ISSN: 2277-9655
Impact Factor: 1.852

IJESRT

INTERNATIONAL JOURNAL OF ENGINEERING SCIENCES & RESEARCH TECHNOLOGY

An Assessment of the Effectiveness of Technical Teacher Training Programme (TTTP) in Katsina State, Nigeria

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Abstract

TVET is key solution to poverty eradication, job creation, reducing unemployment, economic expansion, and improve social and economic well-being of a nation. For years TVET programme in Nigeria has been confronting with unresolved problems such as, misconception of the TVET by the public, low status of TVET teachers, less concern by the government. Thus, this study present "An Assessment of The Effectiveness of Technical Teacher Training Programme in Katsina State, Nigeria" the specific objectives were to find out the problems confronting TTTP and to suggest necessary measures for improvement on the basis of the assessment. The population of the study comprised of a total number of 57 instructional staff used for the study. 38 samples were chosen from this population using stratified random sampling techniques. The findings of this study revealed that, there have no enough instructional/workshop attendants, women have underrepresented in instructional staff, no constant supply of electricity to the instructional spaces, lack of awareness for youth about the TVET programme etc. Base on the findings the study recommends to create the provision of in-service training, and to construction of alternative source of electricity establishing educational guidance offices in secondary schools among other.

Keywords: Assessment, Effectiveness, Technical Teacher Training Programme (TTTP).

Introduction

The system of education in Nigeria as inherited from its colonial masters, neglected technical and vocational education. Even though the feelings that people have for technical and vocational education as a remedy for technological development of a country, little or no attempt was given to this type of education. It was assumed that no special programme for training TVE teachers was necessary. That all TVE teachers needed was skilled in his trade. This erroneous misconception resulted in slow development and expansion of TVET programme in the past Okoro, (1991). However major thrust in the development and expansion of TVE that comes as a result of global economy depression in the early 19 century which forced the colonial government of Nigeria to setting up government survey schools and training courses in the Railway, Marine, Post and Telegraphic departments respectively Osuala, (1987).The Federal Government of Nigeria in 1959 formed a committee with the Ministry of Education charged with the responsibility of identifying the nation's needs of post primary and tertiary education over a period of twenty years (i.e. from 1960 to 1980). The committee brought up issues affecting TVE programme especially, the public's negative attitude towards TVET and the irrational practice of sending only drop-outs to trade centers and other TVET institutions. The following policy measures were made on technical teacher training programme. (i) Conscious efforts to expand the training facilities for technical teachers are made available since the new educational structure 6-3-3-4 required more of such teachers. In-service training and industrial attachment would be recognized as necessary measures for updating the competence of technical teachers. In addition to the above provisions, teaching like any other professions in the country was recognized as a profession. Both the state and federal governments of Nigeria established more technical teacher training programme to meet the demand for persistent shortage of technical teachers at the inception of the new educational system in the 1980s.

A good training institution is characterized by the availability of qualified and motivated teaching staff, satisfactory and up to-date training facilities, a well-structured curriculum content, adequate funding and a regular assessment/evaluation, which might provide a

vital information about the various implementation needs of the programme. Programme offerings in technical and vocational education are based on the needs of the individual and the needs of the society. The need to train qualified technical teachers at the Nigerian Certificate of Education (NCE Tech.) level became the major concern of Katsina State government since the inception of the 6-3-3-4 system now 9-3-4 system.

Statement of the Problem: The current status of TVE programme in Katsina state appears to have been hampered by inadequate training facilities, lack of proper funding, lack of qualified technical teacher educators etc. Since 1980s, Katsina State government for instance, has been making several attempts to create a viable technological education especially at junior secondary level. But experience showed that the effort of the government has persistently become unsuccessful. It is also noted that the technical teacher education programme run at Hassan UsmannKatsina Polytechnic and Isa Kaita Collage of Education (Tech), where NCE (Technical) teachers are trained, seems to experience a lot of setbacks in its implementation strategies. The question we need to ask is that, to what extent these problems are affecting the implementation of the technical teacher training programme in Katsina State.

*Objectives of the study:*The objectives of the study were to:

1. dentify the qualifications of the academic staff and non-academic staff in the technical teacher training institution in Katsina state.
2. xamine the functions of lecturers, instructors/workshop assistance and administrators serving in the department of Technical Education in Katsina state.
3. scertain the adequacy of the training facilities in meeting the training need of technical teacher training programme.
4. dentify the factors that are responsible for the poor enrollment of student in technical teacher training programme.
5. uggest necessary measures for improving the technical teacher training programme on the basis of the points of assessment.

*Overview of the effectiveness of technical teacher training programme:*Before the inception of western system of education in Nigeria Vocational education system was done through the system of apprenticeship, whereby young people were attached to master craftsmen where they learnt various trades and skills such as carpentry, blacksmith, foundry, carving, textile design and dying and so on. The creation of the commission on higher education in West Africa in 1945 marked the beginning of the constructive higher education policy; it recommended that the higher college at Yaba be converted into technical Institute to produce the technicians that the country's economic development and eventual political independence would require. It also stressed that provision, should be made for the systematic training of skilled labour at the lower levels (Kennedy, 2010).When Nigeria become independence in 1960, it became obvious that the education programme in Nigeria lacked vocational values and did not address the manpower needs of an independent Nigeria. TVET have been seriously neglected in Nigeria, and as a result, Nigeria society has become completely unbalanced. It has unskilled labour and some semi-skilled operatives. It also has professional men and clerks, but it lacks the intermediate category of self-respecting artisans which is to be found in every highly developed country Federal Government of Nigeria, (1986). The Ashby commission (1959) on which the following expansion of technical and vocational education in 1960s to date was based singled out the emphasis placed on literary education at the secondary and post-secondary levels in the Nigerian educational system. After Nigerian independence, TVE followed closely in the pattern developedIby the British government (Osuala, 2004). The National Policy on Science and Technology (1986) emphasized the opening of gainful practical activities in the classroom at all levels. The policy encouraged the use of Practical work in handicraft, gardening, and farming among others as strategies for implementation of TVE curriculum in Nigeria (Kennedy, 2010).

*Back ground of the study***:** Many research works has been carryout in the past to address the problems confronting technical teacher training programme but some of the short comings of TVE are still prevailing in the programme. Base on the past and current trend in technical teacher training programme in Nigeria different institutions is still producing teachers with little or no skills for national growth and development. The objectives of the National Policy on Education is to convey functional education through skilled teachers which is aimed at ensuring that youth of the community have access to the options and direction of lifelong learning in technical education (Asikadi& Luke, 2009). Because of the poor state of the nation's tertiary institutions many of the graduates lack "employability" skills, which is easy to acquire from technical and

ISSN: 2277-9655
Impact Factor: 1.852

vocational colleges. Such graduate will be difficult to get jobs if everyone is a university graduate. It is obvious that the nation's youth unemployment rate has been in increase significantly. The federal government recently acknowledged that about 80 percent of Nigeria's youths are unemployed and 10 per cent underemployed. Unfortunately women are left behind in technical education because of society misconception on technical education. International Labor Organization ascertained that In contrast to their numerical dominance of teaching positions in general education up to the secondary level, historically women teachers and trainers have been a minority in technical and vocational education in both developed and developing countries. And the former Minister of Education SamEgwu, recently renowned that the poor quality of graduates is irritating. For successful implementation of the technical education programme (Iwelawa, 2010) pointed out that some tools, equipment and machines are left in their container and at the end of it all, they deteriorate. There is need for constant upgrading and updating of equipment in line with the technological trend for efficient teaching and tearing. Lack of enough funding of the programme and Poor condition of electricity in the country has contributed for the failure of technical teacher training programme (Kennedy, 2011) the 6-3-3-4 educational system of Nigeria failed for lack of instructors or enough teachers, lack of electricity particularly in rural areas, poor funding and a lot more.

It is highly recommended that Vocational and Technical teachers should be required to obtain the highest qualifications possible in the field. In order to enhance teachers commitment for the teaching profession the national policy on education also stipulated that the minimum entry qualification into the teaching profession shall be the Nigerian Certificate in Education (NCE); that all teachers shall be professionally trained; that all teachers shall continue to receive changes in the methodology and in the curriculum. Teachers shall often be exposed to innovations in their profession. Nkpa (1988) suggested that the programme designed for the teachers should be planned so that approach of the uses of equipment should be taught to enable the technical teachers to be able to use the knowledge, skills and competencies learned to teach the students so that their performance will be improved and this can consequently lead to the promotion of technical education. This research work would try to examine those problems that hinder the progress of technical education in Katsina state and suggestion on the basis of the findings.

Methodology

The population of the study comprises of teachers, instructors/workshop attendants and administrators from Hassan UsmanKatsina Polytechnics and Isa Kaita College of Education technical in Katsina state. It adopted survey design and collected data from the population. A total number of instructional staff used for the study was 57 in the two departments of technical education from the two institutions selected for the study. From this population 38 samples were chosen based on stratified random sampling. The researcher collected the data from three (3) proportional groups. Namely: teachers, instructors/workshop assistants and administrators. The questionnaire developed by the researcher based on the literature reviewed. The question contained 49 items. Each item was structured in five point Likert scale for the respondents to tick at the appropriate column. It was validated by a pilot study carried out on five M.Sc.T.E final year students from Islamic University of Technology Dhaka Bangladesh. The administration of the instrument was done by emailing the questionnaires to the volunteers who were willing to assist the researcher in carrying out the questionnaires to the respondents in the selected institutions of Katsina state in Nigeria. Out of 45 questionnaires administered, 30 copies were returned and used for the analysis. From the duly completed copies of the questionnaire the required data were generated and analyzed using weighted average on Statistical Packages for Social Sciences (SPSS) software version 15.0. All the graphs were drawn using Microsoft Excel Separate tables and graphs have been prepared for different parts of the questionnaire for the purpose of decision making.

Table 1 Interpretation of the Weighted Average

Weighted Average	Weighted Average Interpretation
5≥ WA > 4.5	Strongly Agree (SA)
4.5 ≥ WA > 4.5	Agree (A)
3.5≥ WA > 3.5	Undecided (U)
1.5 ≥ WA > 2.5	Disagree (DA)
1.5≥ WA > 0	Strongly Disagree (SD)

Findings

Qualifications of academic of the instructional staff: The researcher ascertained in Figure 1, that majority of the teachers (40%) possess teaching qualification, followed by (27%) without teaching qualification. There are limited numbers of instructors/workshop attendants (less than 20%) most of them obtain low certificate.

ISSN: 2277-9655
Impact Factor: 1.852

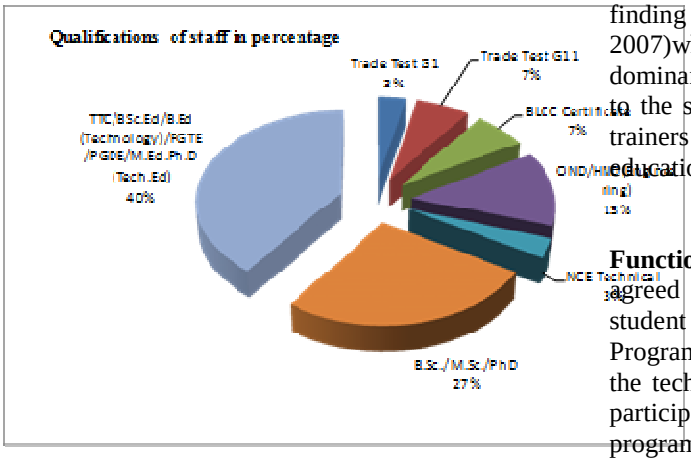

Figure-1: Qualifications of staff in Percentage

Gender: All the respondents were males, females and had no representative. It shows clearly females are left behind in technical and vocational education. The result of this finding was similar with the finding made by International LabourOrganisation (ILO, 2007)which ascertained that in contrast to their statistical dominance of teaching positions in general education up to the secondary level, historically women teachers and trainers have been a minority in technical and vocational education in both developed and developing countries.

Planning, Development and Evaluation Functions: All the instructional staff strongly agreed or agreed [Table II] that they take part in the selection of student entering the Technical Teacher Training Programme (WA= 4.10), participated in the evaluation of the technical teacher training programme (WA = 4.30), participated in the curriculum development to update programme (WA = 4.70), supervise students during their industrial training (WA = 4.83) and attended professional seminars, workshop, etc. to update their skills and knowledge (WA = 4.63).

Table II: Opinions of Instruction Staff Regarding Planning, Development and Evaluation Functions
(Figures in the parenthesis indicate percentages)

No	Statement	SA	A	UD	D	SD	WA
1	Selection of students entering the Technical Teacher Training Programme (TTTP)	11 (36.7)	15 (50.0)	0 (0.0)	4 (13.3)	0 (0.0)	**4.10**
2	Participate in Evaluation of a Programme	15 (50.0)	12 (40.0)	0 (0.0)	3 (10.0)	0 (0.0)	**4.30**
3	Participate in curriculum development to update programme	21 (70.0)	9 (30.0)	0 (0.0)	0 (0.0)	0 (0.0)	**4.70**
4	Supervises students' industrial training exercises	25 (83.3)	5 (16.7)	0 (0.0)	0 (0.0)	0 (0.0)	**4.83**
5	Take part in capacity building programme	20 (66.7)	9 (30.0)	1 (3.3)	0 (0.0)	0 (0.0)	**4.63**

*Workshop Organizational Functions:*According to [Table III] the result shows that almost all respondent strongly agreed or agreed that: They keep up account of materials tools and equipment (WA = 4.57), prepare budgets for tools and equipment require for training programme (WA= 4.03), arranged for routine maintenances of machine and tools in the workshops (WA= 4.50) and put in place safety precautions in the workshops (WA = 4.67).

*Teaching Functions:*Table IV shows that all the respondents strongly agreed that they performed the fallowing teaching functions: cater for individual differences among their students in the discharge of their duties (WA = 4.50), uses various methods of teaching (WA= 4.57), improvisation of instructional aides (WA = 4.50) and evaluate the student performance to provide feedback for improvement (WA = 4.90).

Table III: Opinions of Instruction Staff Concerning Workshops Organizational Functions
(Figures in the parenthesis indicate percentages)

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No	Statement	SA	S	UD	D	SD	WA
1	Maintains inventory of materials tools and equipment	17 (43.3)	13 (50.0)	0 (0.0)	0 (0.0)	0 (0.0)	**4.57**
2	Prepare budgets for materials, tools and equipment	10 (33.3)	15 (50.0)	1 (3.3)	4 (13.3)	0 (0.0)	**4.03**
3	Arrange for routine maintenance of machines and tools	15 (50.0)	15 (50.0)	0 (0.0)	0 (0.0)	0 (0.0)	**4.50**
4	Put in place safety precautions in the workshops	20 (66.7)	10 (33.3)	0 (0.0)	0 (0.0)	0 (0.0)	**4.67**

Table IV: Ideas of the Instruction Staff Related To Teaching Function
(Figures in the parenthesis indicate percentages)

No	Statement	SA	A	UD	D	SD	WA
1	Cater for individual differences among the students	15 (50.0)	15 (50.0)	0 (0.0)	0 (0.0)	0 (0.0)	**4.50**
2	Employ various methods of instruction	17 (56.7)	13 (43.3)	0 (0.0)	0 (0.0)	0 (0.0)	**4.57**
3	Develop instructional aids	15 (50.0)	15 (50.0)	0 (0.0)	0 (0.0)	0 (0.0)	**4.50**
4	Evaluate student performance	27 (90.0)	3 (10.0)	0 (0.0)	0 (0.0)	0 (0.0)	**4.90**

*Functions of Instructors:*Table V shows that majorities of the respondents strongly agreed or agreed the fallowing are functions of instructors: select and arrange materials for workshop practice (WA = 4.50), assist student in practical demonstrations in workshop (WA = 4.67), Assist in putting back tools and equipment after use (WA = 4.67), maintains safety rules and report danger occur (WA = 4.83) and supervise storage facilities (WA = 4.00).

Table V: Opinions of Instructional Staff Regarding Functions of Workshop Attendants
(Figures in the parenthesis indicate percentages)

No	Statement	SA	A	UD	D	SD	WA
1	Select and arrange materials for workshop practice	15 (50.0)	15 (50.0)	0 (0.0)	0 (0.0)	0 (0.0)	**4.50**
2	Assist in conducting practical demonstrations in workshop	20 (66.7)	10 (33.3)	0 (0.0)	0 (0.0)	0 (0.0)	**4.67**
3	Put back all the tools and equipment after use	20 (66.7)	10 (33.3)	0 (0.0)	0 (0.0)	0 (0.0)	**4.67**
4	maintains safety and report all hazards in the workshop	25 (83.3)	5 (16.7)	0 (0.0)	0 (0.0)	0 (0.0)	**4.83**
5	Supervise storage facilities	10 (33.3)	15 (50.0)	0 (0.0)	5 (16.6)	0 (0.0)	**4.00**

Availability of Tools and equipment: Majorities of the respondents [Table VI] agreed that the fallowing tools and equipment are available for the Technical Teacher Training Programme: number of hand tools, power hand tools and testing equipment (WA= 4.43) and number of machines and spare parts for maintenance work (WA = 4.43).

Available space and furniture in the TTT institute in Katsina State: Table VII shows that the responses of the respondents' were divided related to the statements: there are standard size classroom with adequate ventilation system

ISSN: 2277-9655
Impact Factor: 1.852

(WA=3.33), there are number of workshops for different specialization with standard sizes (WA=3.30) and there are number of classrooms, chairs/desk and shelves in good condition (WA=3.08).

Table VI: Responses from Instruction Staff Regarding the Availability of Tools and Equipment
(Figures in the parenthesis indicate percentages)

No	Statement	SA	A	UD	D	SD	WA
1	A number of hand tools, power hand tools and testing equipment	15 (50.0)	13 (43.3)	0 (0.0)	2 (6.7)	0 (0.0)	**4.43**
2	A number of machines and spare parts for maintenance work	20 (66.7)	5 (26.7)	2 (3.4)	3 (8.4)	0 (0.0)	**4.43**

Table VII: Responses about the Available Space and Furniture in the Technical Teacher Training Institutions in Katsina State
(Figures in the parenthesis indicate percentages)

No	Statement	SA	A	UD	D	SD	WA
1	Standard size classroom with adequate ventilation system	5 (16.7)	15 (23.3)	0 (0.0)	5 (16.7)	5 (16.7)	**3.33**
2	Number of workshops for different specialization with standard sizes	8 (26.7)	10 (33.3)	1 (3.3)	6 (20.0)	5 (10.0)	**3.30**
3	Number of classrooms, chairs/desk and shelves in good condition	10 (33.3)	5 (16.7)	0 (0.0)	6 (20.0)	9 (30.0)	**3.08**

Special consideration : Majority of the respondent [Table VIII] agreed that there are good numbers of department offices for instructional staff (WA = 4.37), Majority of the respondent disagreed that there is constant supply of electricity to the classrooms, workshops, laboratories and libraries (WA = 2.17), Majority of respondent were undecided that there are provision of noise control measure, fire extinguishers and effective communication system in the workshop (WA = 2.85).

*Reasons Responsible for Low Enrolment of students in TTTP:*Table IX shows that the majority of the respondents strongly agreed that: Greatest numbers of the secondary schools leavers in Katsina state are not aware of the existence of TTTP in Katsina state (WA = 4.67). Majority of the respondents strongly disagreed or disagreed that: NCE Technical certificate has less value compared to other certificates (WA = 1.40), Majority of the students who are interested in the programme does not have the entry requirement (WA = 2.07) and there is less job opportunities for NCE technical graduate (WA = 1.0). Majority of the respondents were undecided on the statements that: Parental influence hinders the student from enrolling in to NCE Technical programme (WA =3.33) and Friends influence becomes an obstacle for some student to enroll in to NCE Technical programme (WA = 3.07).

Table VIII: Opinion of the instruction staff about special considerations
(Figures in the parenthesis indicate percentages)

NO	Statement	SA	A	UD	D	SD	WA
1	Supply of electricity to instructional spaces	4 (16.7)	2 (6.7)	0 (0.0)	10 (30.0)	14 (46.6)	**2.17**
2	Provision of noise control measures, fire extinguishers and effective communication system in the workshop	5 (16.7)	6 (20.0)	4 (16.7)	9 (30.0)	6 (20.0)	**2.85**
3	A good number of departmental offices	13 (43.3)	15 (50.0)	2 (6.7)	0 0.0)	0 (0.0)	**4.37**

Table IX: Instruction Staff Opinions Regarding Reasons Responsible for Low Enrolment of Students in TTTP
(Figures in the parenthesis indicate percentages)

ISSN: 2277-9655
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No	Statement	SA	A	UD	D	SD	WA
1	Most secondary school leavers are not aware of the existence of TTTP in Katsina State	20 (66.7)	10 (33.3)	0 (0.0)	0 (0.0)	0 (0.0)	**4.67**
2	NCE Technical Certificate is considered less prestigious compared to other certificates	0 (0.0)	0 (0.0)	2 (6.7)	8 (26.7)	20 (66.7)	**1.40**
3	Most students interested in NCE technical programme do not have entry requirement for admission	2 (6.7)	3 (10.0)	0 (0.0)	15 (50.0)	10 (33.3)	**2.07**
4	Students do not enroll into NCE technical programme due to parental influence	5 (16.7)	15 (50.0)	0 (0.0)	5 (16.7)	5 (16.7)	**3.33**
5	Students do not enroll into NCE technical programme due to influence of peers	0 (0.0)	7 (23.3)	18 (60.0)	5 (16.7)	0 (0.0)	**3.07**
6	Students do not enroll into NCE Technical programme because of less employment opportunities for NCE Technical graduates	0 (0.0)	0 (0.0)	0 (0.0)	15 (50.0)	15 (50.0)	**1.00**

Suggested options for improving TTTP in Katsina State: Respondents strongly agreed or agreed [Table X] with the following statements as a measures to be taken for improving TTTP in Katsina state: Technical teacher training programme should be provided free of charge in Katsina state (WA = 4.57), the programme should be delivered using current text books in a ratio of 1:10 per student (WA = 4.50), instructional staff should be given greater allowances (WA = 4.60), students' project should be sold to enhanced running cost of the programme (WA = 3.67), in-service training should be given for staff to update skill and knowledge (WA = 4.67) and TTTP should be well funded in order to achieve the objectives (WA = 4.67).

Table X: Suggested Options for Improving TTTP inKatsina State
(Figures in the parenthesis indicate percentages)

No	Statement	SA	A	U	D	SD	WA
1	TTTP should be tuition free in Katsina State	24 (63.7)	10 (33.3)	0 (0.0)	1 (3.3)	0 (0.0)	**4.57**
2	TTTP should be provided with current textbooks in the ratio of 1:10 per student	15 (50.0)	15 (50.0)	0 (0.0)	0 (0.0)	0 (0.0)	**4.50**
3	Allowances should be given to the instructional staff	18 (60.0)	12 (40.0)	0 (0.0)	0 (0.0)	0 (0.0)	**4.60**
4	The graduate students projects should be sold to supplement running cost of the programme	10 (33.3)	10 (33.3)	0 (0.0)	10 (33.3)	0 (0.0)	**3.67**
5	Full time in-service training should be given to staff to upgrade their skill and knowledge	20 (66.7)	10 (33.3)	0 (0.0)	0 (0.0)	0 (0.0)	**4.67**
6	TTTP should be well funded to meet project execution	20 (66.7)	10 (33.7)	0 (0.0)	0 (0.0)	0 (0.0)	**4.67**

Conclusion and Recommendation

This study aims at assessing the technical teacher training programme in Katsina state and the result indicated that the structure of the programme is well defined but still a lot need to be done to enhance the quality of the products. The study shows that; (i) there have shortages of qualified instructors/workshop attendants; (ii) women have underrepresented in the instructional staff; (iii) there have scarcity of instructional spaces in technical teacher training institute; (iv) there have no constant supply of electricity in to the instructional spaces; (v) the students are not aware of the existing TTTP in Katsina state; and (vi) other aspect that

constitute TTTP in line with these identified challenges, some strategies were emphasized, which when sincerely adopted will be served as instrument for promoting technological advancement to subsequently improve the social and economic condition of Nigeria.

Based on the conclusion the study made following recommendations: (i) Provision should be made for in-service training to instructional staff in order to acquire new skill, and update their knowledge there by contributes for national growth; (ii) More time should be allocated on industrial training program for technical education teachers programme to allow for acquiring industrial-based technical skills for the improvement of teaching skills and competencies in the workshop for national growth in Nigeria; (iii) Government should encourage acquisition of practical skills by equipping the laboratories and workshops with modern machine and equipment, and ensure adequate utilization of the material by the students; (iv) Appointment of qualified instructor/workshop attendant capable of translating the theoretical aspect taught in class into practical so that students can be able to turns their imagination into reality, hence promote the habit of creativity; (v) Construction of alternative source of electricity (example solar photovoltaic, wind turbine) for constant supply of electricity to the workshops and laboratories; (vi) Establishing educational guidance offices in secondary to help the student in his/her educational pursue, to make student aware about the available courses of study at tertiary institutions and help him/her to make a wise choice base on his/her ability; (vii) All lecturers in TTTP must possess teaching certificate.

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