

## Empowering The 21<sup>st</sup> Century Building Technology Students Through Entrepreneurship Education

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**ABSTRACT:** This study examined the role of Entrepreneur Education in empowering the 21<sup>st</sup> century students of Building Technology in Nigeria. It is observed that our country has a high rate of unemployment, low standard of living, and other social vices. This may be attributed to some defects in our educational system which focuses more in preparing youths to seek for employment. Vocational education which has the aim of preparing the youths as employees and employers of labour can help to redress these current unemployment problems. It was observed that the current educational system only succeeded in equipping the youths with employability skills, but lacks the ability of helping them to become employers of labour by establishing their own enterprises. Consequently, it is necessary for our youths to obtain the essential entrepreneurial skills that will enable them fit properly into the Nigerian labour market. The study also showed that if appropriate vocational and entrepreneurial education is inculcated in our youths, the incessant rate of kidnapping and other anti-social behaviours will be ameliorated. The study discussed varieties of vocational and technology education skills which includes building technology and entrepreneurship education. Based on the findings, the following recommendations were made; all the stake holders in entrepreneurship education and building technology programme must corporate together, the curriculum developers, lecturers/ instructors and the students/learners must play their roles effectively, there is a need to match technical vocational education with labour market demands of the society and industry, students of building technology programme should undergo practical parts of their courses with builders within their host community, woodwork technology students should practise major parts of their studies in woodwork shops within the immediate locality and entrepreneurship education curriculum should be developed in a way to enhance functionality of building technology programmes.

**Key-Words:** Building technology, vocational education, woodwork technology entrepreneurship, empowerment, employability.

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### I. INTRODUCTION

Entrepreneurship education contributes greatly to the growth of any nation's economy including our country Nigeria. This is because education involves a process of training that is designed to give the required knowledge, acquire skills and capabilities that could lead to the development of mental alertness and the right approach to life. This implies that if education is adequately inculcated in human-kind, individuals would meaningfully help themselves and positively contribute to the growth and welfare of their immediate community. Amaewhule (2014) opines that entrepreneurship remains a vital element for the economic growth of any nation of this world. Consequently, the need for entrepreneurship in national economy of any country cannot be over stressed. Entrepreneurs are individuals, corporate bodies or government agencies who have the capabilities, background, skills and utilize their enterprises to begin a new trade as well as to run an existing commerce (Nwaeze et al, 2012). The entrepreneur bears all the risks that may arise in his quest towards achieving the company's set objectives. Consequently, he is the individual who will organize, control and bear the burden of the risk of such business undertaking. Entrepreneurship is imperative in all areas of human ventures such as commerce, oil and gas industry, engineering, construction, agriculture, building technology, education, social works and other services that contribute to economic growth of the nation and the empowerment of the individuals involved.

Knowledge of entrepreneurship cannot be said to be a new development in the world of business as well as in the industrial system of any country. Kosemani and Okorosaye - Orubite (2002) stated that entrepreneurship had existed in Nigeria since the coming of the colonial masters and they see entrepreneurship as closely related to technical and vocational education because it helps individuals to have the right attitude towards technical and vocational skills acquisition and thereby empowering them to start new businesses of their own. Therefore, entrepreneurship is the process of bringing together ingenious and innovative ideas and merging them with management and organizational skills in order to combine human resources, capital and other resources to meet a well-known need of the society. This combination will help the building technology students to become employers of labour and thereby contribute to our national economy. Entrepreneurs should develop the capacity and attitude of undertaking ventures with the possibility of success or failure. This requires that the individual should be reasonable degree of risk in addition to being highly creative and innovative. Entrepreneurship prepared to assume creates the eagerness and capability of a person to seek investment opportunities, set up and run an enterprise effectively. In achieving how the 21<sup>st</sup> century building technology students can be empowered through entrepreneurship education, this paper therefore examines the following;

- The concept of entrepreneurship education
- The concept TVE
- The objectives of TVE
- The advantages of entrepreneurship education in building technology
- Strategies for empowering building technology students through entrepreneurship education

### **The concept of entrepreneurship education**

Ottih (2014) shows that entrepreneurship is a sequence of utilizing resource of time, energy, money, and materials to produce goods, services, ideas and trades. It is concerned with opening relevant changes in production while management is concerned with the positive efforts to produce goods, services and ideas for the consumption by the final consumers. Nwachukwu (2003) opined that entrepreneurship has the capacity for innovation, investment and the ability to explore the new markets, products and techniques. Therefore, entrepreneurship reflects superior information and perhaps more importantly, imagination, which subjectively reduces the risk and uncertainties of new opportunities which are ignored or rejected by other investors.

Entrepreneurship remains a vital ingredient for economic development of any nation (Dokubo, 2015). This means that under the free enterprise system, businesses operate in active environments and their accomplishments or failures may depend on how well they compete favourably in a competitive market. People in general have rights to engage in private endeavours provided they operate within acceptable norms and their activities are not inimical to the society. This realization has prompted the Federal government of Nigeria to initiate deliberate policies aimed at developing private business ownership. The Government has also encouraged tertiary institutions to include innovative enterprise programmes in their various schools. Such innovative enterprise includes courses that will make the learners employers of labour after graduating from school (FRN, 2013). Consequently, our school system is challenged to encourage its products to turn into path of entrepreneurship as a career choice. It is a venture that can make the students of building technology to be self-employed and move them away from endless quest for non-existing white collar jobs; this makes them job creators instead of job seekers. However, it is also the role of our schools to prepare students of building technology for the world of work. Hence, technical and vocational education students who may find employment later through the creative ingenuity of entrepreneurship must abide by rule of works and be absorbed in work ethics, work orientation and be able adapt to the constant changing skills, which have become imperative due to technological changes. In order for the building technology students to succeed in the industry and attain positions that they may be yearning for themselves, total commitment to their chosen career is imperative.

The school as a system and its curriculum must be involved in activities that are designed to help the students to become job creators instead being constant job seekers after their graduation from tertiary institutions (Nwoka and Thom-Otuya, 2008). Entrepreneurship education can be seen as an educational system in which the major function of education is viewed as consisting of preparing persons for future careers. Nwachukwu (2005) indicates that entrepreneurship an educational process which helps persons of all ages including adults and youths to prepare for the world of work by helping them to acquire adaptable skills necessary for them to survive in a changing society. Really, this goes further than acquisition of skills, it also includes a life-long socialization of the youths with work roles from elementary school up to the university, getting them ready to seek and enter the careers of their choice. Building technology students of our 21<sup>st</sup> century can utilize the tenets as well as the principles of entrepreneurship education to enhance their employability.

### **The Concept of TVE**

Dokubo (2017) indicates that technical vocational education (TVE) refers to the educational process which involves general education, technology education and related sciences as well as the acquisition of practical skills. From the foregoing, TVE refers to a variety of learning skills which are applicable to the various enterprises that involves conscious involvement to bring about knowledge which would make people more industrious in designated areas of economic activity. It is imperative that TVE and entrepreneurship education be conducted according to general social norms so that people in general should be treated with respect and dignity by the institutions since these programmes are dispensed in public and private educational establishments, or other forms of formal or informal instruction aimed at granting all segments of the society access to life-long learning resource. Finch and Crunkilton in Noor (2015), also agreed that Technical and vocational education (TVE) refers to education and training that prepares people for gainful employment and makes them more productive in various economic fields. It is apparent that TVE plays an important role for social and economic development and sustainability of any nation and her citizens

### **The objectives TVE.**

Some of the objectives of TVE are enumerated in Osuala (2010) as follows;

- ✓ To provide meaningful education for youth which could make them self-reliance and subsequently encourage them to drive profit and be self independent.
- ✓ To provide graduate with the training and support necessary to help them establish a career in any skill-based chosen profession.
- ✓ To provide graduates with training skills that will make them meet the manpower needs of the society.
- ✓ To stimulate industrial and economic growth of rural and less developed area.
- ✓ To provide graduate enough training that will make them creative and innovative in identifying and developed new skills.
- ✓ To increase wage earning power through utilization of skills acquired.
- ✓ To reduce the number of unemployed applicants.

Therefore, Technical Vocational Education (TVE) has its primary objectives among which are to train youths and adults alike, readying them for the labour market (Dokubo, 2017). Therefore, this means that technology and vocational education liberates and transforms man into a self-reliant being and at the time empowers him economically and socially. With technical revolution and innovations in science and technology, labour market needs are constantly changing on a daily bases. New challenges must be met in order to match the education proposed with vocational demands of the society. In that regard, several countries are reforming their education system, with a view to training youths to meet national, regional or international market needs through TVE and entrepreneurship education.

### **The Advantages of Entrepreneurship Education in Building Technology**

- a. It gives the building technology students the opportunity to exercise leadership skills and interpersonal relationships through proper and effective communication. Through entrepreneurship education, youths and adults can learn the act of effective communication. Effective communication helps students learn conflicts resolution procedures in building industry.
- b. Entrepreneurship brings about the creation of goods and services needed by the people on daily basis. The government alone cannot produce all that the people need to survive; therefore the entrepreneurs collaborate with the government in satisfying the needs of the people with adequate goods and services.
- c. This noble education helps to create of wealth in any national economy of this nation. Therefore, the students of building technology will be able to create employment for others instead of looking for white collar jobs daily.
- d. Entrepreneurship helps to ameliorate the problems of unemployment in the state and the country at large because it enables people to be self-employed and also gives them the ability to employ others who are seeking for employments. This actually helps to grow the gross domestic products (GDP) of our economy.
- e. Entrepreneurship helps people to develop management skills that concerns planning and financial issues. Through its training, the learners can manage time, money and other building construction resources and materials discreetly.
- f. Indigenous construction industries and technologies are transformed as a result of entrepreneurship development and education. Improvement and modification of building technology can only be achieved by constant workshop and site practices.
- g. Establishment of small businesses in the rural areas helps in the mobilization of rural savings for economic uses. This boosts economic activities in rural areas because insufficient knowledge of entrepreneurship has made much of the rural savings in less developed countries to remain idle and unproductive.

### Strategies for Empowering Building Technology Students through Entrepreneurship Education

From the foregoing, it is very clear that entrepreneurship education empowers individuals for world of works. For this strategy to work effectively, all the stakeholders in entrepreneurship education and building technology programme must corporate together. Consequently, the curriculum developers, lecturers/ instructors and the students/learners must play their roles effectively. Entrepreneurship remains a vital ingredient for economic development of any nation. Under the free enterprise system, businesses operate in dynamic environments and success or failure depends on how well their products fair in a competitive market. Individuals therefore can engage themselves in private endeavours provided their operations are not inimical to the acceptable norms of our society.

The role of effective communication in Entrepreneurship and building technology programmes cannot be over stressed. It helps the students to learn the methods and procedures of conflicts resolution in building industry. Dokubo, 2015 states that;

*Communication is useful if its mechanism or rudiments are there. These mechanisms include, chance to communicate, capacity to communicate and readiness or stimulus to communicate. When any or all of these aspects are deficient, the consequence is distrust; propaganda, misunderstanding, misperceptions and these are seeds for conflicts. When building construction workers whose tasks are interconnected have the prospect to work together directly, they enjoy all the benefits of human psychology—understanding, empathy, consideration, and have affection for one another. Nevertheless, lack of the opportunity to converse directly between the supervising engineers, quantity surveyors and labour force creates a communication gap, which leads to conflicts in building industry. (p. 23)*

It is also pertinent that our building technology students should be encouraged to promote their products through the path of entrepreneurship programmes. This is the fastest way to make them job creators, self-employed and move them away from being perpetual job seekers. However, it is also the primary role of our schools to prepare and train the students for the world of work. In order for the trainees to succeed in the industry and achieve nice positions, there must be a total commitment to self and career developments.

Consequently, the Federal Ministry of Education Senior Secondary Curriculum on Building Construction, Block-laying, Brick-laying and Concrete Works (2010) also stresses the need to inculcate entrepreneurship skills into building trades and construction. Therefore, the Nigerian Educational Research recommended that the following entrepreneurial topics should be included into the curriculum of building construction as shown on the table below:

**Table 1 – Curriculum of Building Construction in Senior Secondary School and entrepreneurship**

Topic	Performances Objectives	Content
1) Business Opportunities in Building industry	i. Students should be able to: Identify various opportunities in building industry (Block making, timber shade, building materials, construction equipment). ii. Explain the procedure for establishing the business opportunities	i. Opportunities in building industry ii. Procedures for establishing businesses in the industry
2) Types of Business Organizations and Ways of Raising Capital.	Students should be able to: i. Briefly explain the principles of organization and management, of sole proprietorship, partnership and Limited Liability Company . ii. State types of capital. iii. Explain sources of capital.	i. Principles of organization and management of a business unit. ii. Types of capital iii. Sources of capital
3) Managing Construction Business	Students should be able to: i. Mention requirements for managing construction business e.g. Investment, short and long term loans, cooperative society, feedback using good quality materials. Good supervision and Reading Construction news/magazines	i. Requirement for managing construction business
4) Contract Work	Students should be able to: i. Define contract. ii. List and explain forms of contract. iii. Explain nature and uses of	i. Definition and types of contract. ii. Contract documents. iii. Parties to a contract

	iv. contract document Discuss briefly the functions of parties involved in contract	
5) Estimating and costing of Construction Jobs.	Students should be able to: i. Illustrate with aid of sketches of a simple one bedroom self contained building with working specification and estimate cost of materials	i. Estimating the cost of construction in simple buildings.
6) Book keeping principles and techniques	Students should be able to: i. Explain the importance, principles and techniques of Book keeping in Building establishment	i. Book keeping in small scale businesses. ii. Books of original entries

**Source:** Nigerian Educational Research and Development Council (2010).

Therefore, a student of Building Technology Education programme should be expected to undergo practical parts of his semester courses with functional builders within the host community. By exposing students to practical trainings in building and construction technology and activities, designing of buildings, interpretation of building plans and estimations, concrete work and technology, block laying and bricklaying, roofing and joinery, painting and decorating etc, these will help them to be focused as professional students of building construction technology. The students should be made to work with builders and later share their practical field experiences with their course mates. This level of students sharing of field work knowledge during the week should be designed as interactive lecture period for all. Where these skills are learnt from organized practical training sessions as part of the curriculum, they would be easily mastered by learners.

It is imperative that the operators of entrepreneurship curriculum must make regular reviews in a way that the programme would become dynamic and sustainable. The economic activities of societies are on a rapid track, and this implies that entrepreneurship programmes in all disciplines require regular modifications. For our students to develop their entrepreneurial skills properly, it is mandatory for lecturers and instructors to attend entrepreneurship conferences yearly and inculcate into the learners the practical skills they had acquired. The instructors and lecturers should try their very best to expand students knowledge outside the classroom walls and learning surroundings.

This is why it is essential that lecturers should be innovative and teach students how to be ingenious and adaptive in the fast-changing world of works. Inclusion of innovative practical training sessions to be carried out by students in work places will enable them to acquire needed skills. Furthermore, workshop practical works normally expose students to real world of works and its associated methods of productions. Dokubo (2015) explained that students learn better during practical training periods since they are exposed to the exact jobs expected of them to carry out upon graduation from school. Hence, practical training either in workshops or fields is one vital principle and objective in vocational education programme that is in daily application in building technology and this greatly supports the philosophy of entrepreneurship education.

### Woodwork Technology Education

A Woodwork Technology Education student is required to practice major parts of his study in a woodwork shop within the immediate locality where the institution is situated. While he requires the classroom methodologies and principles of constructing house-hold equipment and other human needs for survival in the society, higher level of his practical courses should involve adequate hands-on-training sessions. If he brings the field work experiences to classroom theories and concepts under a creative educator, he is likely to enjoy more advantages of innovation when it comes to value addition. These skills and knowledge competencies cannot be acquired from the classroom only. They can also be acquired from constant practical field works under the supervision and training of local wood workshop carpenters.

The operational entrepreneurship education curriculum contents in tertiary institutions are not solely that of the students' inability to be self-reliant after graduation. Okoroma (2017) opined that the problem in the implementation of our curriculum is partly attributed to policy summersaults by the stakeholders in our education policy making body who failed to interpret contents in line with truth of a dynamic Nigeria and global best practices. The challenges of implementing the curriculum contents some times are also in the hands of institutions. At times, Government requires institutions of higher learning to use their innovations in entrepreneurship as means generating funds internally instead of relying entirely on government funding. Tertiary institutions should develop feasible research centres for the development of innovative ideas to help in

fund generation as well as expand their activities and turn them to industrial and entrepreneurial academic institutions.

Therefore, this will in turn enable the institutions to develop entrepreneurship groups that would further support the development of research centres that will provide the needs of both students and members of the institutions including those of our state and nation. Hence, to empower students of building technology, for self-employment and self reliance upon graduation, the role of entrepreneurship education cannot be overstressed. It is imperative that the trainees must develop kin interest on the programme of study and develop their frame of mind positively in order to put in their best.

## II. CONCLUSION

If our nation must achieve the desired technological advancement, students of building technology must acquire entrepreneurship education so that they will become job creators instead of being perpetual job seekers. Teachers as well as trainers of entrepreneurship education must confine the teaching of entrepreneurship courses to people who have love and enthusiasm for this noble programme. If 21<sup>st</sup> century students of building technology will be economically empowered after graduation, therefore, students of building technology education programme should undergo practical parts of their semester courses with functional builders within the host community. It is imperative that the operators of entrepreneurship curriculum must make regular reviews in a way that the programme would become dynamic and sustainable. This is because the economic activities of societies are on a rapid track, and this implies that entrepreneurship programmes in all disciplines require regular modifications. To empower 21<sup>st</sup> century students for economic survival after graduation, teaching and learning of entrepreneurship education must shift away from their present positions to psychomotor level where physical strength and energy are needed because the world economic development is turning the youths of our societies fast into entrepreneurship age. From the fore goings, it is very clear that entrepreneurship education empowers individuals for world of works. For this strategy to work effectively, all the stakeholders in entrepreneurship education and building technology programme must corporate together. Consequently, the curriculum developers, lecturers/ instructors and the students/learners must play their roles effectively. Consequently, entrepreneurship remains a vital ingredient for economic development of any nation including Nigeria.

## III. RECOMMENDATIONS

**Based on the findings, the following recommendations were made;**

1. All the stake holders in entrepreneurship education and building technology programme must co-operate together.
2. The curriculum developers, lecturers and the students must play their roles effectively.
3. There is a need to match technical vocational education with labour demands of the society and industry.
4. Students of building technology education programme should undergo practical parts of his semester courses with functional builders within the host community.
5. Woodwork technology education students should be required to practice major parts of their studies in woodwork shops within the immediate locality where the institution is situated.
6. Entrepreneurship education curriculum should be developed in a way that will enhance functionality of building technology programmes

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