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**ENTREPRENEURSHIP EDUCATION FOR TECHNICAL AND ECONOMIC
TRANSFORMATION**

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Abstract

Entrepreneurship education, EEd, has emerged as one of the most effective human development strategies that Nigeria has willingly embraced. This paper discusses the current state in which entrepreneurship education systems in Nigeria operate and highlight some reforms that must be underway for reengineering to take place and lessons that can be learned. The impact of globalization on entrepreneurship education in Nigeria and how skills learning in the country can benefit from a globalizing economy are also discussed. The paper argues that to achieve its goal of employment and self productivity, skills training must be of high quality and must embrace the use of modern information and communication technologies. The paper concludes that entrepreneurship education is necessary but not sufficient condition for employment and self productivity. Good government policies that stimulate the economy, by creating opportunities, are necessary.



1.0 INTRODUCTION

There are two kinds of education. One teaches how to live and the other teaches how to earn a living. The first is general education for all and the second is technical or vocational education for those who wish to learn various trades. Vocational education means teaching and training in some trade or profession like carpentry, engineering, electronics, fine arts etc. Education must be general as well as vocational.

There are many benefits to an entrepreneurship education. First: it solves the problem of unemployment. It trains the students in enterprising skills, competencies, understandings, and attributes according to their interest. Entrepreneurship education courses leading to diplomas in engineering, social work and blue collar works, etc. give them easy employment.

Second: it makes the student independent while studying. They may get a part-time job in some construction industries with the help of a diploma in a trade and also continue their higher studies. They can earn and learn together.

Third: entrepreneurship education teaches students to be innovative, and to identify, create, initiate, and successfully manage personal, community, business, and work opportunities. It is well placed to train the skilled and entrepreneurial workforce that Africa needs to create wealth and emerge out of poverty. The physical labour done makes them strong, healthy, and active. Such education is helpful to the economy. Our government needs not import foreign technicians on higher wages where our own can do the required work.

Fourth: entrepreneurship education can respond to the different needs of learners from different socio-economic and academic backgrounds, and prepare them for gainful employment and sustainable livelihoods. The conceptual definition of entrepreneurship education cuts across educational levels (post-primary, secondary, and even tertiary) and sectors (formal or school-based, non-formal or enterprise-based, and informal or traditional apprenticeship).

Thus, entrepreneurship education is in no way different or inferior to normal education. In fact it is a part of wholesome education that our government should give. It may even be said that entrepreneurship education is more wholesome than the normal education. (World Bank 1991)

Entrepreneurship education is based on the development agenda of many African countries after years of being neglected, instigated by a number of complex set of reasons that included budgetary constraints and criticism of the World Bank in the early 90s on its direction and focus. (World Bank 1991). The World Bank had argued at the time that the quality of training was poor and that there was considerable mismatch between training and the needs of



industry. However, since the beginning of the new millennium, a fresh awareness of the critical role that that entrepreneurship education can play in economic development among policy makers in many African countries and within the international community has risen. The increased importance that African governments now attached to entrepreneurship education is reflected in the various Poverty Reduction Strategy Papers that governments have developed in collaboration with the World Bank (Bloom, et. Al. 2006)

2.0 RE-ENGINEERING THE CURRENT STATUS OF ENTREPRENEURSHIP EDUCATION IN NIGERIA

In Nigeria, formal entrepreneurship education programmes are school-based. The governance structure for managing entrepreneurship education is shared between the ministries responsible for education and employment. The place of entrepreneurship education in the overall school system is marginal (Atchoarena, et. Al. 2002). The socio-economic status in which entrepreneurship education currently operate in the country may be described by the following indicators:

- i. Huge deficit in the employment statistics (Johanson et. Al. 2006) which may not be unconnected with the high population growth, low per capita income and the increasing number of school leavers.
- ii. High illiteracy rate. The illiteracy rate is still high at over 50%. Average school completion rates are 80-90% for primary school, and about 2% for JSS (Nigeria Education Sector for diagnostic, 2005).
- iii. Large number of unemployed graduates. This has pointed out the huge gap between training and labour market skill demands. This incidence of high unemployment amongst graduates is not unconnected with the absence of entrepreneurial training in the school curriculum.
- iv. Lack of standardization of training amongst entrepreneurship education delivery systems. Entrepreneurship education and training in Nigeria is spread amongst different organizations which are incoherent in their decisions and policies and therefore lack standardization of training.
- v. Low quality of training. The quality of training is low with undue emphasis on theory and certification rather on skill acquisition.

For the purpose of increasing the quality of entrepreneurship education in the 21st century, it is necessary to make at least two transformations. These are transformation from the traditional classroom to the new classroom and transformation from the traditional workplace to the new workplace.



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The performances of the various tertiary institution offering technical Programmes can be assessed by considering the example given by table 1.

Table 1 Summary of Programmes Accredited in Technical Colleges in 2004

S/N	PROGRAMMES	NUMBER OF PROGRAMMES	NO GRANTED ACCREDITATION	% GRANTED ACCREDITATION
1	Agricultural Mechanics	15	4	27
2	Block-laying and concreting	63	39	62
3	Carpentry and joinery	50	24	48
4	Electrical installations	89	45	51
5	Fabrication and welding	51	14	27
6	Furniture craft	29	15	52
7	Mechanical Engineering craft	45	23	51
8	Motor Vehicle Mechanic	69	26	38
9	Painting and Decorating	24	6	25
10	Plumbing and Pipe Fitting	24	5	21
11	Radio and Television	37	17	46
12	Refrigeration and A/C	20	7	35
13	Business Studies	43	22	51
14	Catering Craft Practice	20	8	40
15	Foundry Craft	3	2	67
16	Ceramics	1	1	100
17	Garment Making	7	1	14
18	Graphic Arts	4	0	0
19	Auto Electric Works	1	1	100
20	Leather Trades	2	0	0
21	Vehicle Body Building	7	2	29
22	Instrument Mechanics	2	0	0
23	Printing Craft	5	0	0
24	Textile Trades	2	0	0
25	Machine Wood Working	1	1	100

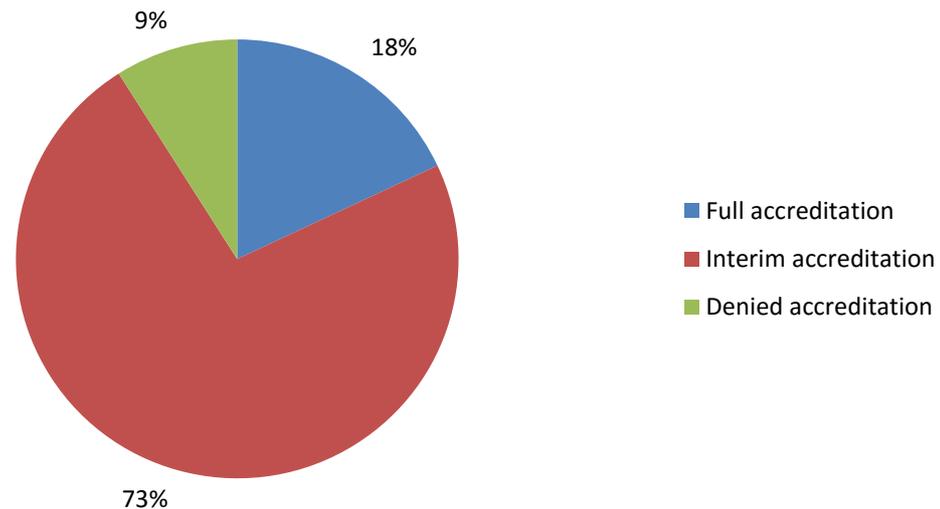
Source: NBTE (2004) Accreditation Report for Technical Colleges in Nigeria

The summary of NBTE Accreditation Report for 2004: out of 25 programmes that applied for accreditation, 3 (12%) got full accreditation, 17 (68%) got interim accreditation and 5 (20%) got no accreditation. Out of this number 11 technical programmes were examined, 2 (18%) got full



accreditation status, 8 (73%) got interim accreditation status and 1 (9%) obtained no accreditation.

Fig. 1 2004, TECHNICAL ACCREDITATION EXERCISE (Source: World Bank, 2004)



The pie chart above says much about the quality of Technical Education in Nigeria and tells us that a lot needs to be done in area of manpower, physical assets, libraries, academic contents and so on (Ejiofor, 2011)

3.0 THE NEW CLASSROOM

The new classroom must have the following characteristics:

- The learning environment is based on a small scale, a lot of information sources, a lot of interaction and only a few teacher's orders;
- The contents of the learning process are multidisciplinary, in order to integrate knowledge, skills and attitudes;
- The student is no longer primarily focused on listening to the teacher, he or she has to accomplish tasks thereby being very active and in a certain way building and constructing knowledge;
- The teacher no longer offers and explains texts but is offering experiences and tasks;



- The teacher apart from being a coach, a supervisor and an expert is also from time to time a self-learner

4.0 THE NEW WORKPLACE

In order that entrepreneurship education be properly re-engineered for self-reliance and sustainable economic growth, it is necessary to introduce information and computer technology in the new work place. One of the most commonly cited reasons for using ICTs in the classroom has been to better prepare the current generation of students for a workplace where ICTs, particularly computers, the internet and related technologies, are becoming more and more ubiquitous. Technological literacy, or the ability to use ICTs effectively and efficiently, is thus seen as representing a competitive edge in an increasingly globalizing job market. Technological literacy, however, is not the only skill well-paying job the new global economy will require. EnGauge of the North Central Regional Educational Laboratory (U.S) has identified what it calls “21st Century Skills,” which includes digital age literacy (consisting of functional literacy, visual literacy, scientific literacy, technological literacy, information literacy, cultural literacy, and global awareness), inventive thinking, higher-order thinking and sound reasoning, effective communication, and high productivity (Johanson et. Al 2004).

Table 2. Skills needed in the Workplace of the future

Digital Age Literacy

• Functional literacy	• Ability to decipher meaning and express ideas in a range of media; this includes the use of images, graphics, video, charts and graphs or visual literacy
• Scientific literacy	• Understanding of both the theoretical and applied aspects of science and mathematics
• Technological literacy	• Competence in the use of information and communication technologies
• Information literacy	• Ability to find, evaluate and make appropriate use of information including the use of ICTs
• Cultural literacy	• Appreciation of the diversity of cultures
• Global awareness	• Understanding of how nations, corporations, and communities all over the world are interrelated

Inventive Thinking

• Adaptability	• Ability to adapt and manage in a complex, interdependent
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world

- Curiosity
- Creativity
- Risk-taking
- Desire to know
- Ability to use imagination to create new things
- Ability to take risks

•

Higher-Order Thinking Creative problem-solving and logical thinking that results in sound judgment

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• **Effective Communication**

- Teaming
- Collaboration
- Personal and social responsibility
- Interactive communication
- High Productivity
- Ability to work in a team
- Ability to interact smoothly and work effectively with others and interpersonal skills
- Be accountable for the way they use ICTs and to learn to use ICTs for the public good
- Competency in conveying, transmitting, accessing and understanding information
- Ability to prioritize, plan, and manage programs and projects to achieve the desired results. Ability to apply what they learn in the classroom to real-life contexts to create relevant, high-quality products

The potential of ICTs to promote the acquisition of these skills is tied to its use as a tool for raising educational quality; including promoting the shift to a learner-centered environment (Ejiofor, 2011)

The new workplace must have the following characteristics:

- Personnel must learn how to learn and acquire new skills;
- Personnel must be flexible and able to learn quickly as work environments continue to change dynamically;
- They must have the capacity to effectively interact with others across the globe;
- Personnel must be able to use technology and information as tools to increase productivity and creativity;



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- Personnel must be able to share information and work in teams across global networks
- They must be able to transfer knowledge and information into innovative products and services.

5.0 REVIEW OF CURRICULUM

Entrepreneurship education and training is very dynamic and requires a constant review of curriculum in order to move with the changing phase of time. Any relevant curriculum when fully implemented must be aimed at:

- Increasing the ability of the workforce to innovate and produce new knowledge and of citizens to benefit from this new knowledge;
- Increasing the ability of the workforce to use knowledge to add value to economic output by applying it to solve complex problems;
- Increasing the technological uptake of the workforce by incorporating technology skills in the curriculum

6.0 CHALLENGES OF ENTREPRENEURSHIP EDUCATION AND TRAINING

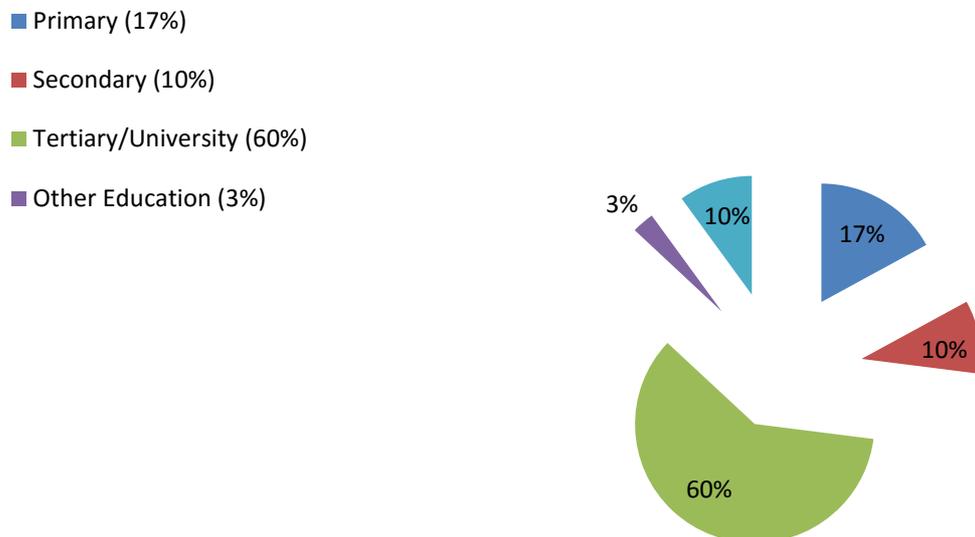
In order to properly assess quality of entrepreneurship education and training in the 21st century it is necessary to enumerate the obstacles on the way of vocational education:

- It is time consuming and expensive;
- The term entrepreneurship education is intimidating and frustrating to learners and users, resulting in slow adaptation;
- Institutions were not designed with a vocational classroom plan in mind. This gives stakeholder an additional problem of finding a suitable place for vocational classrooms;
- Educators have additional task of learning this process;
- Providing the right number of equipment and parts in vocational education classrooms is a herculean task;
- When training equipment breaks down repair is often delayed; this leads to frustration not only on the part of students but also on the part of their teachers;
- Power supply is often fluctuating;



- The appropriate manpower required to drive entrepreneurship education deployment in institution is often not available etc.
- Poor public perception. Entrepreneurship education has been considered as a career path for the less academically endowed.
- Inadequate financing. The program budgeting analysis conducted on education shows that federal government has spent an average of 60% of the entire education budget on tertiary education since 2006-2010 (Fig. 2)

Fig. 2 Percentage Average of Expenditure in Sub-sectors of Nigeria's Education Sector, 2006-2010



For this analysis, Education budget was classified into 5 categories namely; Primary, Secondary, Tertiary, Other education (Ejiofor, 2011)

7. GENERAL TEACHING STRATEGIES

Since the curriculum for entrepreneurship education is designed to teach skills, trainers should use basic principles of behavior to teach the skills:

First, the trainer provides **instruction**. During instruction, the trainer tells how to do something, and provides examples.

Next, the trainer should **model** the skill. This may be done in a role-play. A role-play is a dramatization in which a person or persons practice behaviors under conditions that are close to real world situations as possible.



Third, the student has the opportunity to **rehearse** the skill as the trainer modeled it. This is a method that helps develop a person's confidence in dealing with a variety of situations. Trainer must try to make the role-play fun so as to eliminate boredom.

Finally, the trainer provides **feedback**. This is a technique in the control management process (David, et. Al.1981). Although control theory originally evolved as an engineering discipline, due to universality of the principles involved it is no longer restricted to engineering confines in the present state of art (Nagrath et. Al. 1987). The feedback should be positive and reflect both the good part and the things on which the person needs the improve. If the student needs improvement, the trainer may need to provide more instruction, model the skill again, and/or have the person rehearse the skill again (Fig.2). This is a model of a general entrepreneurship education teaching strategy assuming linear (simple) relationship between instruction, modeling and rehearsal.

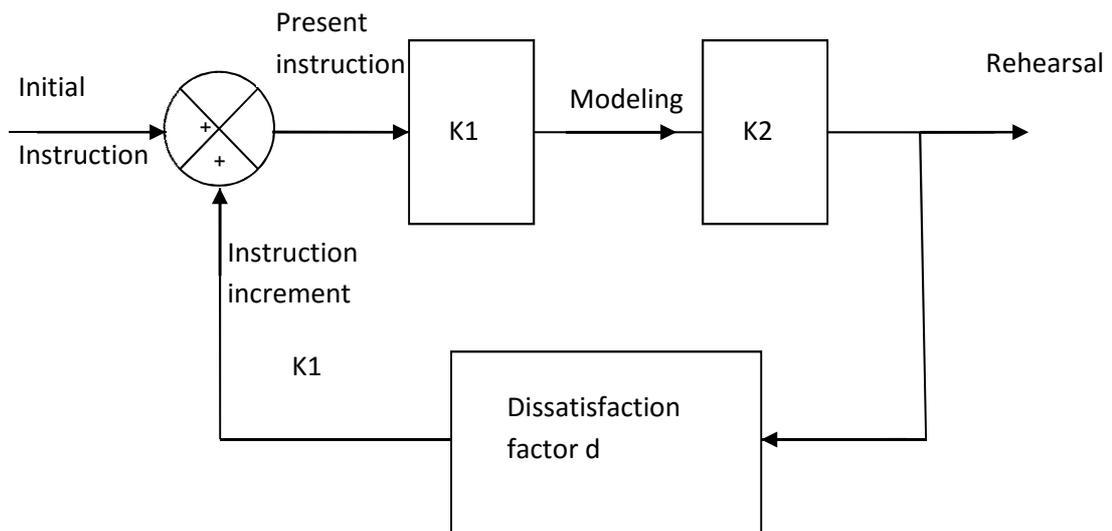


Figure 2. Application of control theory to entrepreneurship education teaching strategies.

8.0 THE IMPACT AND CHALLENGES OF GLOBALIZATION

Globalization can offer Nigeria opportunities for high-level entrepreneurship skills training through the process of technology transfer. Foreign direct investment inflows, accompanied top-grade technical expertise and modern manufacturing machinery can trigger a process of technology transfer in the receiving country.



9.0 POLICY ROLES AND RECOMMENDATIONS

Effective entrepreneurship education for technical and economic transformation can only happen if all the relevant stake holders play their part: governments, training institutions, parents and guidance development partners and even employers all have their role to play.

9.1 Governments

Develop and support implementation of national entrepreneurship education policies;
Introduce policies and incentives that will support increased private participation entrepreneurship education and training delivery;
Introduce sustainable financial schemes for entrepreneurship education
Introduce ICT into entrepreneurship education and training etc.

9.2 Educational Institution and Training Providers

Provide training within national policy framework;
Deliver a flexible and demand-driven training;
Institute bursary scheme for poor trainees;
Training institutions should be encouraged to be profit-oriented

9.3 Parents and Guardians

Support children and wards to choose the vocational education track;
Reject perception that entrepreneurship education and training is for the less academically endowed;
Support activities of educational institutions and training providers.

9.4 Donors and Development Partners

Support development and implementation of national entrepreneurship education policies;
Fund small business development research
Support post-training employment; support business start-up for entrepreneurship education graduates.

9.5 Employers

Deliver workplace training to employees;
Contribute financially to national training fund;
Provide opportunities for industrial attachment for trainees;
Contribute to the development of national skills standard.

10.0 CONCLUSION



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The promotion of entrepreneurship education and training for technical and economic transformation demands for an entrepreneurship education system that is competency-based and employment-led.

Entrepreneurship education and training alone does not lead to technical and economic transformation. Good government is necessary. National governments, therefore, need to create an economic environment that promotes the growth of enterprises and generally stimulates the economy.

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