

PRACTICES AND STATUS OF TECHNICAL TEACHER PRODUCTION IN NIGERIA CERTIFICATE OF EDUCATION (TECHNICAL) AWARDING INSTITUTIONS

¹MSHELIA Markus Audu, ²OWOLABI Kayode Michael

¹Department of Vocational and Technology Education, Abubakar Tafawa Balewa University, Bauchi ²Department of Building Technology, Kwara State Polytechnic, Ilorin

Abstract

The study was conducted with the purpose of finding out the opinions of staff on the practices and status of technical teacher production in teacher education colleges in Nigeria. Three objectives, three research questions and three hypotheses guided the study. The study area covered the entire nation. The population involved 259 staff from 30 COEs. A total of 194 staff from twenty one (21) out of 30 institutions was sampled. 47 item questionnaires were administered to 259 respondents out of which 194 were returned. After a pilot test for reliability, Cronback's Alpha value of 0.91 was obtained. Descriptive statistical analysis on facilities status revealed a grand mean value of 3.29 (moderately agreed); staff status 3.13 (moderately agreed) and curriculum status 3.65 (agreed). Results of ANOVA at 0.05 level of significance showed that hypothesis 1 was significant while hypotheses 2 and 3, were not significant. Further test for hypotheses 1 using Scheffe's multiple comparisons and mean order tests revealed that Colleges of Education had a high mean values and therefore was the sources of significant differences, meaning facilities were better in these institutions. The study concluded that there was almost unanimous opinion of responses among the respondents, and recommended that facilities and staff status needed to be improved.

Key words: Practice, Status, Teacher production.

1. Introduction

The pursuit of scientific and technological education is imperative for any nation that aspires towards independence, sovereignty; sustainable industrial, economic, social and political development. Aboh (1998) asserted that development in science and technology has introduced many new innovations in many societies while others irrelevant in an ever changing environment.

Technical education and training which prepares and equips persons to contribute meaningfully in occupations that produce goods and services, is therefore particularly needed by every country that needs to develop and sustain her level of development. Ndomi (2004) asserted that vocational technical teacher education provides the programme beneficiaries with skills for the desired occupations in additions to intellectual general education. The success of any educational system largely depends on the availability and dedication of competent teachers. Nigeria over the years has prepared to produce sufficient technical teachers at various levels of education in Colleges of Education, Polytechnics and Universities, despite the expensive nature of the programme at all levels.

In order to achieve the production of sufficient technical teachers, Ahiakwo (1993) was of the view that improved performance in technical education programme in the 21st century calls for a balance between a re-appraisal of the total system and imagined future to produce a realistic agenda for action. Now, what will ensure improved performance of technical teachers is a competency-based pre-service technical teacher education programmes that are backed up with a well-articulated professional development scheme through a sound curriculum. To achieve this, the post independent Nigeria embarked on series of expansions of technical education programmes at different levels. The development and expansion of all forms of technical education programmes is widely agreed to be one of the foremost prerequisites for the economic and technological growth. Although many developing countries are engaged in the expansion of their technical and vocational education systems, numerous obstacles have continued to thwart the laudable efforts of many nations. For instance, Mobarack (2008) highlighted one major problem of technical teacher education programmes as having fewer facilities that would meet up with the challenges of gainful practical training for sufficient self-reliance.

Technical teacher education in Nigeria in recent years has been criticized for its weaknesses and failures. The antidote is not to declare the process hopeless but to make necessary improvements for the weaknesses and failures of the technical education programme generally, Kelley (1990), Baraka (2002), and Louisiana (2008) reported teachers' shortfalls, inadequate facilities and outdated curriculum among others as adverse problems affecting the growth and development of technical teacher education. Similarly, Zubairu (2005) also reported that many trained technical education teachers abandoned the teaching profession for greener pastures in private and other public sectors resulting in shortfalls of teachers. In the same vein, Ehiemere (2007) asserted that the number of vocational and technical teachers available at various levels of education in Nigeria is insufficient in many states.

The purpose of this study was to

- i. Determine the status of facilities in technical teacher education programmes in Colleges of Education in Nigeria
- ii. Determine the status of staff (academic and non-teaching) in the technical education Programme in Colleges of Education in Nigeria
- iii. Ascertain the curriculum status of the technical teacher education programmes in Colleges of Education in Nigeria

The following questions guided the study

- i. What is the status of facilities in technical teacher education programme in Colleges of Education in Nigeria?
- ii. What is the status of staff (academic and non-teaching) in technical teacher education programmes in Colleges of Education in Nigeria?
- iii. What is the status of the curriculum used in technical teacher education programmes in Colleges of Education in Nigeria?

The following null hypotheses were tested at 0.05 levels of significance

H₀₁: There is no significant difference in the mean opinions of the respondents on the Status of facilities in Colleges of Education (Technical) in Nigeria

H₀₂: There is no significant difference in the mean opinions of the respondents on the staffing in

Colleges of Education (Technical) in Nigeria

H₀₃: There is no significant difference in the mean opinions of the respondents on the status of curriculum used in Colleges of Education (Technical) in Nigeria.

The findings would likewise assist the owners or proprietors of the institutions towards strengthening or developing the technical teacher education programmes. Curriculum reform experts would find the study useful and timely as some of the findings requiring refocusing the status of the curriculum will be addressed. The general issues bordering on instructional practices of the technical teacher education in relation to its training and products, which have a far reaching implication in the programme, would be addressed.

The following Operational Definition of Terms shall be adopted.

Practices: In this context, practices refer to the development of technical education.

Status: Current trend or development of the technical teacher education programme.

Teacher production: Teacher production refers to the input and out-put of technical teachers.

2. Methodology

This study adopted an opinion survey design. The researcher considered an opinion survey as an appropriate design because of the advantage of obtaining a great deal of information from a large group of representatives of the entire people (Olaitan, Ali, Eyoh and Sowande, 2000). The researcher adopted opinion survey research design because institutions in each geo-political zone in Nigeria had to be represented to give a wider scope. The researcher made sure that at least each zone out of the six geo-political zones was represented. The area of the study was the entire Nigerian nation. Nigeria lies roughly between longitude 3° and 15° East of the Prime Meridian and between Latitude 4° and 14° North of the Equator. The population of the study comprised the entire academic staff (259) that has technical teacher education background. The institutions comprised eight Federal Colleges of Education (Technical); one Federal College of Education and 18 State Colleges of Education. This is presented in Table 1.

Table 1: Distribution of Technical Teacher Education Programme

S/No	Institutions	Locations
1	Federal Colleges of Education (Technical)	Akoka, Asaba, Bichi, Gombe, Gusau, Potiskum, Omoku, Umunze.
2	Federal Colleges of Education	Pankshin, Yola
3	State Colleges of Education (Technical)	Arochukwu, Lafiagi
4	State Colleges of Education	Afaha-Nsit, Ankpa, Argungu, Azare, Bama, Dutsinma, GidanWaya, Hong, Ikere-Ikiti, Ijanikin, Ilesha, Ilorin, Ijebu-Ode, Kumbotso, Katsina-Ala, Minna, Sokoto and Jalingo, Oyo

The Colleges of Education (COE) offering technical teacher education programmes were identified in each of the six zones. A stratified random sampling procedure was used to select samples drawn from 259 respondents. A structured questionnaire was developed by the researcher which was divided into two main parts. In all, the instrument contained 47 items. The questionnaire was structured based on a five-point Likert type rating scale of Strongly Agree (SA) 5 points, Agree (A) 4 points, Moderately Agree (MA) 3 points, Disagree (DA) 2 points and Strongly Disagree (SD) 1 point. The instrument was subjected to face validation by three qualified and experienced technical educators. Pilot test was suggested by (Ary, Jacobs and Razavieh 2002; Sambo 2008) in a research to try out the proposed procedures on a few subjects from the target population which will not be part of the main research. In this test, items that were not clear from validation were dropped due to low test results. The reliability coefficients of the instrument were obtained from the result of a pilot test. The instrument was pilot tested to establish reliability in some of the institutions that were not included in the main work. The institutions included FCE (T) Potiskum and COE Azare. The reliability of the 47 items of the instrument was computed using the Pearson Product Moment Correlation (r). The overall Reliability Coefficient (r) 0.76 and the Cronbach's Alpha (α) 0.90 were determined using the Statistics Package 15.1 MINITAB Version. Analysis of Variance (ANOVA) was used to test the null hypotheses at 0.05 levels

of significance. Mean and standard deviation were used to answer research questions on respondents' opinions.

3 Data Presentation and Hypotheses

Research Question One; what is the status of facilities in technical teacher education programme in Colleges of Education?

Table 3 reveals an overall grand mean response of 3.29 on facility status (provisions of workshops, halls, classes, libraries, laboratories, tools, machines and equipment among others) on a five point Likert type scale of measurement. On the questionnaire items, mean rating on facilities indicated that items 1, 4, 5, 7, and 15 were agreed whereas items 2, 3, 6, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, and 20 were moderately agreed. Out of 20 items, 5 items were agreed representing 25 percent and 15 items were moderately agreed representing 75 percent. The result also indicated that majority of respondents moderately agreed (representing 75%) that facilities in the technical teacher education programme were inadequate. This implies that facilities distribution across the technical teacher education programme needs an urgent attention to boost technical teacher production.

Table3: Mean responses from Colleges of Education on facilities in technical teacher education programme

S/N	Question Items	\bar{X}_{CE}	Remarks
1	W/shops are adequate.	3.63	Agree
2	Center for Appropriate Technology is equipped	2.86	M/Agree
3	Education Technology Center is well equipped	3.16	M/Agree
4	Halls are adequate	3.79	Agree
5	Classes are adequate	3.85	Agree
6	Laboratories equipped	3.37	M/Agree
7	Central library stocked	3.79	Agree
8	Hostel blocks are adequate.	2.65	M/Agree
9	Drawing studios are adequate	3.34	M/Agree
10	Stores are adequate	3.75	M/Agree
11	Machines are adequate	3.11	M/Agree
12	Power tools are adequate	2.78	M/Agree
13	Hand tools are adequate	2.93	M/Agree
14	Consumables materials well are procured	2.96	M/Agree

15	Fire extinguisher is adequate.	3.44	Agree
16	Safety display notices	3.23	M/Agree
17	Protective safety equipment	3.03	M/Agree
18	Fire alarms are adequate	2.82	M/Agree
19	Waste disposals are adequate	3.41	M/Agree
20	Tools /equipment are returned after use	3.98	M/Agree
Grand Mean		3.29	M/Agree

Key: \bar{X}_{CE} = Mean responses of Colleges of Education on status of facilities

Research Question Two: What is the staff status (academic and non-teaching) in technical teacher education programme in Colleges of Education in Nigeria?

Table 4 shows an overall grand mean response of 3.13 staff (welfare, salaries and wages, training, relationship, rewards, seminars, workshops, overloading, adhoc responsibilities among others) on Likert type five point scale of measurement. On the questionnaire items, overall mean rating on staff status indicated that items 21, 23, 33 and 36 were agreed whereas items 22, 24, 25, 26, 27, 28, 29, 30, 31, 32, 34, 35, 37, 38 and 39 were moderately agreed. Out of 19 items, 4 items were agreed representing 18.05 percent and 15 items were moderately agreed representing 81.95 percent. The result also indicated that majority of respondents moderately agreed (representing 78.05%) that staff at the technical teacher education programme were inadequate. Therefore, since the majority responses did not uphold the staff status, it implies that academic and non-teaching staff calls for an urgent attention across the technical teacher education programme.

Table 4: Mean responses from Colleges of Education on staff status in technical teacher education programme

S/N	Question Items	\bar{X}_{CE}	Remarks
21	Sustained policies/prog are provided	3.70	Agree
22	Social and recreational facilities are provided	3.10	M/Agree
23	Staff benefit from international workshops	3.73	Agree
24	Academic staff enough	3.18	M/Agree

25	Staff are over loaded	3.09	M/Agree
26	Staff are loaded with ad hoc responsibilities	2.90	M/Agree
27	Computers are provided to all staff	2.81	M/Agree
28	Excess work load are compensated	2.62	M/Agree
29	Agreements on wages are honoured	2.73	M/Agree
30	Staff is provided with soft loans	2.61	M/Agree
31	Staff is promoted when due	3.59	M/Agree
32	All staff benefit from local conf.	3.34	M/Agree
33	Staff has cordial relationship	3.68	Agree
34	Regular retraining is provided for all staff	3.22	M/Agree
35	Cordial relationship staff	3.46	Agree
36	All staff are provided offices	2.63	M/Agree
37	Institution recognizes hard work	2.88	M/Agree
38	Institution rewards hardworking staff	2.97	M/Agree
39	Non-teaching staff are not enough	3.19	M/Agree
Grand Mean		3.13	M/Agree

Key: \bar{X}_{CE} = Mean responses of Colleges of Education on staff status

Research Question Three: What is the current status of the technical teacher education curriculum in Colleges of Education in Nigeria?

Table 5 presents an overall grand mean response of 3.65 curriculum status (provisions for technical courses, subsidiary courses, harmonization, review, relevance to societal aspiration among others) on a five point Likert type scale of measurement. On the questionnaire items, overall mean rating on curriculum indicated that items 40, 41, 42, 43, 44 and 45 were agreed whereas items 46 and 47 were moderately agreed. Out of 8 items, 6 items were agreed representing 75% and 2 items were moderately agreed representing 25 percent. The result also indicated that majority of respondents agreed (representing 75%) that curriculum for the technical teacher education programme was adequate. Considering

the importance of the curriculum for an overall development of a beneficiary, majority of respondents were in favour of the curriculum status but calls for further attention in the technical teacher education programme.

Table 5: Mean responses from Colleges of Education, on curriculum status in technical teacher education programme

S/N	Question Items	\bar{X}_{CE}	Remarks
40	Provisions for subsidiary courses.	3.43	Agree
41	Curricular comprises all technical trades.	3.78	Agree
42	Curricular is reviewed to current issues.	3.84	Agree
43	Curricular are in harmony with others.	3.97	Agree
44	Curricular provides skill acquisition.	3.68	Agree
45	Curricular are comprehensive.	3.57	Agree
46	Curricular is meeting the needs of the society	3.41	M/Agree
47	Methods of teaching covers the curriculum	3.50	M/Agree
Grand Mean		3.65	Agree

Key: \bar{X}_{CE} = Mean responses of Colleges of Education on curriculum status

Hypothesis

H₀₁: There is no significant difference in the mean opinions of respondents on the status of facilities in Colleges of Education. The data required to test this hypothesis in the study are presented in Table 6. The result shows that, the critical value of F within 2 and 57 degrees of freedom at 0.05 level of significance was 5.06 and the F-Calculated was 6.17. Since the F-Calculated value of 6.17 is greater than the F-Critical value of 5.06; there is good reason to reject the null hypothesis (H₀₁). This means that there is significant difference in the mean opinions of the respondents on facilities in technical teacher education programme. This also implies that the group shared different opinions on the present practices and status of technical teacher production.

Table 6: Results of Analysis of Variance on the mean responses from Colleges of Education on facilities in technical teacher education programme

Source of Variation	DF	SS	MS	F-Cal	F-Crit	P	Decision
---------------------	----	----	----	-------	--------	---	----------

Treatment Between Groups	2	2.25	1.13	6.17	5.06	0.0038	S
Error	57	10.41	0.18				
Total	59	12.66					

Ho2: There is no significant difference in the mean opinions of respondents on the status of staff in Colleges of Education.

The data required to test this hypothesis in the study are presented in Table 7. The result shows that, the critical value of F within 2 and 54 degrees of freedom at 0.05 level of significance was 23 and the F-Calculated was 5.78. Since the F-Calculated value of 5.78 is greater than the F-Critical value of 5.06; there is good reason to reject the null hypothesis (Ho2). This means that there is significant difference in the mean opinions of the respondents on facilities in technical teacher education programme. This also implies that the group shared different opinions on the present practices and status of technical teacher production.

Table 7: Result of ANOVA on the mean responses from COEs on status of Staff in technical teacher education programme

Source of Variation	DF	SS	MS	F-Cal	F-Crit	P	Decision
Treatment Between Groups	2	0.011	0.0056	5.78	5.06	0.97	NS
Error	54	8.91	0.165				
Total	56	8.92					

Ho3:
There is
no

significant difference in the mean opinions of respondents on the status of curriculum used in Colleges of Education.

Table 8 shows critical value of F within 2 and 21 Degrees of Freedom at 0.05 levels of significance is 5.78 and the F-Calculated value is 1.81. Since, the F-Calculated value of 1.81 was less than the F-Critical value of 5.78; there is good reason to accept the null hypothesis (Ho3). Therefore, there is no significant difference among the opinions of the respondents from Colleges of Education,

Polytechnics and Universities on the present practices and status of technical teacher production in Nigeria's tertiary institutions. By this result, it implies that the respondents shared similar opinions in the technical teacher education programme.

Table 8: Result of Analysis of Variance on the mean responses from Colleges of Education, on curriculum status in technical teacher education programme

Source of Variation	DF	SS	MS	F-Cal	F-Crit	P	Decision
Treatment Between Groups	2	0.25	0.12	1.81	5.78	0.19	NS
Error	21	1.43	26.57				
Total	23	1.68	26.67				

4. Discussion of findings

Research question 1 addressed the status of facilities in technical teacher education programme. The data presented in Table 3 showed the result of the analysis obtained from the mean opinions of respondents. The overall grand mean value obtained was 3.29 which indicated that the respondents moderately agreed with the state of facilities. The findings indicated that majority of the respondents moderately agreed with the status of facilities in the technical teacher education programme. The grand mean opinions ranged between cutoff points of 2.50 to 3.49 indicating a moderate agreement. Facilities were therefore inadequate. This implied that facilities call for urgent attention in technical teacher education programme. This study was in agreement with studies, reports and pronouncements by Chinwe (1994) and FRN (2012). Considering the importance of facilities in technical teacher development in the era of technological advancement, the need to improve on facilities cannot be compromised if technical teacher education is to be boosted. Research Question 2 indicated staff status that cuts across the colleges under study. The data presented in Table 5 showed the result of the analysis obtained from the mean opinions of respondents. The overall grand mean value obtained was 3.42 while the lowest means were 2.50, 2.53 and 2.60; which indicated that the respondents moderately agreed with the status of staff in the institutions. The findings indicated that majority of the respondents moderately agreed with the status of staff in the technical teacher education programme. The grand mean opinions ranged

between cutoff points of 2.50 to 3.49 indicating a moderate agreement. All categories of staff was therefore inadequate. This means that staff requires an urgent attention to further boost technical teacher education in Nigeria.

The findings of this study are in line with the National Universities Commission's report by Mike (2012) on the 61,000 shortfall of lecturers across the tertiary institutions in Nigeria. This shortfall may be as a result of staff exodus to other better paid job opportunities, which would affect the technical teacher education programme, since they fall within the tertiary education system in Nigeria, and which may affect technical teacher production. Therefore, the result suggests the need for retooling of serving technical teachers to boost pre-services technical teachers.

Research Question 3 is concerned with the curriculum status of technical teacher institutions. The data presented in Table 6 showed the result of the analysis obtained from the mean opinions of respondents. The overall grand mean value obtained was 3.65, which indicated that the respondents agreed with the curriculum status in the institutions. The findings indicated that majority of the respondents agreed with the curriculum status in the technical teacher education programme. The grand mean opinions ranged between a cutoff points of 2.50 to 3.49 indicating agreed. Curriculum status was therefore adequate. Considering the importance of the curriculum for technical teacher development in the era of technological advancement, the findings of this study agrees with Ulifun (1990) that emphases should be placed on curriculum review in the technical teacher education programme. With reference to hypotheses formulated for the study, hypothesis one showed significant difference between the mean of opinions of the respondents on the facility distribution in the technical teacher education programme. This indicated that the respondents had different opinions on facilities in technical teacher education programme in the Colleges of Education. Hypothesis two showed no significant difference between the mean of opinions of the respondents on the staff status in the technical teacher education programme. This indicated that the respondents had convergent opinions on staff status in technical teacher education programme in the Colleges of Education in Nigeria. Similarly, hypothesis three showed no significant difference between the mean of opinions of the respondents on the curriculum status. This indicated that the respondents had the same opinions on curriculum status in technical teacher education programme.

The major findings of the study were based on the research questions and the hypotheses tested. Majority of respondents moderately agreed with the state of facilities in the colleges. Majority of the Respondents' opinions also revealed moderately agreed with the staff status in their colleges. Majority of the respondents agreed with the curriculum status used in pre-service technical teacher production in the colleges.

5. Conclusions

Based on the findings of the study, the following conclusions are made:

- (i) The overall grand mean 3.11 and the lowest grand means of 2.28, 2.52 and 2.58 were obtained on facility distribution across the institutions which suggested moderate opinions, and therefore facilities such as power tool machines and hostel blocks were inadequate.
- (ii) The study revealed an overall grand mean of 3.42 and lower grand means of 2.50, 2.53 and 2.60 for staff status, indicating moderate opinions, meaning staff of all categories was inadequate.
- (iii) An overall grand mean of 3.57 and lowest grand means of 2.96, 3.45 and 3.54 were obtained on curriculum status in the institutions which suggested agreed opinions, and therefore the curriculum was adequate, but inadequate in the area of societal needs and skills acquisition practices.

Based on the findings of this study, the following recommendations are made to improve on technical teacher production in Nigeria.

- i. There is the need to improve the inadequacy of facilities across the colleges in order to boost technical teacher education programme.
- ii. Staff shortfalls should be identified and addressed to fill available vacancies in the technical teacher education programme.
- iii. Technical teacher education curriculum be reviewed constantly in order to meet up with current global changes in technology.

References

1. Aboh, A. M. (1998). The place of technology education in the vision of Nigeriansfuture: *Proceedings of 11th Annual Conference of Nigerian Association of Teachers of Technology (NATT)* Lagos: Marcilliana Nigeria Ventures
2. Adeyemi, J.K. &Uko-Aviokoh, E. E.(2004). **Effective technological delivery in Nigeria:** Need for Manpower Development Policy, *Educational Policy Analysis Archives, EPAA* 12 (24) 6-24
3. Ahiakwo, M.J. (1993). Cognitive and psychomotor abilities of technology teacher education students: *Journal of the Science Teachers Association of Nigeria*, 28 (1&2), 109-116
4. Ary, D., Jacobs, C. and Razavieh, A. (2002).**Introduction to research in education:** (6thed.) Belmont: Wadsworth
5. Baraka, M.N. (2002). **Factors affectingtechnical teachers’ attitudes towards the profession in Gombe State:** A paper presented at the Second National Conference Organized by Federal College of Education (Technical) Gombe, Gombe State
6. Chinwe, N. I. (1994). Position of workshop tools for training in vocational and technical education institutions: *Nigeria Journal of Vocational & Technical Education*, (1) 2, 176-184
7. Ehiemere, E. (2007). Professional vocational and technical teacher education andprofessionalization of teaching in Nigeria:*Journal of Issues in Technical Teachers*,4(1), 20-25.
8. FRN (2012): National Policy on Education. Lagos: NERDC Press
9. Kelley, K.C. (1990). **Teachers expectations and pupils learning.** London: Rand Edge and Regan Paul, 68-73
10. Louisiana, M. O. (2008). Production and technical teacher education: [http://www.Jobster.com/outreach/jobs/job details.html](http://www.Jobster.com/outreach/jobs/job%20details.html) 1-9
11. Mike, F. (2012, July, 11). Varsities, others have 61,000 Lecturers’ Shortfall.Daily Trust Newspapers, Retrieved from: www.dailytrust.com (29) 96 p11
12. MobarackL.O.(2008)TechnicalProductionLeader.[http://www.jobster.com/outreach/jobs/job Details.html?hbxcmp=j-aff&htxsrc=13361&i=B...](http://www.jobster.com/outreach/jobs/job%20Details.html?hbxcmp=j-aff&htxsrc=13361&i=B...) 7/24/2008
13. Ndomi, B.M (2004); Quality Teachers: Quality schools. Internal perspective and policy implications: **Teaching and teacher education**, 12 (5)

14. Sambo, A. A. (2008). *Research Methods in Education*, Ibadan: SterlingHorden Publishers (Nig.) Ltd
15. Ulifun, F.E.(1990). Training and development of technical teachers for Nigerian technical institutions: Problems and issues. *Business Education Journal*, 2 (1), 26-9
16. Zubairu, A. B. (2005). Technical teacher education Nigeria: Problems and Prospects. *Journal of Vocational & Technical Education*, 2(4), 22-29