

CHALLENGES OF GLOBAL CRISES IN TEACHING AND LEARNING BIOLOGY EDUCATION IN NIGERIA TERTIARY INSTITUTIONS IN THE CONTEMPORARY TIME

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Abstract

Biology education is pivotal part of Science, Technology, Engineering and Mathematics (STEM) education. In addition, biology forms a link between secondary school level and many life-related fields of study offered at the tertiary level. Consequently, the purpose of this paper is to examine the challenges of global crises in teaching and learning biology education in Nigeria tertiary institutions in the contemporary time. The study was guided by two research questions and adopted a descriptive survey research design. The sample involved four hundred (400) lecturers selected through simple random sampling techniques from a population of 770 lecturers from Federal College of Education (Technical), Umuze, Nwafor Orizu College of Education, Nsugbe and Alvan Ikoku Federal College of Education, Owerri. A 20-item questionnaire developed by the researchers and validated by experts were used for data collection as reliability index of 0.82 was realised using Pearson Correlation. Data obtained were analyzed using mean and standard deviation. The findings indicated, among others things that global crises to an extent pose some setbacks on funding of high costly researches in teaching and learning biology education in Nigeria tertiary institutions. The result further revealed that global crises hindered intellectual gatherings like international conferences, seminars, workshop, symposia in Nigeria tertiary institutions to an extent. It is therefore concluded that global crises in all ramifications pose great challenges in Nigeria education. Based on the findings, it was recommended that government and stakeholders in education at all levels should set fund aside to be used in funding education in times of global crises. More so, that world leaders in all tiers should embrace dialogue in any dispute with all sense of responsibility in order to overcome hatching global crises beforehand. Thus, it is only that, that will ensure smooth running of education without hitches.

Keywords: Challenges, Global crises, Teaching, Learning, Biology, Education

Introduction

Education is a crucial sector in any nation. Kubow and Fossum (2003) assert that, education promotes social change as it is an indispensable catalyst of development of any nation. This can only be felt in a society when the activities tailored in education curriculum like biology education of any educational level are effectively done.

Thus, biology education deal with the study of living and non-living things. Abimbola and Omosewo (2016) Biology is central to many science-related courses such as Medicine, Pharmacy, Nursing, Agriculture, Biochemistry, Microbiology and so on. It is obvious that no

student intending to study these disciplines can do without Biology. The knowledge of Biology is vital to the study of Dentistry, Biotechnology, Genetic engineering and Hybridoma technology (Abimbola & Omosewo, 2016). Thus, biology education is a pivotal part of Science, Technology, Engineering and Mathematics education. These factors among others have drawn attention of researchers and curriculum planners towards Biology as a subject in the school curriculum (Kareen, 2015). Biology as a science subject is a practical-oriented subject which focuses more on knowledge application than mere knowledge acquisition (Okeke, 2017). Given its important role in the economic development of a nation, Biology is a subject that must be properly taught and learnt without the hitches emanating from effect of global crises in order to make it functional and relevant.

The term global crisis can be defined as events such as war, economic decline, pandemic, extreme natural events that affect all countries in economic, social, cultural, political, and many other issues. The global crisis to a greater extent caused food, fuel and fertilizer prices to skyrocket, pre-primary to university level are at risk of not returning to school, further disrupted supply chains and global trade, roiled financial markets, and threatened global food security and aid flows. Further, the world's most vulnerable countries and population groups are disproportionately impacted. Women and men folk suffered a greater share of job losses combined with increased care work at home. Young people continue to have higher unemployment rates, and child labour and child marriage are on the rise. Least developed countries struggle with weak economic growth, rising inflation, major supply-chain disruptions, policy uncertainties, and unsustainable debt (UN SDG Report, 2022). Global crisis has ravaged many economics around the world and has caused noticeable imbalance in Nigeria. Besides depleting the country's external reserves, it has led substantially to the crash of the stock market, the erosion of the country's revenue by over 60 percent and the depreciation of the national currency, among others (Okonjo-Iweala cited in Okonjo-Iweala, 2009) reported that, "Nigeria has been hit by the economic crisis together with developed and developing countries all over the world as a result of global crises.

Thus, in Nigeria, the educational system is almost completely dependent on government budgetary allocation and with the global crises that affected country's economy; the sector will no doubt witness its fair share of budget cuts which will affect not only the lecturers but also students and families (Bamigboye, Ede, Adeyemi, 2016). Lecturers' salaries represent around two-thirds of public expenditure on education, which explains why in some countries the first signs of a slowdown had a direct impact on pay (Coombs, 1985). As a consequence, countries will find it more difficult to maintain the quality of learning in the future. It is against this background that this paper investigated the effect of global crises in teaching and learning biology education in Nigeria tertiary institution with the aim of proffering possible solutions to the effect.

In view of the above, the aim of this study is to examine the effect of global crises in teaching and learning biology education in Nigeria tertiary institution in the contemporary time. This study therefore specifically sought to:

- i. Determine the effect of global crises in teaching and learning biology education at tertiary level in Nigeria;
- ii. Determine the possible solution to the effect of global crises in teaching and learning biology education in Nigeria tertiary institution.

In other to achieve the specific objective of this study, the following research questions guided the study:

- i. What are the effect of global crises in teaching and learning biology education at tertiary level in Nigeria?
- ii. What are the possible solution to the effect of global crises in teaching and learning biology education in Nigeria tertiary institution?

Method

This study adopted descriptive survey research design to examine the effect of global crises in teaching and learning biology education in Nigeria tertiary institution in the contemporary time. The design has advantage of producing good amount of responses from a wide range of people. Another reason why descriptive research design was used is that it has the potential to provide a lot more information from large sample of individuals. The sample involved four hundred (400) lecturers selected through simple random sampling techniques from a population of 770 lecturers from Federal College of Education (Technical), Umuze, Nwafor Orizu College of Education, Nsugbe and Alvan Ikoku Federal College of Education, Owerri. Sample size of 400 (lecturers) was established using Yamane (1967) method. This type of design attempts to report things the way they are (Abiola, 2017). It is conceived as a survey in which a group of lecturers are studies by collecting data from only a few lecturers considered to be representative of the entire lecturers. Data were collected using a structured questionnaire developed by the researchers. The instruments were validated by experts of biology and experts in the Department of Measurement and Evaluation for face and content validation. Following their recommendations, the final draft of the instrument was produced. This is to make provision for maximum efficiency of the instrument as well as eliminate complex, redundant and overloaded questions from the instruments. The reliability of the instrument was established as 0.82 using the Person's Product Moment Correlation Coefficient. The instruments were administered to the 400 respondents using a face to face method. The number of items raised in the questionnaire were 20. The item questions raised were acquired from the literature review and also in line with the research questions. The Likert rating scale of Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD) were used. The scale was weighted 4, 3, 2, and 1 respectively. For decision on the result in table any mean less than 2.50 are taken as rejected while the rest are as accepted. The data collected was analyzed using mean and standard deviation.

Results

Research question one: What are the effect of global crises in teaching and learning biology education at tertiary level in Nigeria?

Table 1: Mean and standard deviation on the effect of global crises in teaching and learning biology education at tertiary level in Nigeria

S/N:	Questionnaire items	N	$\bar{X}$	STD	Decision
1.	It causes delay on lecturers' salary due to government education budgetary allocation is affected	400	3.39	0.90	Accepted
2.	It leads to lecturers' salary cut because government education funding allocation is affected	400	3.39	0.90	Accepted
3.	Countries find it more difficult to maintain the quality learning delivery due to its effect on country's economy	400	3.35	0.88	Accepted
4.	Employment of qualified lecturers and other staff needed				

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| for quality curriculum delivery is affected due to drop in educational fund | 400 | 3.36 | 0.88 | Accepted |
| 5. Training and in service of lecturers is inadequate due to drop in government allocation of educational fund | 400 | 3.41 | 0.91 | Accepted |
| 6. It leads to school dropout for students on scholarship dependent due to countries education funding is affected | 400 | 3.39 | 0.90 | Accepted |
| 7. It effects funding of high costly researches in biology due to educational fund allocation is affected | 400 | 3.39 | 0.89 | Accepted |
| 8. It effects procurement of new biology laboratory equipment in schools because of drop in educational fund | 400 | 3.37 | 0.87 | Accepted |
| 9. It causes educational institutions to loss some of the academic staff and other personal to the cold hands of death during the period the crises lasted | 400 | 3.36 | 0.88 | Accepted |
| 10. It causes educational institutions to loss some of the students to the cold hands of death during the period the crises lasted | 400 | 3.39 | 0.89 | Accepted |
| 11. It effects the renovation of dilapidated structure and construction of new ones due its direct effect on country's economy | 400 | 3.41 | 0.91 | Accepted |
| 12. It effects subscription of scholarly articles needed for quality education delivery by educational institutions because the country's economy is affected. | 400 | 3.39 | 0.90 | Accepted |
| 13. It sometimes forces some academic staff to joined business | 400 | 3.41 | 0.91 | Accepted |
| 14. It sometimes forces some non-academic staff to joined business | 400 | 3.37 | 0.88 | Accepted |
| 15. It forces students sometime to develop creative and imaginative mindset skills | 400 | 3.40 | 0.91 | Accepted |
| 16. It sometime makes countries to develop other device of funding their tertiary institution | 400 | 3.39 | 0.90 | Accepted |
| 17. It affects international academic gatherings like conferences, symposia, workshop and seminars | 400 | 3.40 | 0.91 | Accepted |

The findings in Table 1 showed that items number 1 to 17 were all accepted. This revealed that global crises affected funding of teaching and learning of biology education in Nigeria tertiary institutions ranging from affecting international academic gatherings like conferences, symposia; training and in service of lecturers; subscription of scholarly articles needed for quality education delivery by educational institutions and others. Thus, it makes countries to find it more difficult to maintain the quality teaching learning delivery of biology education due to its effect on countries economy.

Research question two: What are the possible solution to the effect of global crises in teaching and learning biology education in Nigeria tertiary institution?

Table 2: Mean and standard deviation on the possible solution to the effect of global crises in teaching and learning biology education in Nigeria tertiary institution

S/No:	Questionnaires items	N	$\bar{X}$	STD	Decision
18.	Being prudent in managing any education fund allocated to the sector to avoid the effect of any unforeseeable circumstance	400	3.40	0.91	Accepted
19.	Setting aside educational fund to be used to cushion unforeseeable challenges like global crises	400	3.43	0.92	Accepted
20.	Government showing strong political will in funding education	400	3.39	0.90	Accepted

The results in Table 2 showed that items 18 to 20 were all accepted. This revealed that teaching and learning of biology education in Nigeria tertiary institution at present needs to be strengthened in order to overcome the challenges stemmed out of global crises. Setting aside educational fund to be used to cushion unforeseeable challenges like global crises would highly be encouraged. The government and other stakeholders in education need to show strong political will in funding education should be encouraged always as depicted by the result.

Discussion of the findings

The effect of global crises in the contemporary time to an extent has drastically affected the rate of government allocation of fund to education sector in Nigeria and thus, needs to be strengthened for quality curriculum delivery in tertiary institutions. This assertion was confirmed with the result in Table 1 of this study which revealed that global crises and its direct effect to economy has affected the funding of teaching and learning biology education in Nigeria tertiary institution and thus, making international academic gatherings like conferences, symposia; training and in service of lecturers; subscription of scholarly articles needed for quality education delivery by educational institutions and others unrealistic. This is in line with the findings of (Bamigboye, Ede, Adeyemi, 2016) in Nigeria, the educational system is almost completely dependent on government budgetary allocation and with the global crises that affected country's economy; the sector will no doubt witness its fair share of budget cuts which will affect not only the lecturers but also students and other academic activities like international conferences. The findings further agreement with (Okonjo-Iweala cited in

Okonjo-Iweala, 2009) reported that, "Nigeria has been hit by the economic crisis together with developed and developing countries all over the world as a result of global crises.

Again, in the Table 2, it revealed among other things, that government and other stakeholders in education sector need to show strong political will in funding education in all ramifications for it to yield the desired result as depicted by the result. This is line with Jiatong et al (2011) who observed positive correlation between political will and health care delivery.

Conclusion

Having examined the challenges of global crises in teaching and learning biology education in Nigeria tertiary institution, it becomes imperative and essential for adequate attention to be paid to funding and in the promotion of science subjects and biologically oriented programmes in particular, in all levels of education. It is designed to stimulate student passion for science. Consequently, the obtained data indicated, among other things, that global crises to an extent has affected funding of teaching and learning biology education in Nigeria tertiary institutions ranging from affecting international academic gatherings like conferences, symposia; training and in service of lecturers; subscription of scholarly articles needed for quality education delivery by educational institutions and others. The government and other stakeholders in education need to show strong political will in funding education.

Recommendations

The following recommendations were made based on the findings from the study;

- 1) World leaders should emerge stronger thus from the lesson learnt from the previous global crisis and prepare for unknown challenges ahead;
- 2) World leaders should embrace dialogue on any dispute with all sense of responsibility to avert any global crises hitching;
- 3) Funding our educational system must be a priority for national governments and the international community;
- 4) When we take action to strengthen social protection systems, improve public services and invest in human capital development, for example, we address the root causes of social vices that lead to global crises.

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