



ISSN: 2350-0328

**International Journal of Advanced Research in Science,
Engineering and Technology**

Vol. 7, Issue 4 , April 2020

Rebasing Technical Education towards Technopreneurship: A Review of Graduate Employability in Nigeria

Olojuolawe, Sunday Rufus, Ajayi Tunde, Adegboye Olalekan Oluwadamilola

School of Vocational and Technical Education, College of Education, Ikere-Ekiti, Ekiti State, Nigeria.

School of Vocational and Technical Education, College of Education, Ikere-Ekiti, Ekiti State, Nigeria

General and Entrepreneurship studies Unit, University of Science and Technology, Okitipupa, Ondo State, Nigeria.

ABSTRACT: Nigeria since independence notwithstanding her size, abundant human and material resources have been struggling to re-position herself among the committee of nations. Towards this end, different strategies and programmes were mounted and rolled out by the successive administrations; both military and civilian to avert the continuous backward drift of the economy and national life. Now, the situation has become more precarious and worsened with dilapidated infrastructures and rising unemployment rate with its attendant socio-economic menace. Poverty level seems insurmountable and boldly written in people's faces. The root cause of this scenario can be traced to the fact that Nigeria has always been an easy dumping ground for finished goods from another part of the world without any competitive advantage. These nations leverage on the size and population of Nigeria to advance their economic and industrial growth. It is now time to re-think our education policy by placing more priority on productive learning. A paradigm shift from a service economy to a new direction in technical education built on the combinations of technical and enterprise.

KEY WORDS: Technical Education, Technopreneur, Graduate, Employability.

I. INTRODUCTION

A number of researches have emerged for the revamping of the economy through the instrumentality of technical and vocational education in Nigeria. The studies on the challenges of TVET have almost been exhausted. The new thinking in the 21st century should be about the employability of technical education. This is necessary because the world has grown to a level of dynamism. Machines in the name of technology are now performing the job of man. However, the changes have not totally enveloped the whole world's economies, but gradually creeping in. Nigeria must, therefore, prepare herself well regarding technological break-through by adopting a shift towards a new direction; a new change that breeds the combination of technology with the enterprise. The technical and vocational institutions should be remodeled towards the attainment of the national goal. That is, the building of manpower for national development as expressly stated in the National policy on education [1].

Economists noted that dumping is illegal and bad for national development (Uccio & Rbahar, 2016; Brandt, 2017). For Nigeria to avoid being a waste yard for manufactured products from the rest of the world, the technical institutions should be revamped and re-oriented to taking-up a new role that is capable of solving the challenges facing the nation. The economy desired a re-direction towards production and not consumption. The hustling and bustling of buying and selling in imported goods should be halted for the economy to become productive.

Creativity is intricately connected with productivity, and are all elements of technical education [4]. The infusion of technopreneurship into the curriculum of technical education at all level of education in Nigeria becomes desirable. Oke (2016), avers that creativity is required in the industries, offices, businesses centers, homes and every facet of human life. Though, creativity is perceived in different ways from one environment to another [5]. It remains an important element required by every nation to encourage and promote national economic development. The root of business is in creativity and production. Creativity has become more critical in the present Nigeria situation because, the new solution will engender personal survival and development [6].



ISSN: 2350-0328

International Journal of Advanced Research in Science, Engineering and Technology

Vol. 7, Issue 4, April 2020

II. CONCEPTS OF TECHNOPRENEURSHIP

Different meanings and definitions have been postulated by different scholars and researchers about the concept of technopreneur. However, we are not going to concern ourselves with the debate, but with the idea behind the use of the term. Individuals who possess technopreneurial traits take challenges and work hard to live their life with the aim of achieving greater success (Elijah, 2017; Yasin, 2017). Technopreneurship is often described as a combination of technical skills and entrepreneurial prowess for the production of new or imitated products. Salladurai (2016) defines a technopreneur as the person who is able to change the course of economic order by introducing new products and services. This is achieved by creating new economic order for organizations and by exploiting new raw materials. Technopreneurs have the ability to create a new product to displace the existing one. Technopreneurship is a process of entrepreneurship in technology. It involves the merging of technical prowess and entrepreneurial talent and skills.

Baumol (2011), sees technopreneur as a person who undertakes risks that has a chance of profit by creating an enterprise or business. The technopreneur is that person that has the boldness, and have the imaginative deviation from established business methods and practices who constantly seek the opportunity of commercializing new products, technologies, process and arrangements [8]. For a country to develop and come out as a strong economy, it must fully and deliberately embrace technopreneurship. According to Okorie (2014), the study of technology products and services coupled with the market are the right attitudes for meeting the market demand.

Acting on this assumption, therefore, Nigeria must seek a new direction to boosting her technological base and consequently increasing her capacity for the high production level. This is more important because of the inherent values in the diversification of her orientation towards a new brand of education; technopreneurship education that can only be met in technical education.

A. Qualities of Entrepreneurs

The objective of starting up a business is for growth and makes a profit. Going into entrepreneurship is often associated with different kinds of risk involves confidence and initiative for interested businessmen to come on board. The readiness to undertake new ventures is dependent upon readiness to go into new, often risky, ventures (Okorie, et al; 2014). Entrepreneurs are constantly creating and generating ideas to solve societal problems [12].

Other characteristics of the entrepreneur as cited by Okorie, (2014) are:

- Passionate about ideas
- Full of vision – always “dreaming” and generating ideas
- Resilience – painstaking to follow-up a project irrespective of the prevailing tides
- Always in pursuit of knowledge

For a nation to prosper industrially and move on buoyantly economically, the citizenry must possess: - A strong and vibrant entrepreneurial base of adventurous individuals burns with energy, passion, creativity, and acumen.

- The researchers, scientists, technologists, and engineers of such nations grow-up in an environment in which entrepreneurship is a culture.

- The civil populace of such nations is driven by values of diligence, resourcefulness and given to venturing.

III. TECHNICAL EDUCATION IN TECHNOPRENEURSHIP

It is on record that the terms technical and vocational education are used interchangeably in Nigeria without regards to the level of application. Though, the goal and skill level expected at pre-secondary and secondary levels are clearly stated. However, since the objective is to encourage the infusion of technopreneurship into school curricula to ensure productive mindset that is entrepreneurial context-based, going into exhaustive literature is jettisoned for relevance. Graduates of technical education programmes usually bridge the gap between professional engineers and the craftsmen. Technical education is most often found in trade and industrial education but other occupational areas such as agricultural education, home economics education, fine and applied arts, business and office technology education also have their own level of technical education [13]. All these form the crux of the application and usage areas of science and technology of technical education in an economy.



ISSN: 2350-0328

International Journal of Advanced Research in Science, Engineering and Technology

Vol. 7, Issue 4, April 2020

As contained in the new National Policy on Education, NPE, (2013), technical education is the only course programme in Nigeria that provides a broad base for technological infusion that encompasses the entire national life. This spans from Automobile technology, Woodwork technology, Metalwork technology, Building Technology, Electrical and Electronics technology. When extended further, we have other aspects of technical and vocational education that make the entire national life more encompassing. These aspects of technical and vocational education are business and office technology, fine and applied arts, home economics education, and agricultural education.

While the job areas in technical field involve the engagement of hard skills that are needed for productive engagement of creative activities, home economics and business education are more of services oriented.

Many studies have highlighted the wave of unemployment in Nigeria (National Bureau of Statistics, 2016; Asaju, 2014; Anyanwu, 2014). One of the best ways to permanently solve the problem is through the practical engagement of investment-driven technology in school. For example, Asaju, et al; (2014) considered the rising rate of unemployment in Nigeria and its socio-political and economic implications on Nigeria economy. He avers that no appreciable efforts had been taken in this regard in this 21st century. He noted that corruption in both public and private places and a lot of infrastructural decay especially in industries and agriculture are the main cause of unemployment. Though Asaju, (2014) made case for the restoration of power, industry and the agricultural sector, however, you can only give what you have. The technological base must be strong before the citizen can start to enjoy and liberate themselves out of the shackles of unemployment and poverty.

IV. UNEMPLOYMENT IN NIGERIA

The data released by the National Bureau of statistics in the second quarter of 2016 indicates that the level of unemployment in Nigeria is increasing persistently compared to a country like China and the neighboring country like Ghana. While China recorded a decrease of 4.04 percent in 2016 from 4.05 percent in 2015 in the rate of unemployment, Nigeria on the other hand, during the same period, recorded an increase of 13.3 percent in 2016 from 12.1 percent in 2015. Ghana recorded an increase of 12.9 percent at the end of the same 2016 from the previous status of 5.96 percent. Such a high unemployment situation is worrisome. It is causing serious security challenges for the nations (Jodi, 2017). Hence, Adesina (2013) and Lloydtruth (2017) attributed the increase of insecurity challenges in Nigeria to the high rate of youth unemployment.

Therefore, the rapid rise in the rate of joblessness has turned to a source of major worry for Nigerians. A few school leavers and employable young people are thinking that it is hard to secure jobs for reasons relating to skill mismatch and technological changes leading to reorganization [19]. The issue now is no longer about going to school and graduating or learning a trade, but about how to face the reality of graduating and joining the multitudes of the unemployed with little hope of what the future holds. Unlike what is obtainable in most of the developed countries like China and America, there is no standardized framework set up to cater for the jobless in Nigeria. In this manner, as the jobless do not have to get unemployment subsidy from the Government, most of them become idle and failed to cater for themselves. As a result of this, many of them resorted to engaging in anti-social behaviours that hinder both the economic and security well-being of the country. Many researchers have investigated the causes of unemployment in Nigeria with many of them making a wide range of recommendations to government on how to control it (Abiodun-oyebanji & Michael, 2016; Hassan, 2010; Hassan Mohammed, 2012; Jodi, 2017; Uddin, and Uddin, 2013).

A. Factors Responsible for Unemployment in Nigeria

Various studies on unemployment in Nigeria including Asaju (2014); Awogbenle & Iwuamadi (2010); Chinyere & Faith (2012); Dafe (2016); Noko (2017) came up with a number of factors responsible for unemployment in Nigeria. This is regardless of the massive oil wealth, and abundant human and material resources present in the country (Lloydtruth, 2013). Some of the major factors that accounts for the high rate of unemployment in Nigeria are: Low economic growth, adoption of untimely policy measures, Wrong impression about Technical Education, Neglect of Agricultural sector of the economy, Poor enabling environment, Rural-urban migration, Rapid population growth, Outdated School curricula and lack of employability skills. Other factors advanced are a rapid expansion of the educational sector, and the overloaded curriculum of instruction (Noko, 2017; Okoye & Arimonu, 2016; Samuel & Olumuyiwa, 2012). What is central to all these factors are poor planning and the neglect of the educational sector. This has negatively impacted on Technical Education and its products in terms of the fulfillment of its mandate of producing employable graduates.



ISSN: 2350-0328

International Journal of Advanced Research in Science, Engineering and Technology

Vol. 7, Issue 4, April 2020

Government Strides

In her bid to combat the menace of unemployment, the Nigeria government designed various technical and professional instruction programmes in the formal segment of her educational framework to improve skill development. As contained in the NPE (2013), the educational system in Nigeria was named; 6-3-3-4, and now referred to as 9-3-4 System of Education. The first six years are spent at the Elementary school which is otherwise known as the Primary school, the next three years; Junior Secondary School (JSS); and the last three years are spent at the Senior Secondary School. Introductory Technologies in subjects like; Electrical / Electronics, Building, Metal Work, Automobile, Wood Work and Technical Drawing Technologies are taught at the junior level. At the end of (JSS), a successful candidate can progress to (SSS) or Technical Colleges for further training. After the academic programme at the Senior Secondary School, the successful student has the opportunities of proceeding to any of Nigeria Tertiary Institutions for higher studies in courses of their choice. This also applies to a successful graduate of Nigeria Technical Colleges. Tertiary education institutions in Nigeria are; the Polytechnics (mono; or poly), the Colleges of Education and the Universities.

V. SCHOLARLY VIEWS ABOUT UNEMPLOYMENT

The term unemployment has been variously defined by different authors. The Nigeria National Bureau of Statistics, NBS, (2016) stated that unemployment rate measures the number of people actively looking for a job as a percentage of the labour force. Many scholars have described unemployment as a very complex phenomenon that has no specific definition. Many countries adopt definitions that suit their local priorities (Lloydtruth 2017). Specifically, the term refers to a condition of joblessness or lack of employment. It is a situation where anyone who is fit and available to work fails to get one for the concerned period.

In computing the Nigeria unemployment rate, the country employs the International Labour Organization (ILO) definition. The unemployment rate measures the number of people actively looking for a job as a percentage of the labour force (ILO, 2014). It relates to all people not in work, who might have acknowledged an appropriate activity, or began an enterprise during the reference time frame if the opportunity emerged (Jodi, 2017). The International Labor Organization (ILO) way to deal with the meaning of joblessness lies on what can be described as the "labour force framework", which classifies the working-age population into three fundamentally unrelated and comprehensive classes as indicated by a particular arrangement of guidelines. The classes are employed, jobless, and out of the working age. Where the previous two classifications constitute the labour force. Basically, it is a measure of the supply of labour at any given time (ILO, 2017). In spite of the fact that the meaning of joblessness has since 1954 been intermittently amended, its essential criteria stay in place [32]. Therefore, a person is to be jobless if he or she falls into any of these categories:

- a) Those who do not have any work at all. These category of people are not in paid jobs or self -employed;
- b) Those who are available for work. These are people who are available for paid jobs or self -employment during the reference period; and
- c) Those seeking work and had taken specific steps in a specified recent period to look for paid employment or self-employment.

Those without work serves to give a distinction between the employed and the unemployed. It shows clearly the exclusive classes of the working population.

The last two criteria isolate the non-employed into the jobless and the out of the workforce. The motivation behind the accessibility for work condition is to exclude those people who are looking for work to begin at a later date, and it is a trial of current availability. Joblessness is, in this manner, a financial condition where people looking for occupations cannot get themselves economically employed (Jodi, 2017). The level of joblessness varies with economic conditions and other market forces.

A. Technopreneurship in National life

According to Harsono, (2013), the emerging global world of competitive business and the increasingly complex business world have necessitated cross-functional and marketing skills for doing business. The benefits which technopreneurship offers to the national economy can be categorized into four; the economy, the industry, academics, and the individuals. The constant complaints from the industries that the schools forwarded to them half-baked graduates will have been eliminated by the type of training and the exposure the graduates were made to pass through during the course of their study. This would reduce the existing skill-gap between the school and the industry and consequently saves the industry extra human capital on retraining of personnel or new recruits. The ultimate result of this is increased productivity and output. The institutions too will be proud of turning out quality graduates for the



ISSN: 2350-0328

International Journal of Advanced Research in Science, Engineering and Technology

Vol. 7, Issue 4, April 2020

labour market. This no doubt, do not only accord them the prestige but gives an assurance of job security either now or in the nearest future. The stability of the system will ensure a stable and conducive atmosphere for more quality research and discoveries that give rise to patients.

Equally, a competently trained person in technopreneurship and who is in possession of employability traits would be out of the illusion of not securing a job at graduation. In another word, technopreneurship training or skills enable graduates to be more marketable and employable by the industry. This is the graduates' entrepreneurial mindset [34]. It is the belief of the industrial players that an enterprise graduate; who possesses the qualities of an entrepreneur will generate new ideas suitable for increased productivity. Technopreneur graduates with the necessary supports will end up being an inventor or entrepreneurs in science and technologies.

Finally, technopreneurship will help to reduce the country's over-dependence on foreign - imported goods. This will increase the local sourcing of raw materials for the production of basic goods that can be handled locally. This will ultimately translate to employment generation for some level of the citizenry and helps in conserving the already battered foreign reserve and increase national GDP.

B. The Way forward

With all these "discouraging" factors around, coupled with the fact that the country must not be left behind in the development of advanced technologies and global business practice, get the right solution in the positive direction is imperative. In that wise, creativity training, and training on creative processes and process skills is needed. These could be combined with acquired experiences. The intellect is with us, it is in us, and therefore, technology must come to stay. Promoting innovative entrepreneurship should thus be a central concern for policymakers. This is essential for modern governments. It requires that government officials themselves act entrepreneurially in implementing policies and promoting new forms of partnerships with industry, academia and civil society groups [35]. The success of young and upcoming innovators is dependent on the acceptance of this challenge by the leaders. The adoption of technological innovations to empower citizens and the growth of the economy must be totally embraced. Local technopreneurs need to take advantage of the numerous unsatisfied wants in Nigerian environment. The various farming and processing implements, tools and machine should be taking up as a challenge, and processed locally. This goes a long way in effecting multiplying effects on the employment chain, thereby, creating jobs for the jobless.

VI.CONCLUSION AND FUTURE WORK

The current courage of the Federal Government to fight corruption head-long must be saluted. Corruption has been identified as one of the reasons why the country is backward. While commending the roles of Tertiary Education Trust Fund (TETFUND) in the aspects of the provision of new infrastructures and training of personnel in tertiary institutions, the fixing of decayed and dilapidated infrastructures in the institutions of higher learning where technical education is offered and taught as a course should receive priority attention nation-wide. Most of the tools, machines, and equipment in many of the technical workshops are either obsolete or bad and therefore not relevant to today's job discoveries and performance. In this regard too, the re-training of the technical personnel in the handling and production of technologies is essential. Therefore, a technical team of experts comprising of the academia, industry, Federal and state Ministries of Education should be put in place by the Federal Government to fashion out a new direction for re-basing our technical education to engender national growth and development that is productivity based. Similarly, studies identifying competencies in disciplines-difference should be the focus of researchers.

REFERENCES

- [1] NPE, "National Policy on Education," Abuja, Nigeria, 2013.
- [2] L. P. Uccio and A. E. Rbahar, "Circumvention of Anti-dumping : A Law and Economics Analysis of Proportionality in EU Rules," vol. 3, no. 3, pp. 391-416, 2016.
- [3] A. A. Brandt, "Illegal Dumping as an Indicator for Community Social Disorganization and Crime," 2017.
- [4] J. . Oke, "Fostering Creativity among Technical College students in Nigeria," Universiti Teknologi Malaysia, 2016.
- [5] M. R. Wadaani, "Teaching for Creativity as Human Development toward Self-Actualization: The Essence of Authentic Learning and Optimal Growth for All Students," *Creat. Educ.*, vol. 6, no. 6, pp. 669-679, 2015.
- [6] M. Csikszentmihalyi, *Flow and the Foundations of Positive Psychology*. 2014.
- [7] O. Elijah, "Technopreneurship: A View of Technology," vol. 17, no. 7, 2017.
- [8] M. Yasin, "Increasing Technopreneurs for a Developing Nation : The Majlis Amanah Rakyat (Mara) Experience," vol. 9, no. 1, pp. 73-86, 2017.



ISSN: 2350-0328

International Journal of Advanced Research in Science, Engineering and Technology

Vol. 7, Issue 4 , April 2020

- [9] M. Salladurai, "Conceptual Framework on Technopreneurship," *SELP J. Soc. Sci.*, vol. 7, no. 27, 2016.
- [10] W. J. Baumol, Entrepreneurship, Innovation and Growth: The David-Goliath Symbiosis 1 William J. Baumol, New York University," pp. 1–19, 2011.
- [11] N. N. Okorie, "Technopreneur: An Urgent Need in the Material World for Sustainability in Nigeria," *Eur. Sci. J.*, vol. 7, no. 3, 2014.
- [12] W. Akinyanmi, *150+50 Small Business for Entrepreneurs*, 2ND Ed. 2013.
- [13] M. . Okoro, *Principles and Methods in Vocational and Technical Education*, First. Enugu, Nigeria: University Trust PublisherS, 1993.
- [14] National Bureau of Statistics, "Unemployment Data," Abuja, Nigeria, 2016.
- [15] K. Asaju, "The Rising Rate of Unemployment in Nigeria: The Socio-Economic and Political Implications," *Glob. Business Econ. Res.*, vol. 3, no. 2, pp. 12–32, 2014.
- [16] J. C. Anyanwu, "Does Intra-African trade reduce youth unemployment in Africa?," *African Dev. Rev.*, vol. 26, no. 2, pp. 286–309, 2014.
- [17] Jodi Beggs, "Types of Unemployment," <http://www.thoughtco.com/types-of-unemployment-in-economics-1148113>, 2017.
- [18] Lloydtruth, "Unemployment in Nigeria: Causes and Solution," www.nairaland.com/1419446/unemployment-nigeria-causes-solution, 2017.
- [19] R. P. S. O. Uddin, "The Role of Technical and Vocational Education in Poverty Reduction among Youths in Nigeria," vol. 4, no. 4, p. 617, 2013.
- [20] R. Hassan, "Strengthening technical and vocational education (tvete) - producing innovative tvete teachers for 21," *J. Tech. Vocat. Educ.*, pp. 412–423, 2010.
- [21] O. Uddin, P.O.S and Uddin, "Causes, Effects and Solution to Youth Unemployment Problems in Nigeria," *J. Emerg. Trends Econ. Manag. Sci.*, vol. 4, no. 4, pp. 397–402, 2013.
- [22] Mu. R. B. Hassan Mohammed, "Roadmap Towards Industrializing Nigeria," *ABTU Journal of Sci. Educ.*, vol. 1, no. 2, pp. 13–20, 2012.
- [23] O. J. Abiodun-oyebanji and O. S. Michael, "Determinants Of Students ' Enrolment In Technical and Vocational Education in Ondo State, Nigeria," *Kenyan J. Educ. Planin. Econ. Manag.*, vol. 10, no. 1, 2016.
- [24] A. C. Awogbenle and K. C. Iwuamadi, "Youth unemployment: Entrepreneurship development programme as an intervention mechanism," *African J. Bus. Manag.*, vol. 4, no. 6, pp. 831–835, 2010.
- [25] J. E. Noko, "Causes and Solution to Unemployment in Nigeria," educacinfo.com/causes-solution--unemployment-nigeria/, 2017.
- [26] T. Chinyere and C. Faith, "Entrepreneurship and Employability Among Nigerian Graduates," vol. 3, no. December, pp. 68–74, 2012.
- [27] Dafe Otopo, *Essential of Labour Relation in Nigeria*. Lagos, Nigeria.: Malthouse Press Limited, 2016.
- [28] O. Samuel and E. Olumuyiwa, "Assessment of National Commission for Colleges of Education Curriculum in College of Education , Ikere-Ekiti," vol. 2, no. 17, pp. 298–302, 2012.
- [29] R. Okoye and M. O. Arimonu, "Technical and Vocational Education in Nigeria : Issues , Challenges and a Way Forward," *J. Educ. Pract.*, vol. 7, no. 3, pp. 113–118, 2016.
- [30] NBS, "Population, Employment, and Unemployment in Nigeria," Abuja, Nigeria, 2016.
- [31] ILO International Labour Organization, "Global Youth Unemployment rate," 2017.
- [32] C. G. E. Salami, "Youth unemployment in Nigeria : A time for creative intervention," *Int. J. Bus. Mark. Manag.* www.resjournals.org/IJBMM, vol. 1(2), no. July, pp. 18–26, 2013.
- [33] A. Harsono, "Building Technopreneurship for Next Generation : How the Benefits of Techno- Entrepreneurship Education Affect Career Intentions of College Students," vol. 3, no. 1, pp. 31–40, 2013.
- [34] M. Z. Solesvik, P. Westhead, H. Matlay, and V. N. Parsyvak, "Entrepreneurial assets and mindsets: Benefit from university entrepreneurship education investment," *Educ. + Train.*, vol. 55, no. December, pp. 748–762, 2013.
- [35] K. Cukier, "Innovative Entrepreneurship and Public Policy: A Report of the 2006 Rueschlikan Conference on Information Policy," www.heikenz.net, 2006. .

AUTHOR'S BIOGRAPHY



Dr. Olojuolawe, R.S is a Chief Lecturer at the College of Education, Ikere–Ekiti, Nigeria. He had his doctoral degree at the famous Universiti Teknologi Malaysia. He was the Vice Dean of the School of Vocational and Technical Education, College of Education, Ikere-Ekiti between 2013 and 2015. He had to his credit many publications in both local and international journals. Dr. Olojuolawe completed his undergrute and master degrees in Nigeria. He is happily married.



Mr. Tunde Ajayi is a Chief Lecturer at the College of Education, Ikere-Ekiti, Nigeria. As a seasoned administrator and academics, he had been head of department of Fine and Applied Arts, Dean School of Vocational and Technical Education, and currently the Director of Pre-Degree and Advance studies at the College with many publication to his credit. His marriage is blessed with children.



Mr. Adegboye Olalekan is a lecturer at the Olusegun Agagu University of Science and Technology, Okitipupa, Ondo State, Nigeria. He obtained his undergraduate and master degrees from Kuala Lumpur metropolitan Universiti, Malaysia and the Universiti kembangan, Malaysia respectively. His research interest is entrepreneurship.