PARAMETERS IN BENCHMARKING TECHNICAL COLLEGES FOR QUALITY EDUCATIONAL GOALS IN NIGERIA

Aniedi D. Usoro, Udeme T. Akpan, Samuel A. Ikpe

Department of Vocational Education, University of Uyo, Uyo,
NIGERIA.

usorofortechnical@gmail.com

ABSTRACT

Technical colleges are built and equipped across the country to provide training to students on different courses and trades. The knowledge and skills acquired from technical college programmes would enable the students to function well in society. Benchmarking plays remarkable role in setting standards for best practices in learning and achievement. The established parameters for benchmarking technical colleges for quality educational goals include: quality learning environment, quality technique for skill acquisition, quality practical training, quality curriculum and quality facilities. The standard in technical colleges must be maintained in Nigeria for effective achievement of technical and vocational education goals. The programme of technical and vocational education need be reengineered to reflect the benchmarks set by the regulatory agencies. Recommendations are offered to guide in benchmarking technical colleges in Nigeria for quality educational goals.

Keywords: Parameters, Benchmarking, Technical Colleges, Quality Educational Goals

INTRODUCTION

Benchmarking is a common practice in education. It occurs when measurable standards are set for learning. Benchmarking is the process of improving performance by continuously identifying, understanding and adapting outstanding practices and processes found inside and outside the organisation (Caleb, Usoro, Onweh & Akpan, 2017). Benchmarks might be used to rank a particular student, class or even school in comparison to others. A benchmark is a standard or point of reference by which something can be measured (Rouse, 2017). It emphasizes the need for more comparison, transparency and visibility of quality in education. According to Demaria (2015), a benchmark is the specific component of knowledge or skill identified by an academic content, performance or operational standard. Attainment of benchmark can be communicated through: performance task – the construction of a response and performance level – the defined score point on formal assessment.

Benchmarking can raise the standards in education by creating a model for excellence and achievement (Dance – Schsissel, 2017). The essence of benchmarking, as an evaluation tool in the case of technical education, is for improvement through considering the role of world class performers and adopting their best practices and standards.

There are established parameters for benchmarking technical colleges for quality educational goals. A parameter is a limit that affects or controls how something can be done. The set benchmark parameters include: quality learning environment, quality technique for skill acquisition, quality practical training, quality curriculum, quality facilities among others. The

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foregoing standards must be maintained in technical colleges for effective achievement of technical and vocational knowledge and skills.

Technical and vocational education sis designed to provide individuals with knowledge and skills for gainful employment. The goals of technical and vocational education shall be to: provide trained manpower in the applied sciences, technology and business particularly at craft, advanced craft and technical levels; provide the technical knowledge and vocational skills necessary for agricultural, commercial and economic development; and give training and impart the necessary skills to individual who shall be self-reliant economically (FRN, 2013). The National Policy on Education further stated that trainees completing technical college programmes shall secure employment either at the end of the whole course or after completing one or more modules of employable skill; and set up their own business and become self-employed and be able to employ others. These set out standards by policy cannot be fully achieved in technical colleges due to some inadequacies in curriculum, facilities, learning environment, practical training among others. Most students graduate from technical colleges without acquiring the competences needed to enable them become self-employed and self-reliant. Instructions in technical colleges lack proper approaches in most cases. It is against this background that this write-up is carried out to review parameters benchmark for technical colleges for quality educational goals.

Benchmark in Quality Learning Environment

Numerous and diverse factors in the learner's surroundings can exert some sort of influence on his learning. Learning environment refers to the diverse physical locations, contexts and cultures in which a student learns (Abbot, 2013). Learning environment, according to Abbot (2013), include classroom, library, space, school, etc. Educators are of the views that learning environment has both direct and indirect influence on students' learning, including their engagement in what is being taught, their motivation to learn and their sense of wellbeing, belonging and personal safety. Ekanem (2005) in support of the foregoing facts, said that learning environment factors constitute workshop, laboratories, libraries, classroom, playgrounds and farms; that students studying under these conditions perform better than those whose learning environment is poorly equipped.

Quality learning environment for the teaching of technical and vocational education entails well equipped workshop and library with modern facilities, spacious classrooms, normal class size with teacher-students ratio of 1:20 for active participation of students in practical classes, enough and qualified teachers. However, learning environment in technical colleges lacks the standard to fully equip the students with knowledge and skills for successful living after graduation. The training environment should be a replica of the working environment to enable the learners cope with the demands in the world of work. Besides, high quality learning would take place in a classroom where the teacher's relationship with his students is non-threatening, cordial and loving (Okoro, 2011).

Benchmark in Quality Technique for Skill Acquisition

Skill is referred to as expertness, practised ability, dexterity and tact. It is an organised sequence of actions, proficiency executed and usually displaying a flexible but systematic temporal patterning. It involves the acquisition of performance capability (Ben, 2010). Skill acquisition requires intelligent humans for learning. Indeed, most skill trainings present great challenges to the learner on the integration of practical work and theoretical fields, common sense, a good power of observation and courage. Ben (2010) stressed that to possess a skill is to demonstrate the habit of acting, thinking and believing in a specific activity in such a way that the process becomes natural to the individual through repetition or practice. The

development of skills varies with the nature, complexity and the type of activity. Ben (2010) further explained that individuals who opt for skill training must possess certain qualities such as interest, ability, aptitude, patience, personality characteristics and other human/physical qualities that would enable them to succeed in it.

According to Okorie (2000), skill is acquired when theoretical knowledge is translated into practical activity. To acquire skills needed in technical and vocational education, one has to pass through a series of training. Skill therefore is a product of training. A good vocational education programme designed to produce professionals that should; apart from enriching the students with knowledge, facts, theories and principles; provide training needed to acquire expertise in manipulative skills in vocational education.

All technical education programmes are geared towards the development of manual skills as well as knowledge and essential attitudes. When these skills are carefully developed and fully learned, they become fixed manual habit. Habit is a way of doing something that once learned does not require active thinking for its performance. Skills acquisition precedes habit formation (Ogwo & Oranu, 2006).

For effective habits formation, according to Ogwo and Oranu (2006), the development and practice of skills should be a gradual process. It is not possible to learn many skills at once. If the process entails many skills of different nature, it is advisable to divide the process into groups of skills and learn one group at a time. Factors to be considered in teaching/learning new skills are as follows: any new skill learned should be practised repeatedly until the learner gains actual perfection, selection of appropriate practical exercises, outlining the skills learners are to master in a given lesson and designing a type of practice activity that will involve these skills and no others.

Demonstration is one of the basic methods for introducing new skills to learners. Just as there is no more effective way to learn a skill than to practice it, so also there is no better way to teach a skill than to demonstrate it (Ogwo & Oranu, 2006). Demonstration is any planned performance by a vocational/technical teacher on an occupational skill/information, aimed at explaining the steps/facts of an operation/principle. In essence, a demonstration is aimed at "showing how" a process, procedure, or experiment is to be carried out so that the student will acquire the knowledge and skills involved. However, the students in technical colleges have not been exposed to enough areas of skill training and such; they lack the necessary technical skills for self-reliance. It is pertinent that appropriate instructional materials should be utilized when need arises to demonstrate skills for easy mastery by the students.

Benchmark in Quality Practical Training

Practical training in technical colleges is meant to equip the students with vocational and technical skills for productivity, self-employment and national development. There is imbalance between theory and practice (imbalance between cognitive and psychoproductive learning). This problem stems from the fact that teacher training programmes in Nigeria have inadvertently left out training in occupational, task and instructional analyses. These training areas facilitate the identification of cognitive, psychoproductive and affective elements associated with balanced work behaviour (Otu, Udoh & Usoro, 2010). It is only through the utilization of these skills that the imbalance between cognitive and psychoproductive learning can be appropriately addressed. The outcomes of this approach are skills acquisition for employment and self-productivity.

The teacher must ensure that practical training is performed with the normal class size. FRN (2013) stated that for effective participation of students in practical work the teacher-students ratio shall be kept at 1:20. This situation will afford all the students involved in the practical

class to have access to practical demonstration for subsequent imitation that will lead to acquisition of technical knowledge and skills.

Atsumbe (2002) observed that due to inadequate funding, normal workshop practice which forms 60 percent (standard set by National Board for Technical Education (NBTE) of the technical college curriculum) is fast disappearing on vocationa/technical colleges' time tables. Hence, a blend in theory and practice becomes imperative.

School-industry relationship is the desired situation which is expected to bridge the gap between school training and what industry expects. This relationship is expected to acquaint the school graduates with the working conditions prevailing in the world of work. Industrial Training Fund (ITF) represents government's attempt to establish school-industry relationship as explained by Ekpenyong (2011). The implication of the above agents in school-industry establishment is to ensure that the skills offered to students in school training are the same as those demanded by the world of industrial occupation. FRN (2013) stressed that cooperation between industries and institutions in training shall be encouraged. ITF shall organise staff and students industrial attachment as appropriate and in collaboration with the proprietors, institutions and industries.

Benchmark in Quality Curriculum

Curriculum is defined as the planned learning content and opportunities used for the education of learners; thus, giving the learners worth-while learning experiences within the school setting (Etuk, Udosen & Edem, 2004). In the view of Maduabum (2006), curriculum is the totality of intending learning experiences planned and directed by the schools as a means of achieving predetermined educational objectives. Wiles and Bodi (2011) saw the curriculum as a desired goal or set of values that can be activated through a development process, culminating in experiences for learners.

Daramola and Oluwakemi (2008) defined technical education curriculum as a series of courses, activities and experiences designed so that the learners will attend some pre-determined objectives of the educational programme. The United Nations International Project on Technical and Vocational Education (UNEVOC) (1993) defined technical and vocational education curriculum as an overall plan for instruction, consisting a statement of aims and objectives, of content in terms of theoretical knowledge, practical skills to be acquired, attitude towards work and necessary support materials to be used in its presentation. The document further indicated that preparing youngsters for the realities of earning a living is a responsibility shared by many different groups of people inside and outside the educational sector. Through the overall plan, good curriculum information is provided on the following aspects of learning:

(i)   At whom are the educational processes aimed?

(ii)   What goals and qualifications are to be achieved?

(iii)   What contents are to be learned?

(iv)   What teaching methods and aids are to be used?

(v)   How is the result to be tested?

The National Policy on Education (FRN, 2013) specified that the main feature of the curriculum activities for technical colleges shall be structured in foundation and trade modules. The technical education curriculum for each trade shall consist of general education; theory and related courses; workshop practice; industrial training/production work; and small business management and entrepreneurial training. It further specified that the range of courses in technical colleges shall be as wide as possible and include but not

limited to mechanical trades, computer craft practice, electrical engineering trades, building trades, wood trades, hospitality, textile trades, printing trades, beauty culture trades and business trades.

The curriculum of technical colleges for the teaching of trades can be of good quality but it seems it is not designed to reflect the need of the society, rather the training institution and not the need of the learners, the economic resources of the society, technological changes among others. Udom and Unimna (2012) affirmed that technical and vocational education curriculum must be based on the current reported needs and requirements of the industries (workplace) needs, students and national needs. Added to the foregoing is the case of outdated curriculum in the areas of science and technology, which are the foundations of technical and vocational education. Susu (2010) viewed outdated curriculum as consisting of unfamiliar concepts and laws, thus leaving little room for curiosity and the search for meaning. Technical college curriculum is said to lack cultural, social and historic dimensions and hardly deals with contemporary issues. Hence, students studying under a well designed and comprehensive technical curriculum will definitely acquire the needed vocational and technical knowledge and skills to help them function effectively in any area of national development and be self-reliant economically.

The issue of obsolete technical and vocational education curriculum cannot be overlooked. It is very important that the curriculum be reviewed and updated from time to time to meet societal and economic needs of the society. Idialu (2011) stated that any worthwhile programme is never static but dynamic and therefore liable to constant changes based on changes in the goals of the nation. There is need to review the curriculum from time to time to accommodate modern scientific methods of doing things. The curriculum for effective vocational and technical education programmes must be current to meet up the demands of societal growth with respect to the increasing knowledge of the world.

Benchmark in Quality Facilities

School facilities refer to the educational resources provided in school for teaching and learning purposes. School facilities are employed in school to facilitate effective teaching and learning of vocational and technical education subjects for attaining balanced work behaviour (cognitive, affective, psychomotor and perceptual learning). Technical college training is essentially hinged on the availability and use of school facilities which facilitate students' skills acquisition. Facilities therefore could be referred to as building, space, a piece of equipment that are provided at a place for people to use (Rundell, 2007). Facilities in schools can be defined as the entire school plant which school administrators, teachers and students harness, allocate and utilize for smooth and efficient management of any educational institution, for the main objective of bringing about effective and purposeful teaching and learning experiences (Asiyai, 2012).

According to Akinsolu (2004), educational curriculum cannot be sound and well operated with poor and badly managed school facilities. From all indications, facilities in schools are physical resources that facilitate effective teaching and learning. They include blocks of classrooms, laboratories, workshops, libraries, equipment, consumables, electricity, water, visual and audio-visual aids, tables, desks, chairs, storage space, playground and toilets. It is generally accepted that good facilities are needed for quality education. Availability of appropriate facilities enhances student's learning by allowing them to be involved in practical activities that will continue to build their skills. Udoutin (2004) maintained that the availability and effective utilization of basic facilities, equipment, materials and supplies as well as adequacy of funding are necessary to make teaching and learning of technical and vocational education stimulating and goal directed. However, most of the technical colleges

in Nigeria perform below standard due to unavailability of the required facilities in the workshops for effective training.

Puyate (2002) maintained the present state of technical and vocational education facilities is very poor. There is little or no concern on the part of government, teachers and students for the improvement of the present state of facilities. The ugly situation needs to be reversed in order to meet the goals of technical and vocational education as enshrined in the National Policy on Education of Nigeria (FRN, 2013). At all levels of the nation's educational system, instructional resources or materials are indispensable factors in the attainment of educational goals (Mkpa, 2001).

The nature of facilities in a school determines the nature of learning that can take place there. Okoro (2011) contended that the positioning of classrooms, the types of furniture, the ventilation of rooms, the lighting and sound effects, all contribute to give quality to the facilities available. There is no doubt, therefore, that a better quality learning will occur in schools where suitable audio-visual materials, adequate and well-equipped classrooms, laboratories and libraries are available than in schools where such facilities are either lacking or inadequate.

Technical college laboratories/workshops require modern facilities based on emerging technologies for quality teaching and learning. The experiences and skills the students acquired from the current facilities would help them to function effectively in society after graduation.

The Implication for Quality Educational Goals

Provision of benchmark in technical colleges would help to determine if teaching and training given to students provide quality educational goals in line with the expectations of the society. It will go a long way towards restructuring the programme of technical and vocational education to meet the current trends in the world of work. The researchers noted that the objectives of technical and vocational education can only be attained if the standards set for the programme are maintained. The programme of technical and vocational education need be reengineered to reflect the benchmarks set by its regulatory agencies for the attainment of quality educational goals.

CONCLUSION

The standards set for technical college must be met in order to achieve quality educational goals. The benchmark of technical colleges must cut across different areas such as technique for skill acquisition, practical training, curriculum, facilities, among others. Technical education programmes need repositioning for easy achievement of vocational and technical skills. This will help the students to acquire the skills for useful living.

RECOMMENDATIONS

The following recommendations are made:

1.   The curriculum of technical and vocational education should be reviewed to reflect the current issues in society.

2.   Facilities in technical and vocational workshops should be adequate and modern so as to teach the emerging technologies to students.

3.   Standard libraries should be provided in technical colleges with recommended textbooks and other educational materials.

4.   The state government should ensure the learning environment in made the replica of the working environment.

5. School-industry relationship should be encouraged to facilitate students' acquisition of quality practical training.

6. Technical teachers/instructors should ensure that appropriate instructional materials are utilized during practical demonstrations for easy mastery of skills.

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