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Creativity and Innovation Through Technical and Vocational Education for Sustainable Family Survival in Nigeria

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ABSTRACT: *This paper examines importance of Technical and Vocational Education Training (TVET) as a means of sustaining most families especially with the increasing rate of unemployment in Nigeria. The inferiority myth attached TVET was properly analysed as most family in Nigeria believe in the inferiority myth that vocational and training are meant for people of lower aspiration or less academic abilities. The reality has proven otherwise as TVET is the key that transform the economic development of any nation, alleviate poverty and improve quality of life. Therefore, the orientations have to change, and its time for parents and guardians to encourage the children to learn skills and the government to mobilize resources and pay attention to vocational education as a sure way for family sustainability through personal creativity and innovations on the profession.*

KEYWORDS; Poverty alleviation, vocational education, unemployment, creativity, innovation, economy.

INTRODUCTION

According to the definition by UNESCO and the International Labor Organization (ILO), Technical and Vocational Education Training (TVET) refers to "aspects of the educational process involving, in addition to general education, the study of technologies and related sciences, and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupants in various sectors of economic and social life" (UNESCO and ILO, 2001). With this definition, TVET can be acquired before, during and after the academic education including polytechnic and university. Therefore it is independent of your academic status, sex and age; in fact, it is even better and advisable for academically good student or graduate to go for TVET because they will be able to bring in creativity and innovation.

TVET education in Nigeria started from the families learning under indigenous system or traditional vocational education. The Nigerian child was taught various skills through weaving, sculpturing, blacksmithing, carving, farming, fishing, cattle rearing, hair plaiting, dress making, bead weaving, leatherwork, pottery, brick making, basket weaving, raffia works, mat weaving and others (Nduka, 1982 and Fafunwa, 1995). With the introduction of Western education into Nigeria by Wesleyan Methodist Missionary Society in Badagry in 1842, and by 1887, six other missionary societies had established stations in Nigeria; these missionary bodies founded schools whenever and wherever they established missions (Ukeje & Aisiku, 1982). Most families embrace western education, hence most of the family business line died naturally.

The TVET has undergone many developmental stages, in the history of Nigeria, right from the missionaries when the colonial education which was inherited by Nigeria was criticised for being too theoretical to be able to make meaningful impact on the life of Nigerians (Ibukun & Aboluwodi, 2010), to 1977, which supports the development of vocational education in the country and 1981 to 2004 which emphasises technological development among the five goals of the policy. In summary, most of the policies were good, but the implementation was not properly carried out.

Inferiority Myth

Critical analysis of Nigerian education system indicated that we still practice what we inherit from the British government which was targeted towards academic; to produce clerical staff, interpreters, clergy men, tax collectors, to support the colonial administration for effective imperialism. They were concerned mostly about the missionaries and the exportation of raw material for the industrial development of Europe. Since then, high premium was placed on white collar jobs, this lead to the poor interest of students, parents, career counselors and other people in TVET.

Causes of Inferiority Myth

The certificate rating in Nigeria makes it easy for graduates with academic qualifications to get jobs than for those with technical qualification, the rating of the certificate and the level or salary attached to it make a mess of technical qualifications and discourage people taking up the profession. In fact, trade test certificates 1, 2 and 3 do not have any value like OND, NCE and SSCE. In advertising for jobs, either in government or industries, trade test certificate has disappeared as selection criteria.

Another factor that creates the inferiority myth is the selection process for the colleges; citizens were made to understand that students with low marks (poor academic performance) were to be pushed to technical colleges either from primary school or from junior secondary schools. The students with highest marks would scamper for few spaces in the federal government colleges, the unity schools or the *gifted* schools fully funded by the federal government.

Though technical colleges are more expensive to start and fund, most of the available colleges belong to either state or federal governments. In most cases those colleges are poorly funded with

no equipment to work with and where the equipment exist, they are either obsolete or outdated and not in tandem with the 21st century technology. No serious students would prefer to study in such environment.

Another factor is the mentality of the parent, academic advisors, guardian and counselor, they give wrong advice to the children and choose profession for them, instead of monitoring the children ability, some are good for technical colleges, they mislead them and narrow their mind for university to become lawyers, doctors, and other professionals.

Some potential students are discouraged by the way some courses especially Building Technology (masonry), Automotive Mechanic, Refrigeration & Air conditioning and Welding & Fabrication are run in some of the technical colleges, in similar fashion to that of local apprentice workshops which are not well packaged. The students look dirty and unkempt and the workshop environment looks messy with no diagnostic equipment to distinguish between apprentice and a technical student. This pushes many students away.

Most of the graduates of TVET find it difficult to secure work upon graduation, and if this continues, prospective candidates will be discouraged. There are no finances for start up or no viable industries to employ the graduates. To make TVET more attractive, government at all tiers should make money available for the graduant to access for the take off of their businesses.
Another myth is that technical colleges are exclusively for boys, in fact it takes quite some time for girls to enroll in technical colleges, and today we have ladies in all the technical profession.

The Reality
For Nigeria to move forward the technological base has to be developed, Boston Consulting Group (BCG) described the issues eloquently:

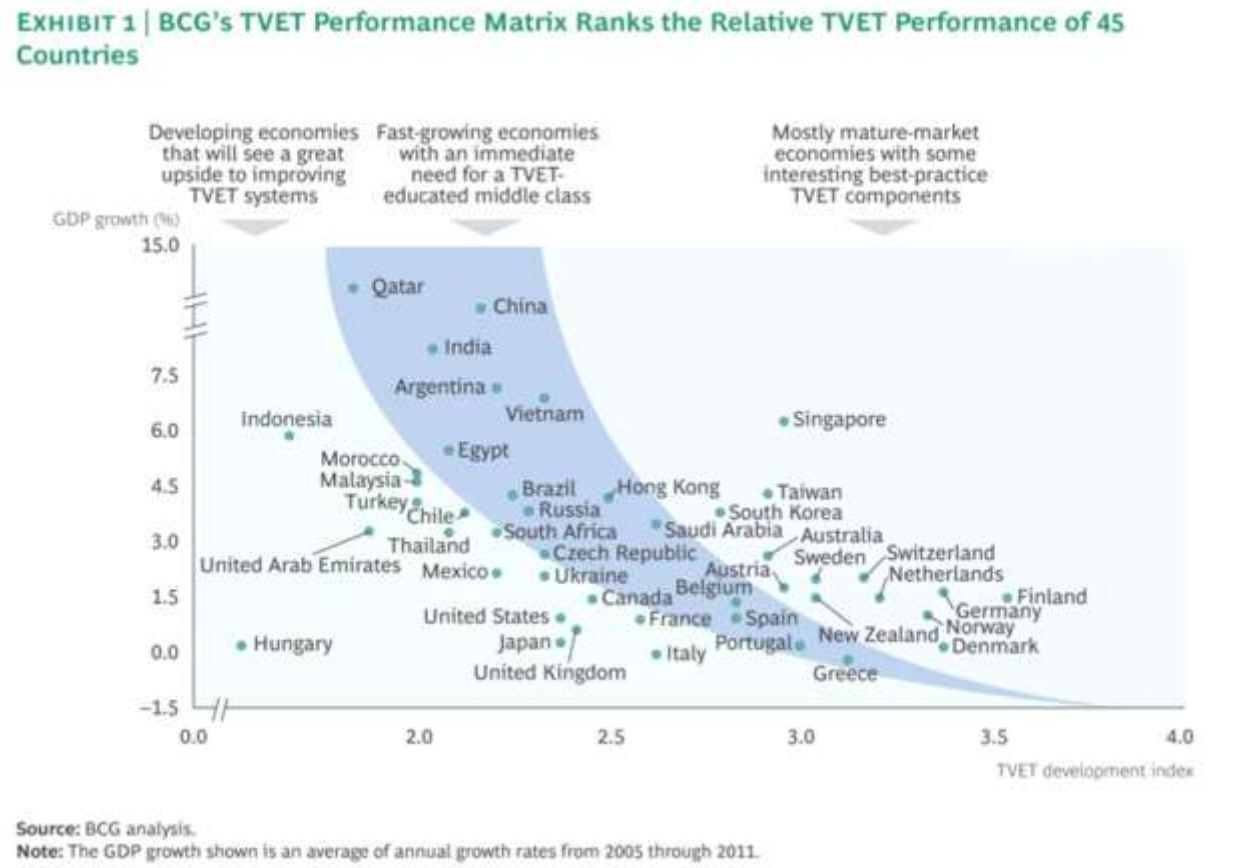

Fig. 1
Source: J. Puckett, J. Davidson, E. Lee; "VOCATIONAL EDUCATION: The Missing Link in Economic Development"; Published by Boston Consulting Group; September 2012

A good TVET system would trigger a ripple effect in the national economy. First, it would improve the perception of TVET and, correspondingly, increase the employability of—and demand for—TVET graduates. This would increase the enrollment in TVET schools. Next, the availability of high-quality, skilled workers would increase investment in the economy by both industry and government. Finally, the increased skill levels would enhance productivity, competitiveness, and efficiency, resulting in positive returns for employers and increased salaries for employees. Puckett, *et al* (2012).

The analysis in Fig. 1 among some countries of the world, which Nigeria is missing, represent the three type of economies, the developed and mature- market economies which already had a good TVET best practices and the developing, fast growing economies with an immediate need for TVET educated middle class and the developing economies that would see a great changes by improving the TVET systems.

The reality is that unemployment and poverty level in Nigeria is high and has being a major concern, increase in all kinds of crime rates were linked to it. Scholars have identified the major causes of unemployment in Nigeria, this include among others, the following:

1. The outdated school curriculum and lack of employable skills.
2. Rapid expansion of the educational systems, which leads to rapid increase in the supply of educated manpower above corresponding demand for them.
3. No vibrant manufacturing sectors which has the capacity to absorb unemployed youths in the country.

Therefore, the country needs to make vocational and technical training attractive and obliterate the baseless myth of inferiority. According to UNESCO, vocational training is; (a) an integral part of general education; (b) a means of preparing for occupational fields and for effective participation in the world of work; (c) an aspect of lifelong learning and a preparation for responsible citizenship; (d) an instrument for promoting environmentally sound sustainable development and (e) a method of facilitating poverty alleviation.

Development of functional TVET system of education can take care of these problems mentioned above and the government has a major role to play by declaring emergency in TVET in the country, the following steps can be adopted;

- Sensitizing and give orientation to the citizens through mass media on importance of TVET and the need to embrace it;
- Improving the standard of TVET schools in the countries and pay attention to it like what is obtained in unity schools and other federal institution by providing state of the art equipment and review the curriculum to align with the 21st century technology development;
- Standardize the value of TVET certificates and make sure that the certificates are listed as criteria for getting jobs in all tiers of government, industry and private organization;
- The industrial sectors has to be developed, government should tackle the influx of foreign nationals in the manufacturing sectors due to weak policies.
- Foreign companies have taken advantage of government weak policies on expatriate quota, and poor monitoring of these policies to bring as many of their nationals into the country illegally, having not gone through proper immigration processes under the guise that they will do the jobs Nigerians lack capacity. From the 1963 enabling acts of the Nigeria Immigration Service (NIS), Nigerian Content Development Act, 2010, and the executive order 5 of 2018, have been abused as foreigners can now be seen at construction sites, factories, auto-sale outlets, telecommunications and maritime companies doing semi-skilled and even menial jobs that should have been reserved for Nigerians. The national assembly (House of representative) is currently working on this;
- Government should provide good incentive to allow private participation to make it more competitive; and

- Training and development of the teachers and other instructors should be a continuous exercise at the expense of the school to equip them with knowledge and skills to perform their task effectively.

Creativity

Creativity has been highlighted as essential skills for the 21st century, especially if we consider that the skill can promote human potential by eliciting positive aspects of the individual.Creativity is the intellectual ability to make creations, inventions, and discoveries that brings novel relations, entities, and/or unexpected solutions into existence. Creativity is a gifted ability of humans in thinking, inference, problem solving, and product development. Wang, (2013).

Creativity at work is the process, outcomes, and products of attempts to develop and introduce new and improved ways of doing things. The creativity stage of this process refers to idea generation, and innovation to the subsequent stage of implementing ideas toward better procedures, practices, or products. Creativity can be understood as being a multidimensional construct, involving cognitive variables, personality characteristics, family, educational aspects, and both social and cultural elements. These dimensions interact with each other according to individual thinking and creative styles and are therefore expressed and found in many different ways. Stemberg, (2010). Creativity and innovation can occur at the level of the individual, family, work team, organization, or at more than one of these levels combined. Whereas creativity has been conceived of as the generation of novel and useful ideas, innovation has generally been argued to be both the production of creative ideas as the first stage, and their implementation. Neil, A *et al*. Therefore, the creative phenomenon has been studied under the most different approaches,

Steps to Creativity

1. The first step is to identify that new opportunity and a problem needs to be solved either through the process, procedure, packaging, distribution and marketing. This would be based on ones capability, market, time and seasons. In any business or trade, there is always new opportunities of doing things better, this can easily be discovered by asking customers questions, observer your customers difficulties and complaints. This would serve as a template to work on. The problem most people make is to create solution before identifying the problem.
2. Concentration- you need to concentrate on the information and become immersed in it. Much of the information refers to facts, inference, speculation and opinion, all must be treated in its own merit. And dreaming up the alternative without refining or evaluating them.
3. Incubation- Indicates that during the period of incubation, no voluntary or conscious thinking of the problem occurs. Incubation may be facilitated when the problem in hand is deliberately set aside from consciousness by a period of rest or by handling other problems. He regards the second as more economical since it could set in motions a series of incubation leading to several illuminations. Research shows that letting your mind wander in this way leads to greater creativity. This is extremely important stage because sometimes it takes days, weeks, months, even years.

4. Insight- this period, the problem conquering solution flashes into person mind at an unexpected time, it spark the creativity epiphany, it fosters intuition for new products and creative execution.
5. Verification and applications- the process of verification is continuous and very often we find that creative individuals, revise, modify, or change their idea. The individual tries to verify whether the solution is correct, valid and reliable in terms of existing knowledge. Verification procedure includes gathering support evidence, using logical persuasions and experimenting with new idea.

The above process is a systematic process of applying creativity and innovation to the needs and opportunities in the market place; an innovation is the ability to apply creative solutions to those problems and opportunities in order to enhance people's lives. As an entrepreneur, you must be disciplined in carrying out this task.

Innovation

Innovation has been valued as a necessary individual characteristic in the globalized world. Taken as a concept of multidisciplinary interest, research on this phenomenon has been developed in several areas of knowledge including administration, education, economics, psychology and sociology, among others. As a concept, innovation has been defined as the development of the product or practice of new and useful ideas to benefit individuals, teams, organizations or a broader range of society. Bledow, R. *et.al* (2009).

The Organization for Economic Cooperation and Development (2016), The *Oslo Manual* for measuring innovation defines four types of innovation: product innovation, process innovation, marketing innovation and organizational innovation.

- Product innovation: A good or service that is new or significantly improved. This includes significant improvements in technical specifications, components and materials, software in the product, user friendliness or other functional characteristics.
- Process innovation: A new or significantly improved production or delivery method. This includes significant changes in techniques, equipment and/or software.
- Marketing innovation: A new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing.
- Organizational innovation: A new organizational method in business practices, workplace organization or external relations.

Creativity and innovation skills have been a critical for achieving success in any trade and profession. Albert Einstein said that "insanity is the process of doing the same thing over and over again and expecting different result". While creativity is the ability to produce new and unique ideas, innovation is the implementation of that creativity – the introduction of new idea, solution, process or products. It is advisable to introduce creativity and innovation to the curriculum of TVET schools so as to prepare the mind of the students about the challenges and the prospects of technical education, just like the entrepreneur study was introduced to secondary and tertiary education in Nigeria. They would be trained on ways of solving problems, implement solutions,

develop strategies, increase production and reduce costs cut costs. There is absolutely nothing that creativity cannot be applied to, either though procedure, practices and the products, most of the creativity in vogue today is the packaging of the products, that makes the goods stands out among others

CONCLUSION

There is no doubt there is unemployment in the country, and a robust TVET educational system can reduce the unemployment. The myth associated with the system is just a figment of imagination and the reality is that for a family and the nation to survival, TVET education system must be developed. Restructuring of the current education sector to meet the current realities of capacity building (instead of emphasizing on certificate), to produce quality entrepreneurs, tradesmen and professionals who have the technical framework to start and successfully manage micro, small and medium enterprise. At this stage, creativity and innovation can set in to improve on their various trades and professions; many developed countries have survived through this method. Creativity and innovations have variously been associated with major cultural and intellectual movements, types of educational institutions and the facilitating role of government. Therefore, creativity and innovation rests on the people, educational institution and the government.

Arora, *R.* (1999) emphasis upon more formal scientific and technical training in educational institutions provided a breeding ground for creativity and experimentation in German industry in the late nineteenth century. The British 'industrial revolution' from the late eighteenth century was closely associated with the beginnings of a shift from a cottage system of outworkers using hand tools in cotton manufacture to the deployment of machine tools located in centralized factories.
Therefore, for a family to survive and the nation we need to go back to the basics, develop the TVET education system and encourage creativity and innovation.

Recommendation

I. Restructure the education system by paying attention to TVET and make appropriate policy that would create new dynamics for technical and technological training in Nigeria.
II. Proper funding is essential and important for the TVET schools; for laboratories, equipment, training of staff, work shop and training materials, ICT etc.
III. Elementary engineering principles should be introduced in primary schools to orient the children early enough towards technical vocational education and training and career guidance needs to be strengthened in all the primary and post primary institutions on the importance of TVET so as to bring to attention of the learners to the opportunities that exist in these areas of study.
IV. Creativity and innovation to be included in the curriculum of TVET schools, as it is a learning skills that require understanding and specific skills.
V. It is recommended that government should give orientation and campaign on the importance of TVET in the development of the country, through exhibitions, mass and social media and national

orientation agencies. The government should also acknowledge and reward innovation to encourage others.

VI. The government and private individual are encouraged establish Technical Universities, to absorb the graduate of the technical colleges and award degree.

VII. Development of industrial sector would make jobs available for the graduate of the TVET schools.

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