



Aligning Building Technology Education with Industry Demand for Employment and Sustainable Future

Asuai Patience

Department of Technical Education, Delta State University Abraka Nigeria

asuaipatience1@gmail.com

07032032908; 08086424605

Abstract

Building Technology Education is fundamental to the development of a nation especially in the area of infrastructural development. On the other hand, industries are significant contributors to the economy by providing employment opportunities. Despite all efforts made in the area of employment generation, Building Technology graduates are unable to secure jobs due to lack of employ ability skills and non-alignment of the graduates with modern skills required by the industries which is a major challenge. Other challenges are lack of information about job opportunities, poor facilities and poor power supply among others. For these modern skills to be relevant to the world of works as well as to draw the majority of jobless people out of the unemployment market, there is need to reposition Building Technology education towards meeting industry demands for employment. This paper highlighted the concept of building technology education, building technology education and its relevance in meeting industry demands for employment generation and challenges militating against aligning building technology education with industry demand for industry demand for employment and sustainable future. The study concludes that there is need for institutions to align with the industries in the area of employment in order to meet their demands. The study therefore recommends among others that a strong linkage and collaboration should be established between Building Technology institutions and industries to provide opportunities for graduates to regularly update their work place and for job creation and economic development.

Keywords: *Building Technology, Employment, industry demand, Sustainable Future,*

Introduction

The role of technology education in meeting industry demand for employment generation cannot be over-emphasised. It remains the vital and effective approach to finding solutions to the unemployment problem in any country. According to United Nations Educational Scientific and Cultural Organisation (UNESCO, 2001) as cited in Ehimen and Asuai (2021), Technology education is a comprehensive term, referring to that involving in addition to general education, the study of technologies and related sciences and the acquisition of practical skills, basic scientific knowledge and altitudes required as craftsmen and technicians at sub-professional levels. It is an organized programme of course and learning experiences that begins with exploration of career options, support basic academic life skills and preparation for employment. Technology education prepares people for specific trade, occupation or vocation. It plays a vital role in human resource development of a country by creating skilled manpower, enhancing industrial productivity and improving the quality of life.

One of the goals of technology education is to develop skills, abilities, altitudes, work habit in preparation for self-reliance. It serves as a medium through which national objectives and technological programmes are achieved. Adesina (2024) state that in an ever-evolving world of technology teaching and learning, technology is becoming increasingly central to the educational experience. Without technological capability, Nigeria will continue to dream of becoming an industrialized nation.

One of the educational programmes begin offered in tertiary technological institutions such as monotechnic, colleges of education (technical) and universities is building technology education. According to Gang (2013) building technology education is a part of technology education. Building is a process of constructing, putting materials together to form structures. On the other hand, technology is the study of the mastery and utilization of manufacturing methods or systematic application of knowledge to practical task in industry. According to Aniele (2021), technology is the application of scientific knowledge for practical purposes. It is seen as the most outstanding invention. Its impact is widespread and far reaching, touching all aspects of human endeavour such as health, medicine, engineering, education, communication etc. In all areas of life, technology rules world. Building technology, skills and attitude for the provision of shelters for man, goods and services used in the construction of industries to enhance efficiency, safety and sustainability.

According to the Federal Republic of Nigeria, FRN (2013) building technology education is designed to achieve the following objectives:

1. Provision of fulltime course of instruction and training in engineering and other technologies, applied science, business and management leading to the production of trained manpower.
2. Provision of technical knowledge and skills for production of technicians, technologists and other skilled personnel who shall be enterprising and self-reliant.
3. Providing training to people who can apply scientific knowledge to solve environmental problems for the convenience of man.
4. Giving exposure to professional study.

These objectives can be achieved through a curriculum that is relevant in the acquisition of skill that will provide gainful employment for future development. Building technology education has been an integral part of national development. The skills, abilities and



competences needed by industries are embedded in building technology education. Industries contribute significantly to the economy, providing employment opportunities and infrastructural development.

Despite the contributions of building technology education in meeting industry demand, no meaningful progress has been made in the area of building technology education. It has been relegated to the background that no young hands are understudying to take over. It is still confronted with problems such as outdated curricular, lack of industry collaborations with training institutions, lack of practical training and employability skills that aligns with current industry demand, lack of public awareness on the job opportunities available to building technology graduates among others. According to Adeyemi (2019) many graduates lack employability skill and practical training that aligns with current industry demand, which can lead to unemployment, poverty and economic instability. He stated that many technical institutions lack the necessary infrastructure and equipment to provide such training. To meet the manpower needs of Nigeria, It is necessary to provide programmes that will satisfy the employees and employers. Employability skills are the foundation of career building blocks and they are frequently referenced in the media as lacking in school leavers, graduates and those already in employment. It is believed that technology institutions are accepted as the foundation for the production of competent manpower for the sustenance of small and medium scale industries, thereby, generating employment.

Industries are significant contributor to the economy, providing employment opportunities and infrastructural development. However, there is a skill gap between industries and training institutions, which hampers their performance and employability. Skill training through building technology programme fills the gap between technical training institutions and industries. Building technology programmes should be the training that will give the requisite and proficient skills in the relevant area of calling. Future economic development refers to the future improvement in the economic wellbeing of individuals, communities and nation. It includes factors such as income growth, employment opportunities, access to education, health care and overall quality of life. The starting point for addressing poverty reduction is economic growth, which translates to wealth creation. The rate of growth must be accelerated to achieve the urgent priorities of poverty reduction and employment generation (Anyia, 2023).

Achieving sustainable future economic development and maintaining it is important because of the rising wave of poverty and the problem of unemployment facing many countries of the World especially Nigeria. An individual that is functionally and skilfully trained in building technology education can be self-employed and contribute to the economic development in the society as well as reduction in poverty.

Building technology education plays a vital role in development of any nation. It provides employable skills necessary for gainful employment and economic development. Despite the contribution of building technology in the production of competent manpower for the sustenance of industries, its significance has not really been embraced. It has been relegated to the background that no meaningful progress has been made in the area of employment generation and industrialization. These problems could be traced to outdated curricular, lack of collaborations with training institutions, lack of practical training and employment skills that aligns with current industry demand, lack of information on job opportunities available to building technology graduates amongst others. It is necessary for government to invest in functional building technology programmes that will provide employable skills that will align



with current industry needs. This will help to curtail the problem of unemployment and economic instability.

Concept of Building Technology Education

Building technology is one of the vocational education programmes whose main objective is to equip graduates with practical skills for self-reliance (FRN, 2013). Technology education has been in the forefront of solving unemployment problems currently threatening the nations democracy, security and national development. By virtue of its curriculum offerings, technology education provides its beneficiaries with technical and entrepreneurial skills and knowledge with which an individual can start and manage his business.

In recent years, the construction industry has undergone significant transformations driven by increasing demands for efficiency and safety. Technology advancement has propelled construction forward, benefitting both the industry and society at large. Building technology refers to the advancement, tools, equipment and methods used in construction industries to enhance efficiency, safety and sustainability. Building technology education prepares the recipients with relevant skills, knowledge and altitude in operating principles of construction, maintenance and repairs of building and other similar structures. The main building technology trades has among others the following objectives: job creation, cultural heritage, productivity and self-employment for individuals (Haman & Gana, 2016).

The main purpose of building technology education is to develop occupational skills needed in an individual as a preparation for work. These development in form of training and retraining programmes are given in institutions under supervision and control. The learning experiences according to Abubakar (2010) may occur according in variety of learning context including educational institutions and work place. In these institutions, individuals are provided with needed skills that will enable them become proficient in both workplace and private employment. Practical skill is important for increasing a nation's competency and for promoting economic stability. It promotes personal and national greatness. With the rapid advancement of technology the increasing digitalization of economies worldwide, the role of building technology education in the digital economy has become more important than ever. The trade is given to an individual willing to acquire practical skills and the manipulative ability necessary for self-employment in a particular occupation such as brick/blocks moulding, brick/block rendering, inter-locking moulding and tiles laying (Haman & Gana, 2016).

Building Technology Education and its Relevance in Meeting Industry Demands for Employment Generation, and Future Economic Development

It is generally believed that for economic development to occur, the federal and state government will have to offer tax deductions and financial helps to industrialist and persons interested in developing the industrial sector of the economy. This may be attained for a while but industrialist require more than tax benefits to make their locations and development decision. With the rapid advancement of technology and digitalization of economies worldwide, the role of building technology education in the digital economy has become more important than ever. Demand from industries and the economic recessions have resulted in the offering of additional services and incentives to attract new and expanding industries. Important among these is free customized training. In a world of technology revolution it is certain that today's problems will certainly be solved with tomorrow's tools.



Building technology education as an institutional training system in Nigeria should play an important role in the economic development of the national like:

- i. **Economic:** To alleviate the age lone problem of graduates without employment, building technology, plays the role of preparing the recipients with relevant skills, knowledge altitudes such that the gap between the labour market and the preparatory courses are bridged. Graduates of building technology are supposed to acquire knowledge and skills to be competent in the world of works. Employers often outline a set of skills that they want from an employee (Onwudike & Udoh, 2016). These skills are believed to equip the employee to carry out their roles to the best of their ability.
- ii. **Society and Technology:** building technology education is faced with the challenging role of propelling the nation from a relative technological backwardness to that of technological social and economic development through efficient manpower planning and option utilization. Building technology course is aimed at enabling individuals to gain technological literacy such that productivity is achieved with regards to performance and creativity not theoretical. To be employable in an industry, an individual needs to be skilled in a trade. Several people have been displaced from employment as a result of improved technology and increased efficiency. Building technology education provides specific skills in technical areas such as bricklaying, carpentry, tiling, painting/rendering, screeding, building education. The unemployed graduates of building technology education can get employed in these skilled areas. Trainings and retraining in building technology education would imply higher productivity, high standard of living and future economic developing.
- iii. **Manpower Needs:** Building and technology education enables a country to meet her manpower needs. The increase in the productivity of a nation depends so much on the training of its citizens. The importance of education and training are necessary ingredients in the world of work. The productive capacity being a measure of the efficiency that shows the rate at which a nations resource is transferred into commodities, good and services does not only depend on manpower, raw materials and equipment available. It rather depends on the altitudes, knowledge and necessary skills acquired by the people. Industrialization is not just about factories, machinery or technology. It is about managing the elements (manpower cohesively to create value. Building technology education is the foundation on which manpower training should be built. This will bring co-operative venture between industries and technology training institutions and economic growth of a nation.
- iv. **Private Employment:** building technology education give, room for private employment, challenge and competition since remuneration is dependent on productivity. By virtue of curriculum offerings, building technology education provides its beneficiaries with technical and entrepreneurial skills with which an individual can start and manage his business. The harder one works, the greater the revenue accumulations and this leads to personal fulfilment, infrastructural and national development.
- v. **Individual and Personal:** at the personal level, the role of building technology education is glaring as it enables the individual to identify their occupational problems and then brace up to develop the specific abilities needed for building



technology education. It seeks to assist people with developing and culturing satisfactory altitudes for work employability.

Challenges Militating against Aligning Building Technology Education with Industry Demand for Employment and Sustainable Future

1. **Lack of Information about Job Opportunities:** There is no awareness among youths for the need to acquire skills in vocational and technological disciplines (Building Technology education).
2. **Limited Skill Training Facilities:** Most institutions do not have functional or well-equipped workshop. Some of the facilities are obsolete and not replaced with modern ones. The fact that the facilities in schools are grossly inadequate is an understatement, even unqualified teachers are features one sees (Adesina, 2023). The industries that are supposed to act as alternative place for beneficiaries are not performing their roles as some of them are still living in past glories. With faulty and obsolete equipment, this problem militates against the full actualization of the goals of building technology education and resulting to production of incompetent building technology professionals and the incredibility of industries.
3. Non-alignment of the graduates with modern skills and facilities required by the industries.
4. **Current Perspectives of Building Technology Education:** Most people view building technology as a programme which is designed for the never do well. Parents have different views and influences on the occupational decision of child/wards in the family. Some are of the perception that building technology trades are not meant for the female but for the male counter parts. They view the course as unprofessional for females but for the male counter parts and hence discourage the children/ward from pursuing building technology course/trades. This has led to low enrolment in building technology trade and robs the nation of the contributions the female graduates would make on industrialization and national development.
5. **Mismatch between Training and Labour Market Skill Demand:** This accounted for high incidence of unemployment amongst graduates of building technologies. This is a result of lack of collaboration between training institutions and industries.
6. **Poor Power Supply:** Power generation is a major problem militating against the implementation of building technology trades. Most modern equipment requires electricity to function. Electricity supply is epileptic and this reduces the life span of most facilities. Availability of affordable and stable power supply is essential in the delivery of practical impactful building technology programmes; unstable and expensive power supply impedes the delivery of evidence-based knowledge.

Conclusion

Building technology trade has an important role to play for economic development, industrial growth, employment generation and poverty alleviation. The ability of Nigeria to match towards sustainable future development rests on the degree or level of development of her industries and development can be obtained if the required manpower is available for employment. This has to be supplied through building technology trade when it fully, assumes the role of aligning with industry demand in the acquisition of practical skills, industrial



management and control, ability to acquire modern technology to suit the Nigeria situation and being able to utilize available resources for increased productivity and economic development aligning building technology trade with industry demand emphasizes the urgent need for investing in building technology education to address the need for employment generation and sustainable future economic development. If building technology trade is given its proper place by collaborating with industry, and individual given proper training, it can create wealth and generate as much jobs that the youths require and will in turn lead to economic growth and sustainable future.

Recommendations

The following recommendation are made towards aligning building technology education with industry demands for employment and sustainable future.

1. Government should provide programmes that will contain all relevant information concerning job opportunities awaiting building technology graduates. A well-organized system of vocational information richly available to students/individuals and a setup which encourages and trains them to find out the available information about careers from the basis for choice of career strategies. This can go a long way in enabling them to enter the world of work.
2. Government should make provision for adequate building technology facilities and the guiding principles to the success of the programme should be making the best use of all available materials, tools and equipment as well as human resources. As the government alone cannot address the challenges facing educational industries should collaborate with institutions to provides digital infrastructures and training programmes.
3. There should be a link in industries and institutions by sending experts in building technology to industries to update the facilities of the industries and introduce them to current technological breakthrough which in turn is blended with practical.
4. Technology institutions and policy makers should create awareness amongst youths for the need to acquire skill in building technology, this will lead to creation of jobs.
5. Technology institutions should collaborate with relevant stakeholders such as Local communities' industry partners and policy makers to create a supportive and enabling environment for female students in building technology trade. Mentorship programmes should be provided to inspire and support female building technology graduates.
6. Curriculum planners should update the curriculum by revisiting the goals and objectives of building technology education, ensuring their full implementation to enable graduates acquire skills that will help them gain sustainable employment. This will help to meet the current and future industry demands.



References

- Abubakar, M.S. (2010). Revitalizing TVET for technology entrepreneurship and industrial development: measure, design and applicability. A paper presented at the national centre for technology management. June, 6th-8th.
- Adesina, W. (2023). Tasks before mammany Sununu as they drive Nigeria education sector. Vanguard, Thursday August 24th, pg. 26.
- Adeyemi, T., Bello, K. & Adebayo, M. (2019). The impact of practical training duration on skill acquisition. *International Journal of Vocational Education and Training*, 27(1) 5-68.
- Adiele, E. E., Obasi, K. K., & Ohia, A. N. (2021). *Fundamental of educational planning*. Havey Publications coys, Port-Harcourt, Nigeria.
- Anya, O.A. (2023). Science technology and challenge of national development (2). Vanguard, Thursday, October 5, pg 24.
- Chukwumerije, U. (2011). The imperative of technical vocation education in Nigeria. Convocation Lecture, Anambra State University, December 7.
- Ehimen & Asuai (2021). Influence on vocational guidance on choice of building technology Education as career for students in Technology Education as career for students in technical college, Delta state; *International Journal of Innovative Education Research* 9(3),150-156
- Federal Republic of Nigeria (2013). *National policy on education*. NERDC Press, Lagos.
- Gang, B.C. (2013). *Skills testing in block laying and concreting*. 15th Edition, University Press Limited, Ibadan.
- Hamman, S. & Gana, D. (2016). TVET and building technology trades in reducing the rate of youth unemployment in North Eastern states of Nigeria. *Journal of Association of Vocational and Technical Educators of Nigeria*, 21(1), 8-12.
- Ogunsola, F. (2024). High tariff: resolving electricity crisis in Nigeria's education institution. Annual Summit of Education Writers Association of Nigeria (EWAN), Lagos.
- Onwudike, & Udoh, (2016). Employability and vocational skills required by university graduate for employment in fish production in Delta State. *Journal of Association of Vocational and Technical Educators of Nigeria (JAVTEN)*, 21(1), 38-46.
- Paul, S.Y. (2015). Youth unemployment consequences, implication and the way forward: a Delphi study. Educational Technology Research and Development.
- Ugorgi, C. (2015). Getting technical, vocational education back on track. Vanguard, December 3, pg 25.