

**The Impact of Pre- Service Teacher's Awareness of Bio- Entrepreneur Skills, as A  
Panacea for Reducing Unemployment Among Biology Graduates in Borno State,  
Nigeria**

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**INTRODUCTION**

The roles play by science and technological education in the growth and development of the national economic 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. In their study strategies for combating global economic crisis in Nigeria through science and technology education. Udugo and OJIAKU (2012) cited Abba, (2010), that developed nations like U.S.A, Japan, who acquired their prosperity through science and technology advancements are leading in industrialisation because their scientist passes greater amount of technical know and know practice them than the rest of other nations world.

According to Kumuyi (2010) advised the reactions call for every ones hand to be on the spindle so as to overcome the enosis before us. He maintained for attention should be directed to science and technological education which are the base of any nations development and sustainable. According to Chaston (2009) Economic recession is define as economic go slow which brings an economy to low ebb and maintained, that it can be explained as a difficult time for the economy of a country. A period when a country experience less trade and industrial activities that often result in high unemployment rate, redundancy, business short down or systematic distress of business venue. Which subsequently generate hardship,, high eve poverty, frustrations unbearable misery that usually push the business into financials slump, income down or collapse or investment. Through scientific knowledge the general public which be given the power which enable them to explore the natural endowment by create resources. Conqueror qualities of life. It is in that light that pamper and humble (2009) describe science and technological education as a process of teaching in school to improves one knowledge about ones environment and to develop ones environment and to develop ones skill of systematic enquiry. But due to economic recession in Nigeria face many challenges such as social, economic environmental which results into unemployment and poverty. It is on this premises that Nigerian government in the recent times

compelled to initiate the training of youth in various entrepreneurial skills which is aimed at making individual being gainfully self employed . Aniamand salome(2017) stated that science and technology offer a lot in socio economic and cultural development of any Nation. It is dynamism and the introduction of new technologies has influenced new discoveries and development in biological knowledge.

Therefore sound education is needed for reveal biology skills which are necessary for providing entrepreneurship skills which is aimed at making individual being gainfully self employed (Aniama Salome 2017) science and technology offer a lot in the socio economic and cultural development of any nation. Its dynamism and the introduction of new technologies have influence new discoveries and development in biological knowledge. Therefore sound education is needed to reveal biology skills which are necessary for providing entrepreneurship the great potential biology has a discipline cannot be over emphasized this goes to said that achieving the millennium goals a been giant economic will require among other things indicating in the students of biology at all levels of entrepreneurship skills. This focus is currently is lacking in the Nigerian educational system leading to production of many graduates who are not either gainfully employed or self employed. This is line with Offomas (2005) advice as she said that for Nigeria to become a key player in the world economy of the 21<sup>st</sup> century, the educational system should provide job creators and job seekers. Togoe(2012) started that education is the process of conveying usable information to group of learners . similarly (UNESCO 2011) quality education is one that satisfy basic learning needs and enriches the level of learners and their overall experience of learning therefore to achieve education, relevant knowledge skills and attitude that are necessary national development must be taught to the student for sustainable development education should be given top priority because it does are open to onto lift them out poverty by through economic growth and national productivity.

#### *Problem statement*

Biology education is one of the science subject been taught at secondary and tertiary level of education in Nigeria. In these levels be it secondary, tertiary or university. Teachers often concentrate on imparting the incentive development aspect of biology in other words the theoretical aspect has been taught to the students leaving out the educational aspects. This is so because the product of biology, this school will be employed by the government in the pass schools but as a result of global economic aspect where government cannot longer employed which number of students product of this school. This father increase unemployment and poverty for instance in Borno state science inception of the present administration the embargo placed on the employment still on the subsequent graduate in various old of studies. Therefore it is against the background that the study entices to identify biological skills needed to be acquired by the students and the label of their awareness to enable them become gainfully self employed on leaving school.

Aims and objectives of the study are as follows:

To examine entrepreneurship opportunism available in biology education to combat economic recession.

Determine the level of students/teachers awareness in the bio- entrepreneurship skills

opportunities.

To determine the students interest in acquiring entrepreneurs skills for business.

#### *Research questions*

What are the bio entrepreneurship skills available to biology students to ameliorate economic recession.

What is the level of awareness of biology student's bio entrepreneurship opportunities?

What is the extent of biology student interest in acquiring of interpreneurial skills for bio entrepreneurship venture?

#### *Scope of the study*

The study on strategy for combating in Nigeria economic recession through the use of biology education entrepreneur skills, In Borno state tertiary institution a case study of some selected tertiary institution BocosBama, Sir Kashim college of Education and Wakabiu college of Education.

#### *Significance of the study*

The study titled strategies for combating economic recession in Nigeria through the use of biology education entrepreneurship skills in Borno state tertiary institution the findings of the study useful to significance to teacher, students and provosts of college of education. Pre- Service Teachers will benefit by acquiring bio empowerment skills so that they can be self employed. Teacher would benefit from the skills so that they would be sustainable. Government would benefit from the teaching of bio entrepreneur skills because it would reduce funding and provide an avenue for reducing unemployment in the Nation.

### **METHODOLOGY**

The study adopted the survey design, the target population of the study comprised of all students offering biology in the 3(three) selected colleges of education. Namely, College of Wakabiu, Sir Kashim Ibrahim college of Education Maiduguri; and Umar Ibrahim college of Education, Science and Technology Bama. The population of the students offering biology from these colleges was 600. The grand population of 600 students across the three selected colleges of education were used as a sample for the study. In each of the selected college, fifty percent of the population was randomly selected. Therefore, a total number of 200 students each from the selected colleges were involved in the study and they were picked from the List of college number of students indicating their year of admission. According to Bor and Gall (1971), that all individual in the defined population have an equal and independent chance of being selected as a member of the sample. Data was collected using questionnaire derived from four research questions of the study titled "Role of Bio entrepreneurial skills opportunities in Biology education in eliminating the economic crisis in some selected tertiary institutions in Borno state the modified four rating state was used to score the items of the questionnaire. The ratings of the response were strongly agreed (SN)=4, Agree = 3, disagree and strongly disagree = S(DA) the questionnaire has two sections, A and B. Section A is on personal data of the respondents while section B sought information on the bio entrepreneurial skills available in biology education in tertiary institutions of Borno state.

The face and content validation was done by expert in science education curriculum. Various corrections and suggestions made were used to modify the instruments.

The test – retest technique was used to gauge the clarity and the relevance of the research instruments. The instrument was tested in the college of education which was not part of the study, and then retested after a period of interval in the same college as pilot study. 50 responses were used as row data to obtain the correction coefficients between the corresponding data pilot for the law time.

The questionnaire was administered, and the instrument yielded a coefficient value.

The 50% of the students in each of the selected college of education (100) were administered with the questionnaires. After the data was obtained, were analysed using descriptive statistics, frequencies and percentages.

## RESULTS AND DISCUSSION

Research question one (1) in other to obtain the Bio enterprenual skills available in Bio Education.

Posses in the depth knowledge of Bio	150	44
Creative ability	156	70

The table above shows that 150 respondents represents 75% says yes of the item one of the question. i.e students of biology must have depth knowledge of Biowhile only 25% responds negatively analysis or the table. On leadership and discipline position of 50% of the respondents agreed with the research question while 90 represents 35% percents of the respondents separated disagreed. Similarly or the ability share opinion and communication effectively.

The table 1 above revealed that 75% of the respondents agreed that sharing and communication ability in necessary for bio enterprenual skill acquisition where as 25% of them, reported No on item number(8) that planning and organisation ability is necessary .

The results in table also revealed that 85% of the respondents agreed on the ability to formulates good entrepreneur decision is necessary for acquisition of skills in biology as a course of study aware of the entrepreneur skills area.

Table 2 below shows results for the analysis of research.

Questions 2 states above, the results on students response on the awareness of enterprenuals skills areas in biology Education.

S/N	AREAS	Response	no	Total
1	Micro biology/ parasitology	20.1%	180.9%	100%
2	Medicinal biology	11.55%	189%	
3	Environmental biology/ ecological students	12.5	94%	
4	Bio geography	90.45%	175%	55%
5	Bio chemistry	15.75	110%	
6	Waste managed conversation	178.5%	92.5%	95%
7	Hydro biology	105%	91.5%	
8	Economic botany	105%	190.95%	95%

9	Food technology	157.5%	40%	
10	Biology	189%	185.92%	91%
11	Genetic engineering	105%	190%	90%

The table 2 above reveals that 90% of the respondents reported not aware of micro biology/ paarasitology as entrepreneur skills areas in biology education where only 10% of the students are aware on the medicinal biology for entrepreneurs skills development, the table2 reveals that 94% of the respondents are aware while on 8% reported un aware on environmental biology and ecology areas of vital skills acquisition area in biology the results in the table results shows that 88% of the respondents agreed that they are aware where 12% of the respondents were unaware of the skills. This is certainly to the other findings in the study. The table also reveals that 90% of the respondents were unaware of bio geography skill, for entrepreneurship development while only 10% the respondents reported aware of biochemistry skills in body study for entrepreneur development. 93% of the respondents reported unaware. While only 7% of them agreed awareness on were the management entrepreneur skills potentials, 92% of the respondents reported unawareness while only 8% of them attested awareness. Similarly hydrobiology/ aquatic biology, 95% of the respondents attested unawareness of the entrepreneur skills while only 5% of them reported that they are aware on economic botany. 77% of the respondents reported that they were unaware of availability of entrepreneur skills in the area where as 23% of them, agreed, awareness, similarly on food technology, areas for skill development. 80% of the respondents a great of unawareness while 20% of them shown awareness on Genetic engineering, 88% of the respondents showed unawareness of the knowledge area between entrepreneurship skills, whereas only 12% of them reported awareness.

Student offering Biology as a course of study in the college of education showed the entrepreneurship skills development in the subject areas.

Table 3 below shows the result for analysis of wither students offering biology have interested in acquiring entrepreneurship skills development of some of the areas in the subject.

The results on student response on whether they are interested in acquiring entrepreneurship skills in biology education.

	Yes	Percent	No	Percent	Total %
College A	88	93%.	12	7%	100
College B	90	95%	10	10%	100

The table 3 shows the majority of the students represents 93% reported that they have interest in acquiring the entrepreneur skills available in some of the cities in biology education, only four of them, represents 7% show level of interest. The also revealed that 95% of respondents indicated that they have interest in acquisition of Bio- entrepreneur skills, while, only 5% of the respondents indicated no interest. Therefore biology teacher should encourage student interest through instructional practice as strategy to reduce the problem of unemployment and economic crisis in Borno state, in particular and Nigeria as a whole.

## **DISCUSSION OF FINDINGS**

The study assessed the role of bio entrepreneur skills in some of the areas in biology education in eliminating economic crisis in Borno state; The study raised three research questions.

Therefore the finding of the study based on research question one (1) on table (1) on type of entrepreneur skills available on biology education and whether this skills are necessary for the development of entrepreneurship in students, reveal that most of the respondents agreed for this study. That all the skills listed in table 1 are necessary for the development of enterprenual skills in biology students as shown by higher percentage of response to each item of the research question based on skills. This finding is in line with that of Amama (2017) in a study that biology is a development of Nigeria. Utilisation of biological science education for empowerment. A global challenge records that biology is a powerful tool for economic, social, and political development of Nigeria. Hence there is need to build into the biology curriculum Bio entrepreneur skills necessary for bio entrepreneurship ventures.

From the above findings, evident that make biology teaching cash product will help alleviate the problem of economic crisis. The second findings revealed that the majority of the respondents attested that they have interest in acquiring bio enterprenual skills. This may not be unconnected with the fact because of economic recession, government at both state and federal and no longer employ our teaching graduates from educational system. Hence any skills that will enable students to be self employed focus their attention, graduate, self employment will no doubt reduce the burden of the economy of Nigeria. These findings collaborate with the findings of Anyanwu (2010), in study embowering youths for sustainable development. Ascension of entrepreneurship skills need of youths who view entrepreneurship as the ability to be creative utilising opportunities available for both self sustenance and contributing to the needs of other.

This finding is also in line with the findings of Amama(2017) who sees enterprenual skills acquisition as an improvement in both the labour and the business sector, since it is very important to develop positive interest in whatever field of endeavour one want to engage. The third findings indicate that 95% of the respondents reported unawareness of the entrepreneurship areas in biology education; the awareness level was recorded low in the stud. The implication is that if students were unaware of the areas in biology where students can create job for himself, the level of poverty will increase. Therefore teachers of biology will blend the contents and the instructional practising as a powerful strategy for eliminating current economic crisis.

## **CONCLUSIONS**

Based on the findings of the study, it was concluded that economic crisis in Borno state in particular and, Nigeria at large left all sectors in doom, especially the educational system where thousands of graduate were unemployed which may subsequent create other societal problems to this end. So therefore if the strategy of Bio entrepreneurship skills in biology education area are incorporated into biology curriculum and taught along side with the cognitive aspect of the subject, it will no doubt boost production and accelerate economic development of Borno state, tertiary institution provide flat form where many unemployed graduates of biology becoming self employed, thereby reducing the effect of the economic shrinkage in the country.

## RECOMMENDATION

Based on the findings of the study, the following recommendations were made:

Biology teachers at all levels should make teaching of biology cash productive.

Accquisition of bio enterprenual skills should be made compulsory and art of the curriculum.

Government at all level should assist financial educational institution for the purpose of training the students, the bio entrepreneurship area in raising the subject of the study.

Government should encourage the students acquiring the bio entrepreneurship skills will take up development fund to enable them to set up their own business for self reliant

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