
POST-SECONDARY TECHNICAL AND VOCATIONAL EDUCATION IN NIGERIA: NEEDS AND CHALLENGES

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Abstract

Technical and Vocational education in Nigeria is changing in terms of structures, programme, and practices in order to improve the quality of learning outcomes and to ensure that it is close and relevant for today's world of work. The development of society is increasingly science and technology-based, powered, and driven, and more focus is being placed on technical and vocational education and training (TVET) programme. Developing countries have relied on external support and funding for acquisition of technical knowledge and skills. However, much of the needed support has dried up, leaving TVET programme to survive on little financial support from within the countries. This, coupled with instructor shortages, has created serious challenges to the implementation of programme. This study examined and identified current needs and challenges facing technical and vocational education and training institutions in Nigeria, and suggested ways to address the challenges.

Technical and vocational education and training (TVET) programme are considered central in industrialization of economies (McGrath, 2002). Despite the lack of observable association between the provision of technical education and economic performance and growth (Brand, 1992), TVET is stressed as an alternative that would ensure development by alleviating unemployment and transmitting skills and values

useful in employment (Kogoe, 1985). However, with the emergence of new economic, political, social, and technological changes occurring throughout the world (Hoveka, 2002) over the last 15 years, TVET systems have undergone unprecedented changes (Chappell, 2003).

Many traditional TVET policies and practices have undergone major changes in terms of their organization and purpose. Technology in the manufacturing industry has developed from the artisan-craftsman stage, which emphasizes manual skills, to the factory system, which is operated and controlled by man (Lynch, 2000). For instance, the education and training of skilled workers and employees is now broader and more diverse (Akubue, 2002). In addition, “a skilled worker/employee should be able to act independently in planning, executing, and controlling his/her task” (Kogoe, 1985). Employers now require vocational and technical graduates to have non-technical skills (e.g., customer relations, computer literacy, business ethics) to enhance the technical skills of the craft (Jonson and Ferej, 1997).

The demand for a workforce that is multiskilled and capable of learning new skills more rapidly has changed the traditional purpose of vocational education (Brand, 1992). Therefore, technical instructors are now expected to create a new kind of worker, the “knowledge worker”, (Kogoe, 1985). He described the knowledge worker as someone who, because of their increased problem-solving skills, can adapt easily to group settings, is more innovative than other workers are, possesses a high level of self-motivation and self-esteem, and exercises some choice over their work methods and work environments. Although knowledge workers do not require specific degrees with a specific number of units in a content area, he added, they must know how to think, evaluate, cooperate, change, and deal with changes. This new expectation influences the provision of TVET in higher education institutions.

Higher education institutions and on-the job training have, over the years, played a vital role in national development by providing the work-place skills needed by the country (Erasmus, 2002). However, in many developing countries, the colleges have had an additional responsibility of redressing past inequities by creating higher education access and opportunities for previously disadvantaged students. Despite their contribution, these institutions are not always adequately equipped in terms of human or infrastructural capacity to meet national goals (Erasmus, 2002).

In Nigeria, the current development policy aims at achieving a newly industrialized status by the year 2020 (Chappell, 2003). This places enormous emphasis and expectation on TVET. Like other developing countries, Nigeria has relied on sources from industrialized countries for the acquisition of technical knowledge and skills (Akubue, 2002). However, much of the external support and funding has now

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dried up and the technical and vocational education and training programmes offered in colleges, institutes, and polytechnics survive on very little financial support from the government. The institutions struggle to meet the new challenges against several unfavorable conditions such as high enrollments, low unemployment, biases against technical education, lack of qualified instructors, limited educational facilities, and unstable economic conditions (Hoveka, 2002). This, coupled with qualified technical instructor shortages, has created serious challenges for the implementation of TVET, and hence the desire by technical institutes in Nigeria to establish linkage agreements with international partners to get help on some of the challenges they face.

Purpose and Objectives of Study

The purpose of this study was to identify the needs and challenges faced by TVET institutions in Nigeria. The study specifically sought to: (a) identify the needs of TVET institutions; (b) describe the current challenges faced by technical and vocational education and training institutions; and (c) suggest ways to address the challenges being faced by these institutions. The long-term objective was to strengthen the role of higher education in human resources development, and to expand its capacity to absorb the increasing number of secondary school leavers.

Postsecondary Technical Education: Needs and Challenges

Although technical education holds promises, a number of obstacles will have to be addressed before it can be fully utilized. Such obstacles include political and economic crises causing uncertainty and anxiety throughout the world (Brand, 1992), and learning to cope with these uncertainties is therefore essential.

Furthermore, with unemployment as one of the most pressing problems facing the world today, developed countries included (Hoveka, 2002), and with the situation worse in developing countries, there is the erroneous expectation that TVET will solve the unemployment problems. In Nigeria and other African countries, the problem of youth unemployment is alarming (Lynch, 2002); each year, thousands of disillusioned young people enter the ranks of the unemployed (Johnson & Ferej, 1997).

Efforts to solve the unemployment problem have included vocationalizing education systems and entrepreneurial skills development programs (Johnson & Ferej, 1997). However, despite these efforts, unemployment problems remain, and now many African countries have realized that technical training and vocational skills are necessary but not sufficient to alleviate unemployment problems (Brand, 1992). Nigeria provides TVET so that “the trained manpower can enhance and sustain a high level of economic development which would in turn improve the quality of life by raising the standards of living” (McGrath, 2002).

Academic Excellence

A number of constraints, however, prohibit the effective provision of technical and vocational education training. Among these are limited school budgets for up-to-date tools and equipment, infrequent repair of the old equipment for the laboratories, high costs of practical training materials and equipment (Lynch, 2002), and lack of qualified instructors (Kogoe, 1985). Another constraint is the development of curriculum for TVET, which is often considered too slow to keep pace with the changes in technology (Brand, 1992).

Other common problems with TVET in developing countries, according to Chappell (2003), include relevance, access, and quality of programmes; lack of a national training strategy, lack of national policies to guide the development and implementation of TVET, and the use of foreign syllabuses. The lack of, or sophistication of, training equipment compared to the facilities in the workplace, is another problem for skill-based programmes. These problems are critical in developing countries where resources are scarce (Erasmus, 2002), equipment often outdated, and funding inadequate. As a result, TVET programmes are likely to produce graduates without relevant skills for the industry, limiting their employability. This will defeat the goal of industrialization of economies through technical and vocational education and training.

TVET is provided through technical education programmes and apprenticeship training. TVET programmes provide the backbone for technological advancement of a country (Kogoe, 1985). The success of these programmes largely depends on financial and material resources, qualifications of instructors, and a well-articulated implementation process. Technical education programmes are expensive (Atchoarena and delluc, 2002), and are provided in a variety of structures. Nigeria, like other developing countries, has relied on industrialized countries for manufactured products (Hoveka, 2002) and the acquisition of technical knowledge and skills (Akubue, 2002). Lately, much of the external support and funding has dried up (Atchoarena and Delluc, 2002), and the TVET programmes have had to rely on the little financial support from within the country. Over the years, Nigeria's economy has experienced a steady decline (akubue, 2002), making it difficult for the government to adequately fund technical and vocational education and training programs. Consequently, the absence of financial backing from external sources and little or no support from the government has created serious challenges to the implementation of the programmes. These challenges influence the quality of the TVET programmes and therefore need to be identified and addressed to ensure effectiveness.

Challenges Faced by the Technical Institutions

Several challenges were identified: shortage of financial and material resources; lack of, and outdated, curriculum/equipment; and lack of advanced degree

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opportunities. Inadequate Funding of Technical Education Programmes Like other African countries, technical and vocational education and training institutions in Nigeria are not well funded, hence the appalling state of equipment and instructional materials (Brand, 1992). The institutions used to receive a large portion of funding from external sources, and this is no longer the case. In addition, Nigeria's economy has failed to improve and thus, funding for the education sector has decreased (Atchoarena & Delluc, 2002). The inadequate funding affects the provision and quality of TVET programmes.

Shortage of and Outdated Instructional Material and Equipment

The TVET institutions are experiencing acute shortages of instructional material resources. Although the state of instructional equipment was better at the polytechnic compared to the technical college institution, both institutions need up-to-date sophisticated equipment. The institutions need instructional equipment such as automobile engines, sewing machines, scopes, and computers. They also need instructional materials and supplies such as computer software, textbooks, stationery, and Internet access.

The lack of up-to-date instructional equipment at the technical college institution was visible. For instance, a business education class in a college of education was observed using manual typewriters (manufactured in 1976); a sewing class was using treadle sewing machines; and the "engines" utilized in the automotive laboratory were an assortment of pieces. The authors agree with the instructors that the manual typewriters and the treadle sewing machines may be appropriate technology for the geographical regions, but students need exposure to more current technologies to be competitive in the global economy.

Lack of Advanced Degree Opportunities

The Ministry of Education, Science, and Technology desires the national polytechnics to offer technical degrees. Now, such a proposition faces challenges. More than 80% (243) of the instructors at Nigeria Polytechnic hold B.Sc degrees or lower, 58 (19.5%) teachers hold M.Sc degrees, and one instructor had a Ph.D. Besides, these advanced qualifications are not evenly spread in all the academic programmes. Therefore, it appears to be a lofty desire to address the need for higher education in technical areas under the present staffing situation and to have instructors without advanced degrees.

Measures to Address the Challenges of TVET in Nigeria

The measures suggested to address the identified challenges include seeking additional funding sources, creation of linkages with local and international partners, and delivery of instruction through distance education.

Seeking Additional Funding Sources

Although the government has the responsibility to fund TVET, this is proving difficult under present economic conditions. The TVET institutions in Nigeria also have a role to play in addressing the challenges they face. Tuition has traditionally been the source of revenue used to sustain technical education, but this has proved to be inadequate. The technical institutions need to secure other funding sources for equipment and other instructional materials.

The TVET institutions need to form partnerships with businesses and industries to do more than simply create avenues for internships and apprenticeships. In other countries, the private sector has assisted technical education programs with instructional equipment and materials (Hoveka, 2002). In turn, the schools or colleges have provided facilities for the private sector to offer training workshops. Such bilateral partnerships and agreements are usually initiated through advisory councils. In the absence of such councils, it becomes the responsibility of a school officer to contact industry and seek partnerships.

External funding may be obtained through grant writing. The TVET institutions need to establish linkages with universities for grant writing purposes. This could potentially provide instructional materials and equipment for the technical institutions, while enabling the university faculty to carry out research and provide community service. Several Web sites provide free help on grant writing.

Creation of Linkages with Local and International Partners

The TVET institutions interested in sustaining technical education programmes should also consider offering joint programme and sharing facilities or equipment. For instance, technical institutions can form linkages with local national polytechnics to share facilities and equipment. This would cut down the capital expenses on instructional equipment by the technical institutions. Through such linkages, the polytechnics could provide the professional development training for the instructors at the technical college institutions.

Establishing linkages with international partners is another potential solution. Through such linkages, educational programmes may be developed through articulated agreements between the institutions.

Distance Education

Distance education is recommended as a way of bringing education to the learner. However, issues of connectivity and infrastructural support would need to be addressed. The TVET institutions will need to create institutional links with local and/or foreign partners offering distance education. The distance education programmes will offer the students the opportunity to take courses online without leaving their

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respective communities. However, the telecommunication technologies at the technical institutions are severely dysfunctional, and an adequate infrastructure to deliver distance education is therefore a need.

The utilization of distance education for higher degrees is more cost effective than sending students abroad and paying them stipends. Although the distance education students miss the cultural exposure, a greater number of students can benefit from the educational opportunities. Other key players in this endeavour are local business entrepreneurs. School officials may need to educate local entrepreneurs on the opportunity an informational infrastructure would create for them. The entrepreneurs could then be solicited for equipment and resources.

Conclusion

The TVET institutions in Nigeria continue to play a vital role in the development of the economy as well as providing workers for the local industries. However, the institutions are experiencing very difficult times and this is affecting the quality of their programs. The quality of technical education programmes depends on the level of support received, and therefore, the survival of the institutions calls for efforts by the institutions to seek partnership agreements and create advisory committees.

The existence of an education department responsible for TVET in Nigeria shows the importance placed by the government on technical vocational education and training. However, the TVET institutions receive little financial support from the government. Other sources of supplementary funding include private agencies and local entrepreneurs. The TVET institutions can seek funding for specific instructional programmes. Grant proposals can be developed by the institutions or in collaboration with established international partners. The involvement of local entrepreneurs in the advisory committees guarantees realization of the needs of the programs, and can help locate and/or secure not just funding, but tools, equipment, and opportunities for industrial attachment for the students. It will take changing attitudes and concerted efforts of many, at all levels, to overcome the identified challenges.

Recommendations

1. It is recommended that technical education be given high priority for adequate funding in the scale budget.
2. The school curriculum should be made to accommodate the needs of TVET.
3. Instructional materials and infrastructural facilities should be improved upon for effective running of technical institutions in Nigeria.

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