Iswap, Bandits in the northern parts of the country and Eastern Security Network (ESN) in the southern part of the country amongst others, grossly affected food production in the North, while oil exploitation was adversely affected in the south as well (Omoroge 2012).

Nigeria as a nation is severely facing security challenges, these challenges threatens the corporate existence and stability of the country. Despite large sums of money budgeted yearly on security votes by the three tiers of government, the situation still remain unabated (Okenydo 2016). These security challenges facing Nigeria requires all and sundry to be more proactive on issues of National security so as to mitigate the dangerous situation ravaging the country (Seji, et al., 2020).

Education is very important to the development of any society. Ibn Khaldun (2005) in his book *Muqaddimah* noted that education is imperative for human development, according to Ibn Khaldun, science, and education were natural things that existed in humanity.

LITERATURE REVIEW

A properly secured environment inspires greater minds to create, and achieve greater things that ensures boom and nationwide developments (Ekeh., Okemiri., Uche-Nwachi., Ekeh 2021). Insecurity is the state of been not certain, not positive or doubtful of a situation (Ezeh and Akubueh 2007).

METHODOLOGY

This paper discusses how science education can serve as a tool for promoting National security, it also highlights some of the factors that cause insecurity and how science education can help resolve some of the challenges of national security in Nigeria. The paper concludes that for sustainable and long lasting security, it is imperative to employ a scientific approach such as developing new security paradigms and protocols in fighting violent conflicts and tackling insecurity in the country. The paper also points out the need to provide moral leadership that shuns evil, corruption, vices, inequality, injustice and wickedness as this will compel the people to model the character of their leaders and vice versa.

RESULTS AND DISCUSSION

Definition of Concept

Science Education

Education is simply to humanize human beings (Ajayi, 2011). Education empowers, emboldens, refines, civilize, enlighten, enriches, and give confidence to man. Most people see education merely as a formal activity and tend to ignore the basic concept of the education itself. Education is not only about teaching or increasing cognition. It's more about preparing a media for the learner's cognitions, it's an attitude. Having good attitude will provide a good medium for the cognition, learning behavior, learning autonomous, and critical thinking (Babalola 2013).

Science education is an indispensable instrument for human development. It has been recognized as the instrument per excellence for national building (Babalola 2013). Science education is amalgamation of science and education. Similarly, it's the education received through the process of science. Moreover, science education according to Aina (2013), can be seen as learning science by acquiring and development conceptual and theoretical knowledge through scientific inquiry and problem solving.

In a similarly view Okoye (2007), sees science education as the identification, development and uses of talents, process skills for social progress. Radda (2013) noted, some of the attitude of science to include curiosity, creativity, skepticism or critical mindedness, persistence, knowledge, ability and suspended judgment, aversion to superstition, humility and punctuality.

Inculcating scientific attitudes right from the basic education level serves as an interplay that can shape the attitude and the behavior of the populace to save our democracy from falling into comatose owing to conflict or unrest, kidnapping and insecurity in the country (Omoroje 2012). In Nigeria today, emphasis laid in place in teaching science education in the 21st century is to catapult Nigeria to join the league of the foremost twenty industrialized nations of the world in year 2020.

Science education also inculcates scientific literacy that enables individuals of nations to utilize resources they have to improve their living standards (David, 2019, Gabriel 2020). It also sharpens one's quest for further knowledge and enables them to meet their basic needs and promote industrializations, and frees them from fear and superstition while promoting law and order in the society which culminates to promote National security and development (Aminu et al., 2015, Ademu et al., 2016, David, 2019).

Security and National Security

Security is a collective responsibility of all citizens of a country in ensuring a secure and peaceful environment for the economic growth and development of the nation (Yusuf and Babatunde 2009). Security is a social contract between the state and its citizens, in which the former is expected to protect, defend and provide for the latter in the public area (Arisi, 2011). Security also, is the state of being free from danger of fear, attack or molestation on the backdrop that every apparatus needed for this purpose has been provided.

National Security has been construed in different ways, each of which emphasize important factors underlying ideals. Brendan (1974) holds that national security is the protection of national survival. National security is to be understood in terms of the desire and capacity for self-defense. According to Ochoche 1998, national security focuses on the assessment of military armament, Personnel and expenditure.

The concept of national security has changed over time. It was expanded to include international economics, long term goals of national development and reconciliation (Meziobi 2012). Asad (2007) noted that National security cannot be narrowed down to exclusively military term. Socioeconomic and cultural aspects, problems of development and modernizations, as well as national integrations should be deemed important in considering.

The Roles of Science education in promoting peace for the attainment of national security

In order to achieve a long lasting national security and development, a country must possess and maintain the necessary knowledge and infrastructure base for sustainable energy, telecommunication, agriculture, food security, Portable water among others.

Threats to human life comes not only from situation of violent conflicts but other non-conflict sources of threat such as poverty occasioned by lack of access to means of livelihood (Aminu, et al 2015).

Human security is concerned with the protection of individuals from critical and life threatening dangers such as poverty. This prompted Beland (2005) to view human security as a condition of existence which entails basic material needs. When individuals at their productive age stay without jobs and means of livelihood, there is every tendency that they resort to available means including violent means to make the two ends meet.

Science education plays a crucial role in mitigating national security risks and driving sustainable development. Here are several ways in which science education can contribute to these areas:

- i. **Enhancing Critical Thinking:** Science education fosters critical thinking skills, enabling individuals to analyze and evaluate information objectively. This ability helps people make informed decisions, differentiate between reliable and misleading sources, and identify potential security threats or development challenges.
- ii. **Advancing Technological Innovation:** A strong scientific education system produces a skilled workforce capable of driving technological advancements. By equipping individuals with scientific knowledge and skills, nations can foster innovation, develop cutting-edge technologies, and address national security concerns through advancements in areas like defense, cybersecurity, and intelligence.
- iii. **Addressing Environmental Challenges:** Science education promotes understanding of environmental issues and their potential security implications, such as climate change, pollution, and resource scarcity. Educated individuals can contribute to sustainable development by applying scientific knowledge to develop clean technologies, mitigate environmental risks, and promote responsible resource management.
- iv. **Health and biosecurity:** Science education plays a critical role in public health and biosecurity. By educating individuals about infectious diseases, vaccination, hygiene practices, and bioethics, science education strengthens a nation's ability to respond to pandemics, bioterrorism threats, and public health emergencies. It also facilitates the development of a skilled healthcare workforce and enhances the capacity for research and development of new medical treatments. Science education is vital for building a knowledgeable public health workforce and enhancing the population's health literacy. Educated individuals can contribute to national security by understanding and responding effectively to health crises, bioterrorism threats, and disease outbreaks, as well as driving scientific research and medical advancements.
- v. **Promoting Cybersecurity:** Science education plays a significant role in cultivating cybersecurity expertise. By providing individuals with knowledge of computer science, cryptography, network security, and ethical hacking, science education can help address cyber threats, protect critical infrastructure, and safeguard national security.
- vi. **Fostering International Collaboration:** Science education also facilitates international collaboration on security and development issues. By promoting scientific cooperation, nations can exchange knowledge, share best practices, and collectively address common challenges. This collaboration can enhance security cooperation, build diplomatic relations, and promote global development efforts.

- vii. **Economic development:** Science education is closely linked to economic development. A strong scientific workforce is essential for driving innovation and competitiveness in industries such as healthcare, energy, agriculture, and manufacturing. By equipping individuals with scientific knowledge, research skills, and entrepreneurial capabilities, science education fosters economic growth, job creation, and increased productivity.
- viii. **Empowering Sustainable Development:** Science education equips individuals with the tools to understand and address complex societal issues, such as poverty, inequality, and food security. Educated individuals can contribute to sustainable development goals by applying scientific knowledge to develop innovative solutions, promote renewable energy sources, and improve agricultural practices.
- ix. **Science education serves as a crucial tool for mitigating national security risks and driving development.** By fostering critical thinking, technological innovation, environmental stewardship, public health expertise, cybersecurity, international collaboration, and sustainable development, science education empowers individuals to contribute effectively to their nation's security and development goals.

The insecurity challenge in Nigeria has become a formidable challenge, so government at all levels should employ scientific approach such as developing new security paradigm and protocols in fighting violent conflicts and tackle insecurity in the country. The governance challenges facing the polity have trickled into the society, resulting in the erosion of social psyche and or moral decadence. The growing dissatisfaction, discomfort and distress within the larger society coupled with the unbaiting official corruption, high unemployment rate, economic crisis/ Pauperization of the masses, decaying infrastructure and a futile national integration project have heated up the socio-political environment. Consequently, armed conflicts, terrorism, ethno religious holocausts, kidnapping, banditry, human trafficking, political assassination and other violent crimes have become the leitmotif otherwise, recurring decimal of Nigerian social relations.

Science education serves as a crucial tool for mitigating national security risks and driving development. By fostering critical thinking, technological innovation, environmental stewardship, public health expertise, cybersecurity, international collaboration, and sustainable development, science education empowers individuals to contribute effectively to their nation's security and development goals.

CONCLUSIONS AND RECOMMENDATIONS

- Firstly, Providing moral leadership that eschews evil, corruption, vices, inequity, injustice and wickedness will compel the people to model the character of their leaders and vice versa.
- Secondly, democratic system in place must begin to deliver the needed social goods so as to improve the standard of living of Nigerians and deliver many citizens from the state of absolute poverty to which they have been subjected for a long while.
- Thirdly, there is need to identify the moral values and ethical virtues that should guide the conduct and behavior of Nigerians. These values should be built on the respect for human life, the regard for human dignity and the right to life, liberty and security of the people; the freedom of worship, religion, thought and conscience; and the freedom of opinion.
- Fourthly, there should be a codification of the moral values and virtues the government and Nigerian peoples subscribe to for the good of the larger society.
- Fifthly, government should plug all the holes through which scarce resources are being siphoned so as to free resources for national development and equipping of the military to fulfill its functions.

Lastly, there is need for a national conversation or dialogue where Nigerians can release their pent-up anger and frustration against the state and fashion out the blueprint for the engagement of all the component units that make up Nigeria. Paying lip-service to the matters of insecurity in Nigeria by government and its representatives is sitting on a time-bomb that may soon explode. Sustaining personal or regime security will not secure government or its representatives if this challenge is not nipped in the bud. The governance process must be erected on the pillars of scientifically moral values and virtues and the Nigerian people must be led by scientifically literate leadership that will strive to secure the commitment and support of all citizens to make the Nigerian project to succeed.

FURTHER STUDY

This research still has limitations, so it is necessary to carry out further research related to the topic Science Education: (A vital tool for promoting National security for Sustainable Development) in order to perfect this research and increase insight for readers.

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