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Assessment of the Adequacy of Curriculum Content of Mechanical Technology Programme Implementation in Technical Colleges of Kaduna and Niger States, Nigeria

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***Abstract*— The purpose of this study was to assess the adequacy of the curriculum content of mechanical technology programme implementation in technical colleges of Kaduna and Niger states, Nigeria. To conduct the study a research question was formulated. Descriptive survey design was adopted for the study. The population was 61 comprising 49 mechanical technology teachers and 12 heads of department. There was no sampling as the population size was manageable. A structured questionnaire containing 67 items was used for data collection. The instrument was face validated by three experts. Mean was used to answer the one research question. One of the major findings of the study revealed that the curriculum content of mechanical technology was inadequate. The study recommended among others that the curriculum content of mechanical technology be reviewed in order to meet up with the present technological challenges affecting all facets of human endeavours globally.**

***Index Terms*— Assess, Adequacy, Curriculum Content, Mechanical Technology Technical Colleges, Kaduna and Niger States, Nigeria.**

I. INTRODUCTION

Highlight In order to ascertain the adequacy of curriculum content of any training programme being implemented in a technical college, it has to be assessed. That is, one has to make judgement about the quality of the programme. By adequacy of curriculum content here we mean those things which the students have to learnt at a stipulated time in the course of their studies, should have an indepth coverage of subject matter relevant to their teaching-learning needs.

If the curriculum content is inadequate the learners will become half-baked at the end of the training programme (Bature, 2011). Hence, the students would not be able to acquire the necessary skills that could warrant them employment opportunity or for further education.

Undoubtedly, one of the objectives of implementing mechanical technology in the technical colleges according to Mupinga in Bature (2011) is to develop in the learner the ability to do something to earn a living. That is, the students should be able to manufacture those things that are useful in the society. Also, during their course of studies the students were expected to be able to produce among other things simple engineering components using various tools, machines and equipment. However, as observed in 2016 by the researchers most of the graduates of mechanical technology from technical colleges of Kaduna and Niger states were seeing roaming about the streets of towns and villages without being employed. These graduands were supposed to be self-employed or hired. But the reverse is the case in Kaduna and Niger states.

It would seem there are a number of factors that might have contributed to the students lack of been self-employed or hired. Bature (2011) observed that most of the technical colleges are faced with the following problems, especially during implementation namely:

1. Insufficient funds
2. Insufficient practical materials
3. Insufficient machines, equipment and tools
4. Insufficient qualified and experienced technical teachers.

Consequently, if the problems mentioned above are not solved there is the tendency that the students are bound to become half-baked trained graduants.

Furthermore, apart from the problem of inadequate training facilities as observed by the researchers (2017), one other big challenge could be attributed to the curriculum content of the mechanical technology is whether it has wide and indepth coverage which meets the needs of the students. Hence the need of this present study is to assess the adequacy of the curriculum content of mechanical technology programme implementation in technical colleges of Kaduna and Niger states, Nigeria.

Purpose of the Study

The purpose of this study was to assess the adequacy of curriculum content of mechanical technology programme implementation in technical colleges of Kaduna and Niger states, Nigeria.

Research Question

How adequate are the curriculum contents of mechanical technology programme implementation in technical colleges of Kaduna and Niger states, Nigeria in meeting the job requirements of the industries where the graduates will work?

Hypothesis

The following null hypothesis was formulated and tested

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at the 0.05 level of significance in the study:

Ho: There is no significant difference between the mean response of teachers and heads of department on the adequacy of the curriculum content of mechanical technology.

II. Methodology

An 67-item questionnaire was developed for this study by the researchers through an intensive literature review. This study adopted a descriptive survey research design. The study was conducted in Kaduna and Niger states, Nigeria. The population for this study comprises of 49 teachers and 12 heads of department. Thus the entire population was 61. The whole population was used since the size of the population was manageable. Therefore there was no sampling. Three experts from the Department of Industrial Technical Education University of Nigeria Nsukka validated the instrument. The analysis of data for this study was done using mean. Thus any item with a mean value or greater than 3.00 were accepted otherwise rejected.

III. Results

The results of the research question are presented in the table below.

Research Question

How adequate are curriculum contents of mechanical technology programme implementation in Technical Colleges of Kaduna and Niger states, Nigeria in meeting the job requirement of the industries where the graduates will work?

Answers to this research question are presented in table 1 below.

Table 1 Mean and Standard Deviation responses of teachers and Heads of Department on the Adequacy of Curriculum Content of Mechanical Technology Programme.

S/No	Items	N=61	S.D	Decision
	Adequacy of Curriculum Contents of Mechanical Technology	$\bar{X}$		
	Bench Work			
1	Principles of bench clamping devices such as bench vice, leg vice etc	3.21	.97	Fairly adequate
2	Methods of controlling clamping pressure	2.96	1.10	Not adequate
3	The identification of description of the types of grinders	2.64	.91	Not adequate
4	Characteristics of good grinding stone	2.89	.99	Not adequate
	Fitting work			
5	Bench operations of shaping metals to size, etc,	2.71	1.05	Not adequate
6	Common fitting tools their cutting actions and uses.	2.96	.88	Not adequate
7	The basic action of cutting metals by sawing, shearing	2.61	.88	Not adequate
8	The types and parts of tools like, chisel, hacksaw, scissors, etc	2.57	.88	Not adequate
9	Cutting principles of shearing metals to size	2..68	1.06	Not adequate
10	The principle of filing and filing actions.	2.93	.84	Not adequate
11	The principles of shaping metals by chiseling	3.04	1.20	Fairly adequate
12	Highlight on the importance, types and uses of hammers in metal fitting	3.00	.90	Fairly adequate
	Fabrication /Welding			
13	The equipment used in gas welding	2.82	.86	Not adequate
14	The equipment used in metals arc welding	2.86	.97	Not adequate
15	The safety precautions to be observed and applied to welding situations	2.86	1.04	Not adequate
16	The procedures to be employed in welding surfaces using oxy-acetylene torch	2.82	.77	Not adequate
17	The procedures to be implored in welding surfaces using electric arc.	3.14	.89	Fairly adequate
	Forging			
18	The main features of the blacksmith's forge	3.07	.86	Fairly adequate
19	The working principles of the black smith forge.	3.14	.85	Fairly adequate
20	The uses of common forging tools such as anvil, swage blocks, etc	3.11	.83	Fairly adequate
21	The procedures to be implored in carry out forging operations such as upsetting, drawing down etc.	2.92	.90	Not adequate
	Foundry			
22	The factory safety act for foundry practices	2.71	.90	Not adequate
23	The use of productive equipment in the foundry shop.	3.14	.71	Fairy adequate
24	The identification of foundry tools and devices	3.21	.79	Fairy adequate
25	The principles, types and techniques of foundry works.	3.07	.98	Fairy adequate
26	The uses of pattern in foundry works	3.14	.93	Fairy adequate
27	The characteristics of patterns	3.14	.76	Fairy adequate
28	The working principles of common pattern making tools	3.14	.76	Fairy adequate
	Lathe Machine Work			
29	The identification of the types of lathe machines	3.00	.98	Fairy adequate

30	The working principles of lathe machine	2.57	.96	Not adequate
31	The function and constructional details of the component parts of each type of lathe machines and its accessories.	2.39	1.03	Not adequate
32	The problems associated with the machining of plastics	2.64	.87	Not adequate
33	The various types of working/holding equipment used on the centre lathe	3.00	.86	Fairy adequate
34	Explanation on how to determine a work plan from turning job	2.96	1.00	Not adequate
	Milling Machine Work			
35	The Identification of the types of Milling Machines	2.93	1.15	Not adequate
36	The working principles of a milling machine	2.61	.88	Not adequate
37	The basic maintenance activities on a milling machine	2.61	.96	Not adequate
38	The functions and constructional details of component parts of each milling machine and its accessories	2.39	.99	Not adequate
	Shaping Machine Work			
39	The identification of the types of shaping machine and set up tools	2.64	1.10	Not adequate
40	How to set and operate the shaper to produce various components	2.54	.84	Not adequate
41	How to maintain the shaping machine	2.50	.75	Not adequate
42	The functions and constructional details of the main components of the shaper machine	2.46	.84	Not adequate
	Design			
43	The principle of basic design	2.64	.95	Not adequate
44	The identification of materials used in design	2.96	.84	Not adequate
45	The identification and description of tools used in design	2.96	.79	Not adequate
	Finishing			
46	The procedures of finishing up a stock with a portable filing machine	3.03	.84	Fairly adequate
47	The procedures of finishing up a stock with an abrasive bell grinder.	2.86	.80	Not adequate
48	The procedures of finishing up a stock with a buffing machine	2.93	.86	Not adequate
	Soldering/Brazing			
49	The composition of soft solders	2.96	.96	Not adequate
50	The principles of soldering	2.86	.76	Not adequate
51	The identification of factors that determine if a job is to be soldered.	2.82	.77	Not adequate
52	The description of soldering equipment and their functions	2.82	.82	Not adequate
53	The description of the purpose of fluxes	3.00	.94	Fairly adequate
54	The description of how to test soldered joints for rigidity and leakage	3.11	.77	Fairly adequate
55	How to differentiate between the melting points of solder and metal	2.93	.77	Not adequate
	Hammering Metal Work			
56	The procedures for annealing	3.18	.72	Fairly adequate
57	The procedures for hollowing	2.93	.86	Not adequate
58	The procedures for sinking	3.00	.77	Fairly adequate
59	The procedures for rising	3.07	.72	Fairly adequate
60	The identification of equipment and tools used in foundry	3.01	.74	Fairly adequate
	Measuring/ Marking out			
61	The essential features and use of measuring tools such as micrometer screw guage, etc	3.14	.76	Fairly adequate
62	How to care and maintain measuring and making out tools	3.25	.80	Fairly adequate
63	The functions and application of making tools such as rule, dividers, caliper etc	2.93	.86	Not adequate
	Riveting			
64	The procedures of cold riveting a work piece on the work bench	3.14	.93	Not adequate
65	The procedures of hot riveting a work piece with a hand riveting machine	3.04	.43	Not adequate
66	The procedures of riveting a work piece using a powered riveting machine	3.18	.72	Not adequate
67	The procedures of riveting a work piece using a portable pneumatic press.	3.07	1.05	Not adequate

The result in table 1 shows that the respondents rated the following items in the mechanical technology curriculum content main themes as fairly adequate 1,11,18,18,19,20,23,24,25,26,27,28,29, 32,46,53,54,56,57,58,59,60,61,62,64,65,66 and 67. However, items, 2, 3, 4,5, 6,7,8,9,10,13,14,15,16, 21, 22, 30, 31, 32, 34, 36,37,38,39,40,41,42,43,44,45,47,48,49,50, 51, 52, 55, 57,and 65 were rated as being inadequate.

Hypothesis

There is no significant difference between the mean response of teachers and heads of department on the adequacy of the curriculum content of mechanical technology.

Data for H_0 is presented in table 2.

Table 2 T-test of difference between the mean responses of Teachers and Heads of Department regarding the Adequacy of Curriculum Content of Mechanical Technology programme in Technical Colleges

Dependent variables		Status	N	Mean	Std Deviation	Std. Error Mean	Df.	t- Cal	t- Crit	Decisions
1 Work on Bench	Item 1	HOD	12	3.5000	1.259099	.64550	59	0.746	1.960	NS
		Teachers	49	3.1667	.91683	.18715				
	Item 2	HOD	12	2.7500	.99.743	.47871	59	0.211	1.960	NS
		Teachers	49	3.0000	1.4208	.23313				
	Item 3	HOD	12	3.0000	.81650	.40825	59	0.817	1.960	NS
		Teachers	49	2.5833	.92861	.18955				
	Item 4	HOD	12	3.5000	1.0000	.50000	59	.494	1.960	NS
		Teachers	49	2.7917	.977098	.19945				
	Overall	HOD	12	3.1875	.87500	.43750	59	0.817	1.960	NS
		Teachers	49	2.8854	.84692	.17288				
2 Fitting Work	Item 5	HOD	12	3.2500	1.25831	.62916	59	2.093	1.960	S
		Teachers	49	2.6250	1.01350	.20688				
	Item 6	HOD	12	3.2500	1.50000	.75000	59	0.300	1.960	NS
		Teachers	49	2.9167	.77553	.15830				
	Item 7	HOD	12	2.50000	1.29099	.64550	59	-0.081	1.960	NS
		Teachers	49	2.6250	.82423	.16824				
	Item 8	HOD	12	2.2500	.95743	.47871	59	-0.351	1.960	NS
		Teachers	49	2.6250	.87539	.17869				
	Item 9	HOD	12	2.2500	.95743	.47871	59	-0.471	1.960	NS
		Teachers	49	2.7500	1.07239	.21911				
	Item10	HOD	12	2.5000	1.29099	.64550	59	0.408	1.960	NS
		Teachers	49	3.0000	.88465	.1805				
	Item 11	HOD	12	.81650	.81650	.40825	59	1.288	1.960	NS
		Teachers	49	1.1919	1.29100	.24311				
	Item 12	HOD	12	3.2500	.2500	.2500	59	0.432	1.960	NS
		Teachers	49	2.9583	.95458	.19485				
3 Fabrication/ Welding	Item13	HOD	12	3.2500	.50000	25000	59	.0532	1.960	NS
		Teachers	49	2.7500	.89685	.18307				
	Item 14	HOD	12	3.0000	1.15470	.57735	59	3.444	1.960	S
		Teachers	49	2.8333	.96309	.19659				
	Item 15	HOD	12	2.5000	1.29099	.64550	59	-0.330	1.960	NS
		Teachers	49	2.9167	1.01795	.20779				
	Item 16	HOD	12	2.5000	1.00000	.50000	59	-0.349	1.960	NS
		Teachers	49	2.8750	.74089	.15123				
	Item 17	HOD	12	3.2500	.95743	.47871	59	-0.160	1.960	NS
		Teachers	49	3.1250	.89988	.18369				
	Overall	HOD	12	2.9000	.82462	.41321	59	0.717	1.960	NS
		Teachers	49	2.9000	.71748	.14646				
4 Forging	Item 18	HOD	12	3.0000	.00000	.00000	59	-3.087	1.960	NS
		Teachers	49	3.0833	.92861	.18955				
	Item 19	HOD	12	3.50000	5.7735	.28808	59	0.580	1.960	NS
		Teachers	49	3.0833	.88055	.17974				
	Item 20	HOD	12	3.0000	.00000	.00000	59	-.132	1.960	NS
		Teachers	49	3.1250	.89986	.18369				
	Item 21	HOD	12	3.2500	95743	.47871	59	0.-415	1.960	NS
		Teachers	49	2.8750	89988	18369				
	Overall	HOD	12	3.1875	.31458	.15729	59	0.285	1.960	NS
		Teachers	49	3.0417	.70190	.14329				
5 Foundry	Item 22	HOD	12	3.0000	.00000	.00000	59	0.012	1.960	NS
		Teachers	49	2.6667	.96309	.19659				
	Item 23	HOD	12	3.5000	.57735	.28868	59	045	1.960	NS

		Teachers	49	3.0833	71728	14641				
	Item 24	HOD	12	3.0000	.00000	.17289	59	-9.701	1.960	NS
		Teachers	49	3.2500	.84699	.25000				
	Item 25	HOD	12	3.2500	.50000	.25000	59	0.331	1.960	NS
		Teachers	49	3.0417	1.04170	.21264				
	Item 26	HOD	12	3.7500	.50000	.25000	59	1.036	1.960	NS
		Teachers	49	3.0417	.95458	.19485				
	Item 27	HOD	12	3.5000	1.00000	0.5000	59	0.450	1.960	NS
		Teachers	49	3.0833	.92861	0				
						1.1895				
						6				
	Item 28	HOD	12	3.2500	0.50000	2.5000	59	0.2051	1.960	NS
		Teachers	49	3.1250	0.79741	.16277				
	Overall	HOD	12	3.3214	.29451	.14725	59	0.537	1.960	NS
		Teachers	49	3.0417	.59944	.12236				
6 Lathe/ Machine Work	Item 29	HOD	12	3.7500	.95743	.47811	59	3.383	1.960	S
		Teachers	49	2.8750	0.94694	19330				
	Item 30	HOD	12	2.2500	.95743	.47871	59	-0.349	1.960	NS
		Teachers	49	2.6250	.96965	.19793				
	Item 31	HOD	12	2.0000	1.5470	.57735	59	0.848	1.960	NS
		Teachers	49	2.4583	1.02062	.20833				
	Item 32	HOD	12	3.0000	.81650	.40825	59	0.799	1.960	NS
		Teachers	49	2.5833	.88055	.17974				
	Item 33	HOD	12	3.5000	.57735	.8868	59	0.799	1.960	NS
		Teachers	49	2.9167	.88055	.1974				
	Item 34	HOD	12	2.7500	1.25831	.62915	59	0.188	1.960	NS
		Teachers	49	3.0000	97802	.19964				
	Overall	HOD	12	2.8750	.45896	.22948	59	0.221	1.960	NS
		Teachers	49	2.7431	.74045	.15114				
7Milling Machine Work	Item 35	HOD	12	2.2500	1.25831	.62915	59	-0.661	1.960	NS
		Teachers	49	3.04171	1.2208	.22904				
	Item 36	HOD	12	1.7500	.95743	.62915	59	-0.994	1.960	NS
		Teachers	49	0.7500	79400	.22904		1		
	Item 37	HOD	12	2.0000	.81650	.40825	59	0.750	1.960	NS
		Teachers	49	2.7083	.95458	.19485				
	Item 38	HOD	12	2.0000	.81650	.40825	59	-0471	1.960	NS
		Teachers	49	2.4583	1.02062	.20833				
	Overall	HOD	12	2.0000	.81650	.40825	59		1.960	NS
		Teachers	49	2.7396	.77136	.15745				
8 Shaping Machine Work	Item 39	HOD	12	2.7500	1.25831	.62915	59	0.151	1.960	NS
		Teachers	49	2.6250	1.09594	22371				
	Item 40	HOD	12	2.2500	.95743	.47871	59	-0311	1.960	NS
		Teachers	49	2.5833	.82970	.16936				
	Item 41	HOD	12	2.7500	1.25831	.62915	59	0.283	1.960	NS
		Teachers	49	2.4583	.65801	.13431				
	Item 42	HOD	12	2.0000	.81650	.40825	59	-0.570	1.960	NS
		Teachers	49	2.5417	.83297	.17003				
	Overall	HOD	12	2.5000	1.10349	.55174	59	-0.178	1.960	NS
		Teachers	49	2.7024	.42109	.08595				
9 Design	Item 43	HOD	12	2.2500	.95743	.47871	59	-0432	1.960	NS
		Teachers	49	2.7083	.95458	.19485				
	Item 44	HOD	12	2.7083	1.50000	.75000	59	-0.178	1.960	NS
		Teachers	49	3.0000	.72232	.14744				
	Item 45	HOD	12	2.7500	1.70783	.85391	59	-0.832	1.960	NS
		Teachers	49	3.0000	.58977	.12039				
	Overall	HOD	12	2.5000	1.10349	.55174	59	-0.178	1.960	NS

		Teachers	49	2.7024	.42109	.08595				
10	Item 46	HOD	12	2.5000	1.29099	.64500	59	0.541	1.960	NS
Finishing		Teachers	49	3.1250		.15123				
	Item 47	HOD	12	2.2500	.95743	.47871	59	0.0671	1.960	NS
		Teachers	49	2.9583	.75060	.15322				
	Item 48	HOD	12	2.0000	.81650	.40825	59	-1.171	1.960	NS
		Teachers	49	3.0833	.77553	.15830				
	Overall	HOD	12	2.2500	.95743	.47871	59	-0.799	1.960	NS
		Teachers	49	3.0556	.68572	.13997				
11	Item 49	HOD	12	2.0000	1.41421	70711	59	-0.981	1.960	NS
Soldering/		Teachers	49	3.1250	.79741	16277				
Brazing										
	Item 50	HOD	12	2.5000	1.2099	.64550	59	1.314	1.960	NS
		Teachers	49	2.9167	.65386	.13341				
	Item 51	HOD	12	2.2500	.95743	.47871	59	-0.656	1.960	NS
		Teachers	49	2.9167	.71728	.14641				
	Item 52	HOD	12	2.7500	1.25831	.62915	59	-044	1.960	NS
		Teachers	49	2.8333	.76139	.15542				
	Item 53	HOD	12	2.2500	1.25831	.62915	59	-0.750	1.960	NS
		Teachers	49	3.1250	.85019	.17354				
	Item 54	HOD	12	2.7500	1.28831	.62915	59	-0.350	1.960	NS
		Teachers	49	3.1667	.63702	.13003				
	Item 55	HOD	12	2.2500	1.25831	.6251	59	-0.683	1.960	NS
		Teachers	49	3.0417		.12739				
	Overall	HOD	12	2.3929	1.16861	.58430	59	0.560	1.960	NS
		Teachers	49	3.0179	.53004	.10819				
12	Item 56	HOD	12	2.5000	1.00000	.50000	59	-0.764	1.960	NS
Hammering		Teachers	49	3.2917	.62409	.12739				
Metal Work										
	Item 57	HOD	12	2.5000	1.00000	.50000	59	-0.470	1.960	NS
		Teachers	49	3.0000	.83406	.17025				
	Item 58	HOD	12	2.7500	1.25831	.62915	59	-0.235	1.960	NS
		Teachers	49	3.0417	.69025	.14090		`		
	Item 59	HOD	12	2.7500	1.25831	.67915	59	-0.312	1.960	NS
		Teachers	49	3.1250	.61237	.12500				
	Item 60	HOD	12	2.5000	1.29099	.64550	59	0.713	1.960	NS
		Teachers	49	3.3333	.564466	.11526				
	Overall	HOD	12	2.6000	1.11952	.55976	59	0.502	1.960	NS
		Teachers	49	3.1583	.44126	.09007				
13	Item 61	HOD	12	2.5000	1.29099	.64550	59	-0.633	1.960	NS
Measuring		Teachers	49	3.2500	.60792	.12240		6		
/Marking										
Out										
	Item 62	HOD	12	3.500	.57735	.28868	59	-0.411	1.960	NS
		Teachers	49	3.2083	.83297	.17003				
	Item 63	HOD	12	3.2500	.50000	.25000	59	0.562	1.960	NS
		Teachers	49	2.8750	.89988	.18369				
	Overall	HOD	12	3.0833	.41944	.20972	59	0.024	1.960	NS
		Teachers	49	3.1111	.52628	.10743				
14	Item 64	HOD	12	3.0000	.81650	.40825	59	-0.170	1.960	NS
Riveting		Teachers	49	3.1667	.96309	.19659				
	Item 65	HOD	12	3.0000	.00000	.00000	59	-2.186	1.960	NS
		Teachers	49	3.0417	.46431	.9478				
	Item 66	HOD	12	3.5000	57735	.28868	59	0.520	1.960	NS
		Teachers	49	3.1250	.74089	.15123				
	Item 67	HOD	12	3.7560	.95743	.47871	59	0.846	1.960	NS

	Teachers	49	2.9583	1.04170	.21264				
Overall	HOD	12	3.1375	.23936	.11968	59	0.0508	1.960	NS
	Teachers	49	3.0729	.50798	.10369				

The Mean Difference is Significant at the .05 levels.

Table 2 shows that the result of T-test and data relating to the adequacy of Mechanical Technology Curriculum content indicated there was no significant difference in the response from the two groups of respondents at 0.05level of significance for all items of the main themes in the table. Except however, there was significant difference in three of the items that is item 5, 14, and 29. Since, majority of the items (i.e. 96 percent) were upheld it then means there was no significant difference from the respondents' responses. Therefore, hypothesis (H_O) was accepted for the 96 percent of the items and rejected for the remaining 4 percent of the items.

IV. Discussion of Findings

The findings have shown that the curriculum content of Mechanical Technology in 57.3 percent of the items in those themes is insignificant or rather inadequate. This will no doubt affect the students in acquiring the necessary skills that would enable them to be self-employed or hired or further their education. According to Sara (2008) noted that unless and until the curriculum content of technical college programme is comprehensive and clear, there cannot be meaningful teaching-learning process. If the training needs of the students are not met, they are bound to lose interest in the teaching learning process (Ogwo and Oranu 2006). Consequently the students when graduated would now become half-baked and there by affecting their livelihood.

An adequate Curriculum content of Technical and Vocational Education and Training Programme must, among other things be valid, Significant, Comprehensive, learnable, arrange in sequential order and must be of interest to the learner (Okoro, 1993). Thus the findings have shown that there is need for the curriculum content of Mechanical Technology Programme to be reviewed.

V. Conclusion

This study has provided empirical data to show that the mechanical technology programme in technical colleges of Kaduna and Niger states is needful and useful for training individuals for self-employment and for further education in public schools. The mechanical technology programme can be more effective if the curriculum content is adequate and taught by teachers who are professionally qualified, there is no doubt the objectives of implementing the programme can be achieved as desired by all the stakeholders.

VI. Recommendations

Based on the findings of the study, the following recommendations were made:

1. Government should ensure that adequate training facilities are provided. Moreover, government should ensure existing facilities for the implementation of mechanical technology programme in technical colleges are updated.
2. Government should ensure that adequate professionally qualified teachers are employed to teach in the technical colleges. This is to ensure that the right skills, attitude and knowledge are imparted to the students
3. Government should call curriculum experts to a conduct a general review of the content of mechanical technology when the need arose. If this is done, the training needs of the students will be taken care of.

References

[1] Bature, I.I. (2011). *Evaluation of the mechanical technology programme of technical colleges in Kaduna state, Nigeria.* (Unpublished Doctoral Thesis), University of Nigeria, Nsukka.

[2] Bature, I.I. (2006). Technical teacher's training programme in Nigeria for sustainable national development. *Journal of Educational Research and Development.* Faculty of Education Ahmadu Bello University Zaria Vol.1 No.3.

[3] Christopher, R. (1996). *Curriculum adequacy and quality in high school enrolling fewer than 400 pupils (9 -12).* Eric Digest.

[4] Federal Government of Nigeria (2008). National Business and Technical Examination Board (NABTEB). Syllabus. Benin.

[5] Nzewi, U; Okpara,E.N; Akudolu, L.R.& Anyamu, E.N. Eds (1996). *Curriculum theory and planning.* Nsukka Trust Publishers.

[6] Ogwo, B.A. (1996). *System approach in education. In B.A. Ogwo (ed) curriculum development and educational technology.* Makurid Onaire Printing & Publishing Co. Ltd.

[7] Ogwo, B.A. & Oranu, R.N. (2006). *Methodology in formal and non-formal technical/vocational education.* Enugu University of Nigeria Press Ltd.

[8] Olaitan, S.O. & Ali, A. (1997). *The making of a curriculum theory, process, product and evaluation.* Onitsha cape publishers international.

[9] Okoro, O.M. (1993). *Principles and methods in vocational and technical education.* Nsukka: University Trust Fund.

[10] Sara, H.A. (2008). *Evaluation of vocational training programme in reformatory institutions in Northern Nigeria* (unpublished Doctoral Thesis). University of Nigeria, Nsukka.