TECHNICAL COLLEGE EDUCATION AND THE CHALLENGES IN THE NEW MILLENNIUM

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Abstract

Technical education will retain its place in the education of the future if, and only if, it succeeds in placing Nigeria on a sound technological footing in this new millennium. This task can only be achieved by dedicated technical teachers and school administrators who are both pedagogically and occupationally competent. Unfortunately, the reverse is the case in Nigeria today (Arnike, 1988). The study revealed that inadequate practical training given to students, dearth in supply tools, machines, training materials and infra structural facilities, societal perception of technical education and wrong policies and programmes of government are some of the key factors that have hindered the government some of the key factors that have hindered the growth of technical education. In conclusion, the study recommended that experts in such areas of studies should man technical education, industrial training should be made compulsory in technical colleges. Furthermore, the artisans in conjunction with the technical teachers should be made to teach students on practical skills.

Introduction

In this new millenium, technical education in technical college in Nigeria is faced with a lot of challenges. For instance, the instructional facilities in consonance with industrial development in the country are grossly inadequate. Not only that they are few in numbers, but most of those installed are out of dale and need replacement. Broken down machines are not repaired because of lack of spare parts (Okorie, 2001).

Technical education involves practical training with the use of tools, machines and training materials. Berg (1970) revealed that the degree of the contributions to national economy made by educated people on the job was dependent upon the degree of appropriateness of practical training acquired. The emphasis laid on the appropriateness of technical training is based on the fact that it leads to job performance.

Furthermore, hand tools, machine tools and training materials are lacking in most of our technical colleges. This lapse in the procument of these materials does not augur well for the practical acquisition of skills by technical college students. The reason why there is shortage of equipment and materials is partly due to high cost of technical education and recently to economic recession coupled with high inflation rate in the country (Imarhiaghe 1992). It therefore, becomes very difficult subjects. The impact of this trend is that the training of the students becomes impeded and they end up not acquiring enough skills to go into the labour market.

Similarly, the importance of infrastructural facilities in the development of technical education cannot be over-emphasized. Infrastructural facilities in technical colleges are inadequate. Even the existing ones already dilapidated. Practical work constitutes an essential part of technical education and therefore needs suitable workshop space for programme implementation and structuring.

Unfortunately, the workshops are not there. Imarhiagbe (1992) opined that government should provide fund for the building of workshops. The deprivation of technical college students from participating in Students Industrial Work Experience Scheme (SIWES) is an issue that has to be looked into very seriously by the government. The involvement of technical college students in industrial training would solve the problems of poor skill acquisition due to staffing situation, insufficient funding and facilities (Okorie, 2001).

What about the administration of technical education? Agusiobo (1987) stated that the affairs of technical education were being managed by those in general education. Obviously, the goals of technical are not the same as those of general education. It is our opinion that technical education should have separate planning, separate administrative and operating arrangements. This study, therefore, sought answers to the following research questions and tested an hypothesis.

1. What is the type of training received by technical college final year students?
2. How adequate are tools, machines, training materials and infrastructural facilities in technical colleges?
3. How does government policies and programmes influence the development of society about technical education?

4. What is the perception of society about technical education?

Hypothesis

HO 1: There is no significant difference in the mean responses of school administrators and technical teachers regarding how the supply of tools and equipment influence technology growth ($P<0.05$).

Methodology

A survey design was utilized for this because it sought the opinions of the respondents. The population comprised of 72 technical college final year students of 2000/2001 session, 20 technical teachers teaching in Delta state technical colleges and 14 school administrators from Ministry of Education, Asaba. A simple random sampling technique was used to select 50 final year technical college students; 12 technical teachers and eight school administrators.

A 16-item questionnaire which covered training acquired by students, societal perception of technical education, government policies and programmes on technical education and supply of tools, machines, training materials and infrastructural facilities were developed by the researchers. The instrument was validated by two technical teachers and a school administrator.

For an item to be accepted as agreed, it has to score a mean of 2.50. A mean of 3.50-4.00 was regarded as very adequate (Strongly Agree or Very Good); a mean of 2.50-3.49 was regarded as adequate (Good or Agree); a mean of 1.50-2.49 was regarded as Inadequate (Poor or Disagree) while a mean of 1.49 and below was regarded as very Inadequate (Very Poor or Strongly Disagree).

Personal interview was also used to collect and update responses. Data collected were analyzed using mean and standard deviation. T-test statistic at 0.05 level of significance was used to test the null hypothesis formulated.

Results

The results of the study are presented in Tables 1-5 and based on the research questions and hypothesis.

Research Question 1.

1. What is the type of training received by technical college final year students?

Table 1

Mean Responses Of Students On Type Of Training They Received.

S/NO	ITEMS	Mean x	S.D	Remark
1.	Practical skills acquired by technical students	2.10	1.66	Inadequate
2.	Work Knowledge acquired by technical students	2.20	1.80	Inadequate
3.	Work attitude acquired by technical students	2.18	1.60	Inadequate
4	Industrial training acquired by students	1.80	0.92	Inadequate

The result from Table 1 shows that mean responses of the respondents are 2.10,2.20 and 2.18.and standard deviations of 1.66,1.80 and 1.60,indicating that the practical skills, work knowledge and work attitude, which is the practical training, is inadequate. The table also shows that their industrial training experience is inadequate with a mean of 1.80 and standard of 0.92.

Research Question 2

How Adequate Are Tools, Machines, Training Materials And Infrastructural Facilities In Technical Colleges

S/NO	ITEMS	Mean x	S.D.	Remark
5	Procurement and supply of hand tools, machine tools and training materials to technical colleges.	1.60	0.74	Inadequate
6	Installation of machine tools	1.80	0.92	Inadequate
7	Provision of infrastructural facilities	1.50	0.77	Inadequate
8	Regular maintenance of infrastructural facilities	1.90	0.96	Inadequate

Table 2 shows that procurement of tools, machines and training materials have a mean response of 1.60 and a standard deviation of 0.74;installation of machine tools have a mean response of 1.80 and a standard deviation of 0.92; provision and maintenance of infrastructural facilities have a mean of 1.50 and 1.90 and standard deviations of 0.77 and 0.96 respectively indicating that all the items are inadequate.

Research Question 3

How does government policies and programmes influence the developments of technical education?

Table 3: Mean Responses of School Administrators on the Effect of Government Policies and Programmes on Technical Education.

S/NO	Items	Mean x	S.D	Remark
9	Policies concerning technical education are formulated by general educators.	3.60	1.05	Strongly Agree
10	Implementation of technical education policies are often followed-up by the government.	1.60	0.74	Disagree

Table 3 shows that the mean response of the respondents on item no.9 is 3.60 and the standard deviation is 1.05 showing that the respondents strongly agreed with the fact that policies concerning technical education are formulated by general educators while the reverse is the case on item no.10 which has a mean of 1.60 and standard deviation of 0.74.

Research Question 4

What is the perception of society about technical education?

Table 4

Mean Responses of Teachers on the Perception of the Society About Technical Education

S/NO	Items	Mean x	S.D	Remark
11	Parents/Guardians' attitudes technical education for their children/wards	1.60	0.74	Very poor
12	Teachers[1] interest for technical work.	3.00	0.88	Good

Table 4 indicates that parent's/guardian's attitudes towards technical

education for their children was *very* poor (X =1.60;S.D=0.74) in Items 12, teachers interest for technical work was good (X=3.00; S .D=0,88)

Table 5

t-Test Comparison Of Mean Responses Of School Administrators And Technical Teachers Regarding The Influence Of The Supply Of Tools And Equipment On Technical Growth.

SIGNIFICANT N.S.=NOT SIGNIFICANT

S/N	ITEMS	Group 1 X	$S.U1^2$	Group 2 ~* »	$S.D2^2$	t-cal	t-critical	Decision
13	Procurement and supply of hand tools, machine tools and training materials to technical colleges.	3.48	1.59	3.32	1.37	0.31	2.000	N.S
14	Installation of machine tools	3.50	1.59	3.24	0.88	0.50	2.000	N.S
15	Provision of infrastructural facilities.	3.62	1.72	3.27	0.88	0.65	2.000	N.S
16	Regular maintenance of infrastructural facilities.	3.91	1,49	3.62	1.46	0.52	2.000	N.S

Df=68,
Group 1-Technical teachers in technical colleges.
Group 2-school Administrators from Ministry of Education.

In Table 5,the result of the study shows that the t-calculated on items one to four were lower than the critical at 0.05 level of significance, degree of freedom (df=68). The degree of freedom (df=68) at 0.05 level of significance was used to calculate t-critical of 2.000. Since the t-calculated was lower than the t-critical, null hypothesis on the influence of the supply of tools and equipment on technological growth was accepted. This signifies that tools and infrastructural facilities given to technical colleges are inadequate for the training of students. Thus, Edgley (1977) recommended appropriate curriculum, high standard of starting, equipment and actual teaching for technical education.

Recommendations

The following recommendations are made to move technical education forward:

1. Technical education should' be separated from the administrative and
   operating umbrella of general education. Any attempt to combine the two will definitely result in failure because they have different goals
2. A Federal Board on Technical Education should include technical educators, leaders in practical arts, manufacturers, businessmen, mechanics and
   representatives of other occupations. The purpose of board is to bring to public attention the importance of technical education in limiting the waste of labour power.
3. Administrators of technical education should not only understand

the
employment objective of industries and the labour but be proficient in the use of the tools, machine and materials of their occupation.

4. Technical teachers must have sufficient work experience and knowledge of world of work to be able to realistically train the students practically. This task can only be achieved by teachers going for training and retraining in the industries. To the students, it is advised that they should go for industrial training for one full year preferably in their second year.
5. Technical teachers cum artisans should be employed by the government to teach technical students on practical skills.
6. The mass media should be used to disseminate information on the
importance of technical education to the public. This campaign for technical education will improve Nigeria technological culture and national
development.
7. About 10 per cent of the education tax fund should be voted for technical education for the procurement of tools, equipment, training materials and infrastructural facilities.

Conclusion

The result of this study has provided empirical evidence in respect of the challenges of technical college education in this millenium. It was found that the

tasks before technical education were enormous. These are found in the area of practical training of personnel both in the school and in the industries; dearth in the supply of tools, machines, training materials and infra structural facilities. Obviously, if these challenges are overcome, technical education will have a lot to offer to the economic development of Nigeria.

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