

# Technical Vocational Education (TVE) Institutions and Industries Partnership: Necessity for Graduates Skills Acquisition

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**Abstract-** The quality of TVE graduates from technological institutions has been a subject of major concern for most industries in Nigeria. Most industries in Nigeria complaint on TVE graduates as possessing low level skills required for employment in industries and lack of confidence in carrying out their duties and responsibilities. This paper discussed extensively on TVE institutions and industry partnership as a necessity for graduates' skills acquisition. It outlined the concept of TVE and also discussed on the present status of TVE in Nigeria. The causes of a skill gap between the industries and TVE institutions were further explained. The paper also highlights on how to bridge the gap between the industries and TVE institutions. Conclusions were drawn and recommendations made in order to establish linkage between the industries and TVE institutions amongst which are: that TVE institutions and local industries should collaborate to organize seminars and workshops where they will share information on the changing trends in industrial practices and how these changes can be incorporated into the curriculum of the school and also TVE institutions should be charged with oversight responsibilities by putting up structures and policies that will facilitate industrial- institutional links. This will go a long way in ensuring that TVE graduates acquire the right skills that make them be employable in the industries or other related organizations.

**Index Terms-** Technical Vocational Education, Institutions, Industries, Graduates Skills Acquisition.

## I. INTRODUCTION

The existing technical skills gap between the graduates of TVE and the industry has become a major concern of parents, business leaders and educators in Nigeria. Employers of labor have continued to express their concern and worry over the quality of the current graduates of TVE programs in their short of relevant skills required for employment ( Idris & Rajuddin, 2012). Most industries and employers of labor in Nigeria complaint, stem from inadequate skill requirement of TVE graduates for most cutting edge technology, low practical knowledge and lack of confidence in carrying out their duties and responsibilities. Most Nigerian TVE graduates have to be subjected to several re -training program since most of the graduates are considered non-employable going by the quality of training acquired from their various institutions (Olorunfemi & Ashaolu, 2008). Various studies have queried the relevance of

graduates and research results to the industry considering the low academic status and skill acquired byproduct from various TVE institutions. The training program is not addressing the growing needs of the industry and the society. A change of direction is required to close up the widening gap between the TVE graduates and the industry in terms of the requisite skills required for employment in the industries.

## II. CONCEPT OF TECHNICAL VOCATIONAL EDUCATION (TVE)

The Federal Republic of Nigeria (FRN) in the National Policy on Education has placed a premium on TVE in view of its important role in technological and industrial development of Nigeria. It is recognized as that aspect of education which leads to the acquisition of practical and applied skills as well as basic scientific knowledge (FRN, 2004). Olawepo (Osifeso, 20011) defines TVE as a type of education designed for preparing the individual and learner to earn a living (to be self-reliant) or increase his earning in an occupation where technical information and understanding of the laws of science and technology application to modern design production, distribution and services as essentials for positive change. According to Dike (2009) TVE is that aspect of education which leads to the acquisition of skills as well as basic scientific knowledge. It is a planned program of courses and learning experiences that begins with exploration of career options, supports basic academic and life skills, and enables achievement of high academic standards, leadership, preparation for industry-defined work, and advanced and continuing education (Maclean & Wilson, 2009). Oni (2007) described TVE as that type of education which fits the individual for gainful employment in recognized career as semi-skilled workers or technicians or sub-professionals. One of the most significant aspects of TVE is its inclination towards the world of work and the emphasis of the curriculum on the acquisition of employable skills. The need to link training in TVE to employment either self or paid employment is at the base of all the best practices and approaches observed throughout the world.

## III. PRESENT STATUS OF TVE IN NIGERIA

UNESCO (2004) identified the two main objectives of TVE as; the need to train the workforce for self-employment and the need to raise the productivity of the informal sector of the economy. They pointed out that dearth of resources has led to

cuts in the volume of training that is provided in public institutions. These reductions are a hindrance to pursuing the main objectives of providing training and raising production. Considering the expensive nature of TVE as a type of education, it is important that an expanded system with needed and adequate facilities and equipment will lead to the success of the system. In the same vein Islam and Mia (2007) expressed that both formal and non-formal TVE lacked an effective link between training and the world of work. They further noted that as a result of its lack of coherent mode, practical skills training does not produce the required skills for the labor market. Additionally, the trainees also lacked training experience, initiative and motivation to carry out their duties effectively.

According Netherland Organization for International Cooperation in Higher Education (NICHE, 2010) there are various challenges that TVE graduates are facing in terms of practical skills acquisition, in most developing countries, especially in Nigeria, TVE is narrow in scale, scope, quality and relevance. The programs are not relevant to the requirements of the local labor market, the curricula and syllabi are out-of-date and the institutions lack the tools and equipment essential for practical skills acquisition. Where present, the equipment in workshops and laboratories is often out-of-date, bearing little resemblance to the technologies presently used by industry (NICHE, 2010). Insufficient training equipment leads to trainee overcrowding during practical lessons, with most of the students only observing the demonstration and not having the chance to get some hands-on practice. Due to the fact that the institutions are poorly resourced, the education and training remain theoretical and the graduates are not considered more skilled than their academic counterparts by the labor market. The institutions thereby acquire a poor image, and produce graduates with lower employability (NICHE, 2010).

However, public TVE institutions, according to Atchoarena & Esquieu (Dasmani, 2011) continued to attract a great deal of criticism. First, they were unable to train skilled workers to meet the requirements of industries and were unaware of the need for continuing education. Second, they were extremely costly. Often, the graduates of these institutions joined the ranks of the unemployed, an indication that the training provided did not match the jobs available. In most developing countries, including Nigeria, Ghana, Cameroon to mention but a few. Public TVE institutions have not been able to adapt to the new structure of the labor market and the new skill requirements of industries in both the formal and informal sectors. To buttress this fact, in a recent survey research carried out over 40 million graduates are unemployable into the industries because of lack of technical vocational and skills required for jobs available. Indeed there are vacancies for jobs in Nigeria but right now, there are little or no manpower with appropriate skills to fill the vacancies for the available jobs (Alfred, 2010).

Olaitan (2009) stated that TVE is still viewed as second class type of education in Nigeria by youths and the vulnerable unemployed graduates. No matter the campaign organised and the number of papers written by those knowledgeable about the usefulness of TVE, preference for academic qualification is on the increase among Nigeria citizens. It is in vogue among the private institutions in Nigeria only to realize in many years later that most graduates are out seeking for jobs that don't exist or not

relevant to the academic training. In general, the quality of training is low, with too much emphasis on theory and certification rather than on skills acquisition and proficiency testing. Inadequate instructor training, obsolete tools, machines and equipment, and lack of instructional materials are some of the factors that combine to reduce the effectiveness of training in meeting the required knowledge and skills required for gainful employment. High quality skills training requires appropriate workshop tools, machines and equipment, adequate supply of training materials, and practice by learners (African Union, 2007).

According to Omotayo, *eta'l.*, (2008) other challenges that hinder the skill acquisition of graduates of TVE institutions include: inadequate funding, poor planning (including inaccurate research data), inadequate facilities and infrastructure, teacher incompetence, and inconsistent monitoring and evaluation, poor materials and resources. The problem with education funding in Nigeria is not just its inadequacy, it is also the fact that the system is fraught with corruption and fund misappropriation.

#### IV. CAUSES OF SKILL GAP BETWEEN INDUSTRY AND INSTITUTIONS

The teaching methods in TVE institutions have not succeeded in impacting positively on practical skills acquisition of graduates of TVE institutions. These methods of instruction include: the traditional lecture method based on sound theoretical background, group discussions, field trips and Students Industrial Work Experience Scheme (SIWES). However, modifications of these approaches are very imperative to meet the current industry challenges Oduola (Olorufemi & Ashaolu, 2008). Most of the multi-nationals organizations in Nigeria source their major and scientific research skills and facilities from their home countries with little or no input from the local scientific research. The main institution's training facilities are outdated and inadequate making practical training difficult to meet the modern trends in the industries.

According to Olorufemi & Ashaolu (2008) the industries in Nigeria do not have much involvement in training, funding and curriculum development of our technological institutions, which are the trademark of industrialization in the developed nations. There is no direct link and interaction between the industries and the technological institutions in research activities and manufacturing. The identified poor basic foundation in science subjects affects the students learning approach to science, engineering and technology principles and applications. Many studies have also revealed the relationship between learning approaches and workload (Kolani, *eta'l.*, 2006). The incessant hostility in various campuses has been connected to so much idle time resulting in lower quality of training since the workload does not reflect in-depth practical skills training. The practical class period on the timetable are expended in unfruitful exercise. Student learning becomes unproductive when the basic principles are not understood thereby leading to poor motivation.

## V. INDUSTRY AND TVE INSTITUTIONS PARTNERSHIP

While Nigerian industries are fast growing in terms of the improvement in science and technology, unprecedented demand for better graduates has been set up. However, the industry often complains that the existing technological institution's curricula fall short to tackle the practical problems in the industry. For instance, the industry expects the technological institutions to train their future employees with the latest technology. This is because technological institutions lack proper curricula that are suitable for the industries (Ayofe, *eta'l.*, 2009). This causes a gap between the technological institutions and industry that needs to be bridged so that the graduates can fit into the industries upon graduation. The industry is constantly broadening and the knowledge is increasingly becoming complex. The role of developing better curriculum in technological institution's program is important in bridging the gap between the changing technology and the industrial needs of employers. Technological institutions should make provision for conducive learning environment and industry oriented curriculum that the business community perceived as meeting their needs. Curricula are expected to be developed with the objective of producing skilled and employable workers that can easily fit into the industry without being re-trained (Ayofe, *eta'l.*, 2009).

However, the quality of TVE graduates from technological institutions particularly at tertiary level has been a subject of major concern for most industries in Nigeria. Most industries complaint results from inadequate skill requirement for most cutting edge technology, low practical skill and confidence. Most Nigerian engineering graduates are exposed to several re-training programs since most of the graduates are regarded as unemployable going by the quality of instruction acquired from their various institutes (Olorunfemi & Ashaolu, 2008). The economic development of any nation depends on its level of human resources development, especially in the area of science and technology for industrialization. Nigeria is far from undergoing any landmark in technological development towards industrialization due to poor infrastructures, despite the large number of graduates from various technological institutions that have failed to impact positively on the development of industries for industrialization of its economic sector (Olorunfemi & Ashaolu, 2008).

## VI. BRIDGING THE SKILL GAP BETWEEN INDUSTRY AND TVE INSTITUTIONS

The persistent skills gap between the industry and technological institutions has made dependence on importation of skilled workers, what then can be done to bridge this skill gap? In bridging the gap, many countries have encountered and tackled this issue by introducing a strong technological component to the curriculum of their institutions of learning (Ayofe, *eta'l.*, 2009). This usually comes in many different ways; prevailing among them is offering students courses in technological education, work attitude and work principle, followed by a subsequent engagement in industrial and commercial firms, where they get actual experience in a real work environment.

Productive programs have been carried out in countries like Australia, Canada, Germany, United States, and Britain. The success story of such programs in these countries is guaranteed by the existence of a huge industrial sector, which works in collaboration with schools. Other countries have chosen to establish training centers, which have workshops that impart students with real work experience. These training centres' are normally established, financed, and ran by the private sector and schools pay fees for their students to make use of these centres. Developing skills in TVE, are normally presented as a stand-alone program or generally in the subjects taught. The skills are strengthened, self-learning, lifelong learning, research skills, time management skills, critical thinking skills etc. These mechanisms have been seen to be most effective when they are woven into technological institution's curriculum, rather than tackling them as stand-alone subjects. The program guarantees that the students acquire adequate knowledge and has the skills needed to use it in his job. Knowledge and skills are two important components that have been found to be necessary for both groups of students; the one that joins the labor force and the one that go for training in technological institutions.

Government and the established private sector should also put in place preparations for specialized students of TVE institutions to go through short-term practical training in their chosen careers through Student Industrial Work Experience Scheme (SIWES) in order to enhance their knowledge in their chosen occupation. Appropriate educational curricula must be planned and implemented by our institutions of learning, particularly the technical colleges, polytechnics, mono-technics, universities and other specialized training institutions. The curricula must be relevant to the peculiarities of our situation must address most essentially the current industrial demands with the aim of making our technological institutions graduates relevant to the needs of the industry (Ayofe, *eta'l.*, 2009). In an attempt to address these challenges and establish the link between TVE institutions and the industries Reddan & Harrison (2010) argued that TVE institutions need to restructure their programs to be responsive to the needs of the job market, especially the industry. To achieve this goal, TVET curricula must focus on outcomes in terms of the skills, knowledge and attitudes required by industry. That is, TVE provision should be responsive to the demands of industry.

## VII. CONCLUSION AND RECOMMENDATIONS

Technical vocational education is considered as the bedrock of industrialization in developed countries the world over because of its impact on productivity, social and economic development. In a developing country like Nigeria, most training programs in TVE institutions are not in line with the needs and aspirations of the labor market and the industries. The institutions are poorly funded and lack of adequate infrastructural and workshop facilities. The linkage between TVE institutions and the industries is very weak. However, the establishment of the linkage program between the TVE institutions and the industries will have profound benefits on the students, teachers and the industries. It will avail the industries with the opportunities to evaluate the performance of the highly motivated TVE graduates,

which will eventually serve as a basis from which the industries can seek for future full-time employees (Kati, *eta'l.*, 2007).

In order to establish effective partnership between the TVE institutions and the industries, the following recommendations are made:

- TVE institutions and local industries should collaborate to organize seminars and workshops where they will share information on the changing trends in industrial practices and how these changes can be incorporated into the curriculum of the schools.
- TVE institutions should be charged with oversight responsibilities by putting up structures and policies that will facilitate industrial- institutional links
- Seminars, field trips and excursions should be incorporated into the academic curriculum, so that it will help expose students to real working environments while still undergoing academic training.
- Government, communities, industries, religious organizations, labor unions Non-Governmental Organizations (NGOs), wealthy individuals in the society should be encouraged to funding of TVE for the smooth running of TVE in terms provision of infrastructural and workshop facilities such as tools, equipment and machines for the acquisition of skills of the graduates of TVE to enable them fit into the labor or be gainfully employed in industries or related organizations or to become self-employed.

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