African Research Review

An International *Multidisciplinary Journal, Ethiopia*
Vol. 6 (4), Serial No. 27, October, 2012
ISSN 1994-9057 (Print) ISSN 2070--0083 (Online)
DOI: http://dx.doi.org/10.4314/afrrev.v6i4.20

Strategies for Combating Global Economic Crisis in Nigeria through Science and Technological Education

(Pp. 294-301)

Udogu, M. E. - Nwafor Orizu College of Education, Nsugbe, Anambra State, Nigeria

&

Ojiaku, F.C. - St Charles College, Onitsha, Anambra State, Nigeria

Abstract

This work explains the global economic crisis and discussed some factors responsible for it. The work concentrated fully on seeking the perception science teachers on the suggested strategies for combating global economic crisis in the country through functional science and technology education in colleges of education. The design for the work was a descriptive survey and three research questions guided it. The instrument for data collection was structured questionnaire which was validated by specialists in science education and reliability sought and found to be 84 using Cranach alpha technique after pilot study. Results revealed that teachers agreed that economic crisis in the country could be salvaged by: making science teaching cash-productive; boosting the students interest I n science; and developing entrepreneurial skills in students. Conclusion and recommendation were made based on the findings.

Introduction

The global economic crisis is a serious worldwide malfunction in economic activities that started in the USA in December 2000, becomes obvious in

2007 and full blown across the world in 2007 to date (Abbas A. Babayi). Global economic depression, according to Babalola and Tiamiyu (2009) logically implies a global work force in which the employers and the employees redefine social contracts with increased embargo on employment as employers cannot pay salaries and allowances of employees. It is a periodic situation manifested by inflation, reduced purchasing power, fall in valve of shares and decreases in economic production and employment which leads to growing imbalance in public finances and withdrawal of investors from the market (Arinola 2009).

The major factor responsible for this economic crisis in Nigeria were: unsound government fiscal policies misplaced priorities, lack of patriotism and nationalism by the political leaders. Other minor factors were: over dependence of the nation on petroleum resources; corruption of and mismanagement on foreign goods; debt from international donor agency; rural-urban drift and growing gap between the minority rich and majority poor which brought about capitalism and erosion of deputy and life (Ruma 2009).

The distractive effects of the economic crisis are not easy to quantify, but the reality is that the world stack market has fallen large financial institution has collapsed, drastic fall in the standard of living, acute accumulation of dept by nation; massive retrenchment of workers and increase in crime rates (Ihrahum & Mandara (2009), Henstra 2008).

Kumuyi (2010) advised that these realities call for every ones hands to be on the spindle so as to overcome the crisis before us. He maintained more that attention should be directed to science and technological education which are the base of any nation's development and sustainability.

The role of science and technological education in the development of the national economy cannot be over emphasized. Any nation with priority in science and technology education will among other things improve its economic growth substantially hence reduce the impact of the menace due to global economic depression. According to Abba (2010) developed nations like U.S.A, Japan who acquired their prosperity through science and technology advancement are leading in industrialization because their scientist possess greater amount of technical know-how and practice them than the rest of other nations in world.

Scientific knowledge endows humanity with power which enables them to exert their will over nature to create resources, conqueror and uplift the quality of life. No wonder Pember and Humbe (2009) described science and technological education as a process of teaching in school to improve one's knowledge about one's environment and to develop one's skill of systematic inquiry.

Based on the realization of the important role of science and technology education; it becomes necessary to seek for a more powerful strategies of teaching other than the existing ones that will make for functional science and technology education at all levels of education system.

It was on this premise the researcher suggested the following strategies to be used to make science and technological education more functional as a way to combat the effects of the economic crisis in the country.

- Making science teaching in colleges cash productive (producing and selling of consumer's goods and raw materials).
- Teaching sciences to students in away to sustain their interest in sciences (one of the objectives of science education the (NPE 2004) is to develop students interest in science and technology)
- Development of entrepreneurial skills in science students in colleges.

The above strategies have been suggested, but, the problem is to ascertain how far these strategies would help to salvage the impact of economic crisis in the country. Based on the above, there is need to carry out empirical work using science teachers in colleges for education to find out their perceptions on the extent to which the above suggested strategies would help to overcome the crisis in the country.

Research Questions

1. To what extent will making teaching of chemistry cash-productive help to overcome the problem of economic crisis in the country?
2. To what extent will arousing students interest in science help to overcome economic crisis.
3. To what extent will development of entrepreneurial skills in science students help to salvage the economic crisis?

Methodology

This adopted a survey design. The population was ninety-five (95) basic science teachers draw from biology, chemistry and physics departments from all the seven (7) colleges of education (both federal and state) in the five (5) states in South East zone of Nigeria.

All the 95 teachers were used as sample for the study. Data was collected using structured questionnaire prepared by the researcher which has two sections. A&B. Section A is on the personal data of the respondents while section B sought information on the perception of science teachers. On the extent of overcoming economic crisis though the following strategies: making science teaching cash productive; teaching to developing entrepreneurial skills in science students and teaching science to arouse students interest in science and technology. The instrument was content validated by two experts in science education department. Appling Cranach Alpha technique on data obtained through pilot study in two colleges in Delta state, a reliability coefficient of 0.89 was obtained. After the administration of the instrument, data obtained were analyzed using means and standard deviation SD. Based on 4 point scale of strongly agreed, agreed, disagreed and strongly disagreed, a mean 2.50 and above was regarded as an acceptable strategy for overcoming the crisis while mean below 2.50 were regarded as non-acceptable strategy for overcoming the crisis.

Results

Table I: Mean rating scores and standard deviation SD of teachers' response on the extent to which raising money through the following activities will help to salvage the problem of economic crisis in the country.

Table 1

		X	SD	Decision
1.	Extraction and selling of some medianal plants extracts for curing diseases.	3.90	.81	Agreed
2.	Income generation through pottery keeping.	3.32	.94	Agreed
3.	Income generation, through fisheries.	3.71	.76	Agreed
4.	Income generation, through rearing and selling of laboratory specimen animals (Rabbit)	3.29	.61	Agreed
5.	Production and sale of some consumer			

	goods (detiol, soap, detergent powder).	3.83	.89	Agreed
6.	Production and sale of (alcohols) as lab. Reagents from local materials.	3.20	.78	Agreed
7.	Production and sale of common lab chemicals	3.11	.77	Agreed
8.	Production and sale of gun powder and resins from local material.			
	Grand means	**3.38**	**.57**	Agreed.

The table above shows that the science teachers greed that making science teaching (ash-production will help to alleviate the problem of economic crisis by the value of their mean reasons in all the items and also the value of their mean response.

Table 2

Mean rating scores and standard deviation SD of the science teachers responses on the extent to which boosting student's interest in sciences through the following instructional practices will help to reduce the problems of economic crisis in the country.

Table 2

	X	**SD**	**Decision**
1. Use reinforcement to develop in students love for science.	3.11	.59	Agreed
2. Reward positive creativity in science classes	3.69	.73	Agreed
3. Use play way method to teach some science concepts.	3.01	63	Agreed
4. Linking science concept to students day-to-day Activities of students.	3.17	.93	Agreed
5. Integrating theory with practical during teaching	3.33	.83	Agreed
6. Use familiar examples to explain some science concepts.	3.41	.72	Agreed
7. Always brief students on the role science to mankind	2.94	.89	Agreed

8. Use of field trip method to teach some concepts.	2.84	.54	Agreed
Grand mean	**3.14**	**.51**	Agreed.

From the table above there is an indication that science teachers agreed that boosting student's interest in science through the following instructional practices is as strategy help to some extent in reducing the problems of economic crisis in the country. Hence ground mean = 3.14.

Table 3

Mean rate scores and standard deviation SD of science teacher's response on the extent to which development of entire prenaral skills in students through the following exercise is a strategy for salvaging economic crisis.

Table 3

	X	**SD**	**Decision**
1. Sending students to industries for them to learn skills involved in the production of some chemicals.	3.29	.83	Agreed
2. Send students to local industries to learn how to produce some food items (e.g. garri)	3.01	.89	Agreed
3. Give student home projects requiring skills.	2.96	.53	Agreed
4. Teach students skills involved n the consumer goods production using local materials.	2.65	.75	Agreed
5. Students contribute money to learn skills from resource persons from outsider school setting.	3.47	1.21	Agreed
6. Teachers always practicalize their science lessons using the few available materials.	3.47	1.21	Agreed
7. Involving students in the preparation of materials for lesson practical	3.56	1.54	Agreed
8. Give group project work that can enable learner acquire relevant skills.	3.56	.84	Agreed
9. Give students pamphlets that carry information on the skills and methods of productions of consumer goods of productions of consumer goods e.g. detol,			

soap etc).	3.19	.73	Agreed
Grand mean	**3.27**	**.63**	Agreed

Table above shows that science teachers are in agreement that development of entrepreneurial skills in students through the following instructional practicing is as a powerful strategy for salvaging economic crisis in the country.

Discussion of findings

The results of this work indicate that science teachers are in agreement that if the instructional practices in the items in the three questionnaires are fully implemented, that the above suggested strategies are powerful in salvaging the economic crisis in the country. This was indicated by the value of the ground mean ratings for the three strategies: making science teaching cash-productive; boosting student's interest in student's interest in sciences and development of entrepreneurial skills in students. These findings are in line with what Mankiw (2001) observed that a nation's standard of living is determined among other things by the economic condition of the nation and the productivity of her citizens or quality of goods and services that a worker can produce.

Conclusion/recommendation

Global economic crisis is characterized by doom in all sectors of the economy. Science and technology education if fully implemented, will boost production and accelerate economic growth of Nigeria, provide man power required in industries and reduce unemployment there by reducing the effect of the crisis. Based on these

- Teaches of science should making science teaching cash-productive as much as possible.
- Acquisition of entrepreneurial skills should be made an integral part of classroom lesson at all levels.

References

Abbas, A.B, (2009). Combating Global Economic Crisis in Nigeria through Science and Technology Education 51st STAN Annual Conference Preceding 97-101.

Ariuodola, J. (2009). Economic Meltdown, LGs in Ogun embraces Agriculture; http://www Sunday Daily Trust.com.

Babalola, Y.A. & Tiamiya, R. (2009). Global Economic Meltdown: Its Implication for business Education. A Paper Presented of 4th National Conf. 4 WICE at FC. Zaria 10-12 Nov. 2009.

Heinstra, G. (2008). Economic Meltdown: How far and what to do? Retrieved 21at Aug: 2009 from http://www.futurist.com/2002/01/19.

Ibrahim, A.D. & Mandara, B.M. (2009). Combating Global Economic Crisis through a Sustainable Vocational and Technical Education Programme in Nigeria. A Paper presented at the annual school of Vocational Education Seminar at FC.E Yola 1-2 Sept. 2009.

Kumuyi, W.F. (2010). Global Meltdown the way-out. In *Monthly Christian Women Mirror Publication of the Deeper Christian Life Ministries* (March 2010) Lagos Life press Ltd.

Rember, S.T. & Humbe, T.T. (2009). Science Education and National Development. Being a Paper Presented at the USSUTIBS Maiden National Conference at College of Education, Kastina-Ala 6th October.

Ruma, S.A (2009). Meltdown Claims ₦2056A National Revenue. *The Guardian* Nov. 5 pg 35.

Mankin, E.N. (2010). *Principles of Economics* 2nd Edition fort work: Harcourt College Pub.