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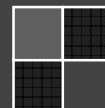
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Repositioning Technical Education a Panacea to Solving Globalization Challenges in Construction Sector

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ABSTRACT

Globalization has created a wind of change that has eroded landscapes of economy of nations of the world. Globalization era has led to emergence of new engineering ideology, concepts, tools, machines as well as systems and procedure.   In some places, private economy drive has been left to private sector while government provides policy and ideology formulation interphase. Technical education is one of the areas affected by this phenomenon and in turn, the construction sector, thus the need for its repositioning towards quality delivery. Technology education is at the forefront of providing landscape training towards individuals being produced by the sector having thorough understanding of their place in contributing to the economic growth of construction sector. Thus, technical education need to be repositioned further to enable more relevance of its products to their environment. Therefore, the study considered repositioning technical education towards solving globalization challenges in building sector.

In order to achieve this, sampling technique was used in this study, 120 structured questionnaire, designed in Likert scale form, on scale 1 to 5, was used for the study. It was discovered that repositioning the technical education in developing economy like Nigeria would involve taking the following position; overviewing of the current curriculum, running technical-based education, introducing cutting edge equipment and tools, technology transfer, technical symbiotic relations among economic drivers, adjustment of government policy, training and retraining issue, preventing discriminatory tendencies between technical based vocations and non-technical based jobs, emphasizing technical competence and partnership between education institutions and industry.   The study concluded by recommending the following as a solution: infrastructure, research, adequate funding, technology incubation center and training/retraining for the practitioners.

1.INTRODUCTION

Technical education is important in the developmental circle of any country aspiring to have technological advancement. Technological education in this parlance refers to educational knowledge garnered from Polytechnic, University, College of Education and Vocational centers. The aim of technological education is to provide platforms for self empowerment in the quest for environmental development. However, technological education starts from the colleges up to the Tertiary level, the curriculum of various technology programs is often design in line with expectation of the society. The fact that technological education is facing a lot of challenges in developing countries can not be ignored, most of the artisans being turned out are more or less half baked thus the need to revisit the training module of institutional mould that turned them out thus the need for repositioning of the technical institution training pedagogy. NERDC (2004) Rustom, R.N and Amer (2006) and Agunloye (2005), studied problems facing technological education in Nigeria as ranging from faulty academic curriculum, old infrastructure, absence of technical competent instructors, poor rating of graduates among others. It to this end that this paper is about repositioning skill training institution towards quality work delivery in construction works in Nigeria.

1.   Understanding Repositioning Concept

Repositioning is a concept that refers to the constant changing of curriculum in order to meet the immediate need of society. The idea is that, program must not only covers an existing field of study, technological innovations but as well be en-compassing, it should be able to accommodate emerging growing fields of knowledge. Repositioning enables programs to be in tune with industry needs. Therefore repositioning process enables vocation industrial education flexible to societal demands. Vocational education is defined as the planned instruction intended for developing basic vocational skill, technical manipulative skill, technical knowledge and relational occupational information for the purpose of training young person for basic entry work exposure to the world of industry Bailyn, and Etzion (2006):

The need for repositioning Technical Skill Education. Technological education is backbone of development of a nation, therefore there must be constant validation and revalidation of concept that set up the running of the program. In Guisaini (1995) in Nigerian National Policy on Education (NPE) the fourth edition view technical education as a body of knowledge that seeks skill acquisition, theoretical skill and knowledge application. Boutzev (1983), describe technical skill education as pedagogical compendium of knowledge that empowers man technical to leave an ecological footprint on landscape of life. Guisaini (1995) approach technical skill education upgrading from the perspective of modifying process that empower society with requisite knowledge of proving solution to seemingly societal unsolvable socio-economic problem. However, in lieu of recent events in Nigerian construction sectors whereby some companies prefer engaging foreigners at vocational work like tilling, plastering painting at expense of local artisan called for concerned. Some of the companies were of the opinion that Nigerian skilled artisan did not possess an expert knowledge as compared to the Togolese artisans and those from Republic of Benin. Is it that the training module is faulty or defective or need revision?.

2.METHDOLOGY

2.1.RESEARCH METHODOLOGY

Population of Study and Area of Study

The population of study is trainers, lecturer, instructors and trainees of technical and vocational institutions. The problem is the remodulation of technical skill acquisition institute in Nigerian construction sector using Lagos State as case study.

2.1.1.   Sampling Method Samples are picked at random using Random sampling method with a sample of 100 students. The sampling was done from population frame s trainers, lecturer, instructors and trainees of technical and vocational institutions.

2.1.2. Sample size: Sample size of 100 students s trainers, lecturer, instructors and trainees of technical and vocational institutions of technical based courses and program was adopted in the study

2.1.3. Data Collection Instrument: A structured questionnaire in Likert scale was administered on student of technical based discipline, One hundred (100) questionnaires was administered on the students to harvest their perspective. The responses were further collated, analyzed with SPSS software, processed with Mean Item 4.1.5 Methods of Data Analysis: Mean item scores was used in processing the summarized questionaire. Simple percentages was used to present percentage composition of respondents on factors responsible for deplorable state of technical and skill training institute, remodulation strategy. Mean score index factor was calculated for the variables. Data were presented in tables and other modes. The questionnaire was calibrated on a scale 1 to 5, with 1 representing "strongly disagree (SD)" 2 – being disagree (D) 3 – being neither agree nor disagree (N), 5- being strongly agree (SA).

Agreement index of the respondents was generated using the relation M.A.I = 5S.A + 4A + 3S.D + 2D + 1N/5(S.A+ A+S.D+D+N)

$$M.A.I = \frac{1\left(\sum Aij\right)}{N\sum Aij}$$ where M.A.I = Mean Agreement Index   A= Agreement variable   i = Lower boundary, j = Upper boundary

a.   N = Frequency of Variable Σ = Summation Notation.

5.10 SCOPE AND LIMITATION OF THE STUDY.

The study and the data used are limited to the opinion sampling of trainers at technical skill training institute and restricted to Lagos State.

6.0 RESULTS AND DISCUSSION

In this section parameters considered under the re-modulation concept was presented. The parameters revolved around Repositioning strategy, Benchmarking techniques and procedures and Establishing Calibrated Local Program

Table 1 Factor Responsible for Deplorable State of Technical and Skill Training Institution

S/N	Variables	Mean Score	Ranking
1	Poor funding of schools	0.90	1st
2	Insufficient laboratory for practical works	0.80	3rd
3	Lack of well-equipped laboratory	0.89	2nd
4	Youth not interested in vocation education	0.76	4th
5	Trainers non challant attitude	0.75	5th
6	Non supervision of trainers by superior officers	0.68	7th
7	Curricula has no bearing with practical	0.64	8th
8	Inadequate supervision of students practical work	0.72	6th
9	Lack of adequate Technical know-how by tutors	0.55	10th
10	Teachers not motivated to stay long on practical.	0.60	9th

Source: Amusan et al.,(2016)

In Table 1 above poor funding of that institution by the stakeholder was ranked 1st , with mean index value 0.90 virtually there is no field of science training whereby money is needed, poor funding is the bane of technological development in Nigeria. This is adjudged the strongest of the factors. Followed closely is lack of well equipped laboratory with mean index value 0.89. It huge fund to equip a laboratory, therefore for a well equipped laboratory. Insufficient laboratory for practical works was ranked 3rd with mean index value of 0.80. Also, Youth not interested in vocation education with mean index value of 0.76 was ranked 4th , while non challant attitude of the trainers/teachers was ranked 5th with mean index value 0.76. Against the background of the outcome of the analysis, the problems need to be countered thus the need to redesign the modules of the technical education. To this end therefore, the repositioning strategy was presented in Tables 2,3 and 4.

7.0   Repositioning Strategy.

Strategy to be adopted in repositioning skill acquisition and training institutions is packaged under the following: developing technical skill acquisition education, benchmarking techniques and procedures, establishing calibrated local programs. The detail is presented in Tables 2,3 and 4

Table 2: Developing Technical Skill Acquisition Education

S/N	Variables	Mean Score	Ranking
1	Training to be given by competent individual	0.98	1st
2	Automatic machine deployment	0.79	5th
3	The skilled workshop personnel to be given extensive training	0.87	3rd
4	Provision of preparatory instruction in developing basic manipulative skills.	0.85	4th
5	Using questionnaire to determine local needs.	0.74	6th
6	Setting up Special Classes: Evening, Part-time classes and others.	0.97	2nd

Source: Amusan et al.,(2016)

In Table 2, strategies that could be applied in developing skill acquisition institutions were articulated, this includes but not limited to the following factors (Training to be given by competent individual, Training of students should be given to a qualified individual who has had foremanship or instructor's training courses. The need to train the trainer in industry is increasingly becoming important, most artisans need to be trained and retrained since they handles most artisans work on site, therefore, the skilled artisans' instructor requires extensive knowledge and skill) and Automatic machine deployment.

The factors further includes: The skilled workshop personnel to be given extensive training (Twentieth century technological industrialist often need services of trained skilled worker, semiskilled workers, foremen, engineers, and top level century). Also, Provision of preparatory instruction in developing basic manipulative skills, Provision of preparatory instruction in developing basic manipulative skills, Using questionnaire to determine local needs and Setting up Special Classes: Evening, Part-time classes and others.

Moreover, based on the analysis of the responses; Training to be given by competent individual has mean index of 0.98 and was ranked 1st , Setting up Special Classes: Evening, Part-time classes and others with mean index of 0.97 was ranked 2nd The skilled workshop personnel to be given extensive training scored mean index of 0.87 and ranked 3rd Also, Provision of preparatory instruction in developing basic manipulative skills with mean index 0.85 was ranked 4th while Automatic machine deployment with index 0.79 and Using questionnaire to determine local needs with mean index 0.74 were ranked 5th and 6th respectively.

Table 3   Benchmarking Techniques and Procedures

1	VARIABLES	MEAN SCORE	RANKING
	Developing new teaching methods	0.94	2nd
2	Organizing Instructional Program	0.96	1st
3	Familiarization of Instructors with Instructional method	0.94	2nd
4	Testing Student and Evaluating training effectiveness.	0.90	3rd
5	Testing of Equipment	0.82	5th
6	Teachers to have well established plan for appraising students.	0.83	4th
7	Extensive use of teaching materials.	0.80	6th

Source: Amusan et al.,(2016)

Table 3 above illustrates the techniques and procedure that could be adopted in repositioning the institutions offering technical education who are to train skilled artisans and professionals. Organizing instructional program was ranked first with Index value of 0.96. The reason for this preference lies in the fact that, instruction given in technical training institute and colleges is given for the purpose of empowering the students in order to develop their skill, knowledge, attitude, perception and emotion required to perform the task required. Therefore, there should be a robust program that should be in place to provide quality to the information being given out to trainees. The program would as well provide means of monitoring performance of students and trainers.

Moreover, familiarization of instructors with instructional method is another technique that could be used as one of the bench marking strategies for repositioning . This factor was ranked 2nd with mean index value of 0.94. Instructors need to be familiar with instruction methods, method varies from one place to another, methods as design by the management should have been designed in such a way that would have include variety and provide rich content, it is the responsibility of trainers to adopted the organized instruction method. One of the reasons behind diverse standards as found in practice in most of the parts of the country is haphazard techniques being used by trainer in the name of innovation which most often don't produce right results in trainee.

Also, testing student and evaluating training effectiveness was ranked 3rd with mean index value 0.90. Test is an education tool that could be used to evaluate the degree of assimilation of subject matter being taught. It evaluate level of understanding of trainee or students and by the way measures the effectiveness of the teaching process and method applied. Therefore, in order to bring out the best in students and improve trainers' performance there should be timely evaluation of training effectiveness at training institutions. (Sheridan, 2004).

Also, teacher should as well have a method of assessing students' performance as training progresses ,this factor was rated as 4th with mean index value . Testing of teaching equipment and extensive use of teaching material were ranked 5th and 6th respectively.

Table 4 Establishing Calibrated Local Program 1

Source: Amusan et al.,(2016)

Another repositioning strategy is presented in Table 4 above. Planning local program to accommodate artisan, semi-skilled and skilled labor at the grass root was advocated. This was ranked first, followed closely with provision of facilities and equipment for the program which was scored 0.87 and ranked 2nd . Also, in establishing local programme,resources and personnel should be set aside, for the smooth running of the institute. One of the reasons for poor training output sometimes is poor funding. Setting up special skill acquisition plan and program for teachers and trainers for adults artisan can as well help improve output of the institute in term of on job performance. The factor was ranked 4th. Creating area vocational education program was ranked 5th with index value of 0.75 while advocacy in term of supervisor possessing qualification comparable to higher institutional supervisor was ranked 5th with index value 0.75.

Table 5.Roles of stakeholders in meeting the demands of global economy.

S/N	VARIABLES	MEAN SCORE	RANKING
1	Lecturers to develop intimate relationship with students and curriculum	0.70	
2	Lecturers should be adequately skilling ICT knowledge and be up-to-date on global economy information	0.85	3rd
3	New teaching pedagogy should be adopted in line with international global standard.	0.88	1st
4	Lecturer and policy makers should be involved in curriculum planning.	0.86	2nd
5	Establishing an inclusive and collaborative feed back mechanism on formulated policies and procedures.	0.85	3rd

Source: Amusan et al.,(2016)

Strategies that could be adopted is presented in Tables 5 presented, new teaching pedagogy should be adopted in line with international global standard is ranked 1st Lecturer and policy makers should be involved in curriculum planning ranked 2nd , the duo of Establishing an inclusive and collaborative feed back mechanism on formulated policies and procedures and Lecturers should be adequately skilled in ICT knowledge and be up-to-date on global economy information were ranked 3rd respectively. Lecturers to develop intimate relationship with students and curriculum was however ranked 4th .

New technical education paradigms are emerging, some developing construction economies like Malaysia and Singapore, have embraced certain construction and technical education pedagogy and it has transformed their technical sector dramatically. Inclusive and collaborative feedback is necessary on any policy that had been made, this would prevent the gap that usually exist between policy makers and the populace. Also, including the players in the act of policy drafting and implementation would guarantee success in the policy application.

Moreover, lecturer and students should be adequately empowered with new technological education in their knowledge impartation and replication, this is one of the ways to keep in touch with current global practice in tecnnical education.

Table 6: Means of Improving Technological Education

1	Organizing conferences and seminar on enlighment campaign		
2	Provision of facilities and equipment for local program	0.87	2nd
3	Relevant department to be responsible for maintain and repair of institutions' machines	0.75	5th
4	Improving people perception about technological educations.	0.86	3rd
5	Granting Institute Credit for trade and Industrial Experience	0.85	4th
6	Setting up special ICT acquisition plan and program for teachers and trainers for adults artisan	0.85	4th
7	Prompt provision of consumable materials for practical based on international standards.	0.75	5th

Source: Amusan et al.,(2016)

Means of Improving Technological Education in this study is as presented in Table 6. Organizing conferences and seminar on enlightment campaign is ranked 1st, followed closely by Provision of facilities and equipment for local program which is ranked 2nd, Improving people perception about technological educations ranked 3rd, Granting Institute Credit for trade and Industrial Experience and Setting up special ICT acquisition plan and program for teachers and trainers for adults artisan were ranked 4th respectively. Relevant department to be responsible for maintain and repair of institutions' machines and Prompt provision of consumable materials for practical based on international standards.
international standards were also ranked 5th respectively.

CONCLUSION.

The repositioning strategy is as presented, some of them include: , Establising local trining programs, Developing Technical Skill Acquisition Education Planning of the local program, Planning local program to accommodate artisan, semi-skilled and skilled labor at the grass root Setting up special skill acquisition program for teachers of adult classes, Instruction given in technical training institute and colleges is given for the purpose of empowering the students in order to develop their skill, knowledge, attitude, perception and emotion required to perform the task required. Therefore, there should be a robust program that should be in place to provide quality to the information being given out to trainees. The program would as well provide means of monitoring performance of students and trainers.

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