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## **Innovative Quality Assurance Strategies for Effective Instructional Delivery of Trade Subjects in Technical Teacher Education in Nigeria**

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### **Abstract**

Trade subjects in technical colleges is designed to equip trainees with technical knowledge and skills needed for employment in the industries and related workplaces where practical skills are needed to function effectively. Quality assurance is a system or mechanism put in place to ensure proper achievement of the goals of technical college education as stipulated by the National Policy on Education in 2013. This study through extensive literature review gave a conceptual overview of trade subjects in technical colleges, quality as well as quality assurance in trade subjects in technical colleges. The study also unveiled the need to achieve high quality assurance in trade subjects in technical colleges. The paper discussed the quality assurance parameters, quality assurance drivers in Nigerian technical college system as well as possible factors militating against achieving high quality assurance in trade subjects in technical colleges. The researchers developed strategies for achieving quality assurance in trade subjects and also made valuable recommendations to enhance strategic implementation of the developed strategies to achieve high quality assurance system as well as quality graduates in the various trade subjects.

**Keywords:** Quality Assurance, Trade, Subjects, Technical Teacher Education, Innovation.

### **Introduction**

In technical colleges in Nigeria, trade subjects are the vocational and technical courses or course of instruction which are designed to be taught by the technical teacher to equip trainees with technical knowledge and skills needed for employment in industries and related workplaces to gain employment in the industries and related workplaces where practical skills are needed to function effectively. The Federal Republic of Nigeria (2013) identified 34 trade subjects which were designed to be offered at technical colleges in Nigeria. The trade subjects listed by FRN (2013) are: Auto body repairs and spray painting, Auto electrical work, Auto mechanical work, Auto parts merchandising, Air conditioning and refrigeration, Welding and fabrication engineering craft practice, Electrical installation and maintenance work, Radio, TV and Electronic servicing, Blocklaying, brick laying and concrete work, painting and decorating, Plumbing and pipe fitting, Machine woodworking, Carpentry and joinery, Furniture making, Upholstery, Catering craft practice, Garment making, Clothing and textile, Dyeing and bleaching, Printing craft practice, Cosmetology, Photography, Mining, Tourism, Leather goods

manufacturing and repair, Stenography, Data processing, Store Keeper, Book keeping, GSM maintenance and repairs, Animal husbandry, Fishery, Marketing as well as Salesmanship. These technical subjects form the core course areas for specialization in technical colleges in Nigeria.

The trade subjects or courses are in form of theoretical and practical components plus a compulsory industrial attachment activity where trainees are placed in the appropriate industries to acquire real practical skills intended to bridge the gap between theory and actual practice. The trade subjects in technical colleges form a major component of the trade areas offered in technical colleges in Nigeria. The Federal Republic of Nigeria (FRN)(2013) in her National Policy on Education described TVET as a comprehensive term referring to those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life. TVET is a type of education whose major objective is to prepare individuals for employment in chosen occupations by equipping them with the vocational skills, knowledge and attitude necessary for employment in recognized occupations.

TVET is a form of education designed to develop skills, abilities, understanding, attitudes, work habits and appreciation encompassing knowledge and information needed by a person to enter and make progress in self or paid employment on a useful and productive basis. TVET gives individual the skills to live, learn and work as productive citizen. It reduces the overdependence of technical college graduates on government for employment. Among others, TVET is offered in polytechnics, monotechnics, and colleges of technology and technical colleges. Technical colleges are regarded as one of the principal TVET institutions in Nigeria for the training of craftsmen and women.

The National Policy on Education (FRN)(2013) revealed that technical college is one of the vocational and technical institution saddled with the responsibility of educating and training craftsmen and master craftsmen in various technical trades in Nigeria. The philosophy of trade subjects in technical college programmes according to National Board for Technical Education (NBTE, 2001) is to produce competent craftsmen and women in various trade areas or occupational areas for Nigeria's technological and industrial development and to conduct

examinations leading to the award of the National Technical Certificate (NTC) and Advanced National Technical Certificate (ANTC) for craftsmen and master craftsmen respectively. NBTE also strives to provide facilities and also coordinates activities in technical colleges to enhance student's achievement in trade subjects in technical colleges.

The National Business and Technical Examinations Board (NABTEB) report by Olatunde (2014) on poor students' achievement in trade subjects is a pointer showing that students' interest in trade subjects is low because the researcher believes that high interest in a subject enhances high achievement. The increasing unemployment rate among craftsmen resulting from the inability of graduating craftsmen to practice their trades could also be attributed to the cumulative effect of the students' low interest toward trade subjects in technical colleges. In line with this, Ngozi (2014) attributed the periodic decline in students' interest in mechanical engineering trades at college level to poor motivation of student, inappropriateness of method of instruction as well as poor quality assurance system in trade subjects in technical colleges in Nigeria. Perhaps, developing strategies for achieving quality assurance in trade subjects in Nigeria technical colleges could help improve the quality of craftsmen and women graduating from the various trade areas and thus enhancing their employability skills in the labour market.

### **Concept of Quality and Quality Assurance in Trade Subjects in Technical Colleges**

In recent times, efforts by various educators and scholars to enhance quality in the education system has brought about various definitions as well as descriptions of the word quality and quality assurance. According to World Bank (2017), quality is a desirable attribute of a product or service that distinguishes it for the person seeking the attribute. Viewed from this definition, quality could be said to have the attribute of worth and acceptance. Nevertheless, World Bank (2017) maintained that good quality should possess the characteristics of conformance to expectation, conformance to requirement, excellence and value and loss of avoidance. Asiyai and Oghuvbu (2009) defined quality as a measure of how good or bad the products of higher education institutions in Nigeria are in terms of their academic performance and meeting established standards.

Furthermore, World Organization of Standardization (2014) defined quality as the totality of features and characteristics of a product of services that bear on its ability to satisfy stated needs.

Article 11 of the World Declaration on Education (WDE)(2003) sees quality as a multi-dimensional concept which should encompass all the functions and activities in schools. High quality delivery is a prerequisite for effective productivity in technical college education system and hence quality delivery in trade subjects in technical colleges is an instrument for effecting national and industrial development ((WDE)(2003). According to Ekong (2006), quality builds knowledge, live skills, perspectives, attitudes and values.

When quality trade subjects are delivered high enough to meet set standards, the products of technical colleges should be able to perform well in the world of work in real life situation. When quality is low, performance cannot meet the set standards. Hence one can say that the quality of technical college education has declined below set standard. To be specific, quality in trade subjects in technical colleges entails a functional trade subjects that can equip all trainees in the various trade subject areas with the required vocational and technical skills needed to gain employment in appropriate industries, to practice their trade as craftsmen and crafts women in the industries or related workplace demanding practical skills to function efficiently. A quality trade subject should be able to help graduating trainees or craftsmen to solve their professional problems and make them responsible citizens and not burdens to the society. Achieving quality in trade subjects in technical colleges demand a good quality assurance system in the planning and administration of activities in technical colleges in Nigeria.

Quality Assurance (QA) is the process of maintaining standards in products and services through inspection or testing of samples (Okebukola, 2010)). Similarly Okebukola, (2010) noted that quality assurance is an umbrella concept for a host of activities that are designed to improve the quality of inputs, process and outputs of higher education system. Okebukola contended that quality assurance entails the quality of available instructional materials for teaching, equipment, facilities, school environment, pupils, curriculum, quality of instructional delivery and quality of teachers. Quality assurance is designed to prove and improve the quality of an institutions methods, educational products and outcomes (Oyebode, Oladipo & Adetome, 2008). Everyone has a role to play in ensuring quality assurance intrade subjects in technical college education system.

One of the key building blocks of quality assurance in education is the development of minimum standards as in qualification of teachers, the quality of teaching in institutions, expected educational achievement of students and the development of a more rigorous management process for education so that the entire sector develops stronger operating policies, procedures which are well documented and adhered to. With time, this will develop into a total management system for technical education in line with what is practiced internationally. Alele – Williams (2004) defined quality assurance in any educational institution as that which indicates the pre-eminence and special features that make the institution distinct from other forms of institution. Alele – Williams indicated that educational reforms aimed at providing better quality in education worldwide, and based on this, there must be reorganization in order to achieve the stated goal. Tovey (1994) described the quality of education as dealing with issues of relevance, validity, functionalism and efficiency of education system in the achievement of national goals and objectives.

Tovey (1994) examined the nature of quality in education and stated that quality is perceived as the level of achievement or performance and this is linked with the ability to function well in the school environment and to meet the need of the entrepreneur. Oderinde (2004) enumerated two aspects of quality in education, which are both internal and external. The internal aspect is the implementations of the school objectives while the external aspect deals with the implementation of national objectives, which are pre-requisites to the achievement of quality in any educational institution. A systematic and consistent quality assurance system helps to establish an institution's good reputation and image. It includes defined standards of achievement, documented procedures for all identified process, established ways of responding to issues and clear accountability for outcomes. In essence, the result of quality education encompasses greater public confidence, more satisfied students, efficient processes and staff who are confident in their jobs. Students are more likely to experience better quality instructions, learning materials and interactions with the institution and its staff, leading to enhanced learning outcomes in educational system.

The quality of technical college graduates from the various trade areas, according to Uvah (2005) could be measured by how well they have been prepared for life and for service to the

society in various spheres of human endeavors. This could also mean how useful they are to solving practical problems in industries or the society at large. Quality may also be considered on the basis of how good and efficient the teachers are; how adequate and accessible the facilities and materials needed for effective teaching and learning are; and how prepared the graduates are for meeting the challenges of life and for solving the societal problems. Thus, quality assurance is the guarantee of confidence and certainty by a programme of study given by an institution that standards and quality are being maintained and enhance (Ethel, 2013).

In essence, quality assurance in technical trade subjects in technical colleges is a mechanism or system put in place to ensure proper achievement of the goals of technical college education as stipulated by the National Policy on Education in 2013. By this conceptual understanding, it can be said that the emphasis on quality assurance is the training of personnel to enhance their performance in work places. In the technical colleges, the role of ensuring quality assurance in all components or trade subject areas is not a one man business but is bestowed on several stakeholders such as: National Board for Technical Education (NBTE), State Science and Technical Schools Boards (SSTSB), National Business and Technical Examinations Board (NABTEB) among others.

### **Scope of Quality Assurance**

Middlehurst (2001) described the scope of quality assurance as including the following dimensions:

- i. Regulation (legal frameworks, governance, responsibilities and accountabilities).
- ii. Educational process (admissions, registration or enrolment, curriculum design and delivery, support for leaving and assessment).
- iii. Curriculum design and content (validation and approval frameworks, levels and standards).
- iv. Learning experience (consumer protection, students' experience, complaints and appeals).
- v. Outcomes (qualifications, certificates, transcripts, security, transferability, recognition/currency and value).

In summary, Middlehurst sees quality as a grade of achievement, a standard against which to judge others. Similarly, Abdulsalami (2002) in a research on quality in higher education,

attested that quality in higher education is multidimensional and embraces all functions and activities of a university including teaching, academic programmes, research and scholarship, staffing, students, buildings, facilities, equipment, services to the community and the academic environment.

### **Need to Achieve High quality assurance in Trade Subjects in Technical Colleges**

The high and increasing level of unemployment and poverty among graduates of various trade areas from technical colleges in Nigeria, calls for an urgent and pressing need to achieve high quality assurance in trade subjects in technical colleges. It is paramount to achieve high quality assurance in trade subjects so as to meet the national goals of TVET which are to:

- i. provide trained manpower in the applied sciences, technology and business particularly at craft, advanced craft and technical level;
- ii. provide the technical knowledge and vocational skills necessary for agricultural, commercial and economic development ;
- iii. give training and impart the necessary skills to individuals who shall be self-reliant economically (FRN)(2013).

Achieving high quality assurance in trade subjects in technical colleges are also needed to enable trainees (craftsmen and crafts women) completing technical college programmes to fulfil the national goals of:

- i. Securing employment either at the end of the whole course or after completing one or more modules of employable skills;
- ii. Set up their own business and become self-employed and be able to employ others;
- iii. Pursuing further education in advance craft/technical programme and in post-secondary (tertiary) technical institution such as science and technical colleges, polytechnics, colleges of technology, colleges of education, monotronics and universities (FRN)(2013).

In essence, high quality assurance is needed in trade subjects in technical colleges to equip trainees with the requisite technical skills and knowledge for survival in the world of work so as to become responsible citizens who can make positive impact in the society.



### **Quality Assurance Measuring Parameters**

To measure the quality of a program is very important in an educational system. Zunaed (2011) opined that quality of education could be measured based on several criteria such as market demand of graduates, admission in foreign universities, research and publication and institutional affiliations. However, Oladipo *et al.* (2009) submitted that quality of education could be measured in terms of quality of input, quality of output, quality of process and quality of content.

**Quality of Input:** Input here includes both human and material resources put into educational production process. They are the teachers, administrators, classrooms, facilities, equipment and other infrastructures. What is the status of these resources in terms of quality and quantity in the schools?

**Quality of Output:** The quality of education does not depend only on resource inputs, but also on the output, which include academic achievement on tests, scores and progression and pass rates, thus, the internal and external efficiency. How efficient are the products of the schools? If the input is faulty, the output may likely be faulty also.

**Quality of process:** This implies student/teacher interaction, level of learner's participation and engagement in learning. The process of teaching and learning should be fair and firm to the students. This is another indicator of quality education program.

**Quality of Content:** The curriculum content of our educational system had been criticized as being overloaded, obsolete and does not sufficiently attend to the needs of the Nigerian learner. The data from the Monitoring of Learning Achievement (MLA) project has also shown that there is a wide gap between the intended curriculum and the achieved curriculum. So, the content of learning is yet another indicator of the quality of a program. A systematic and consistent quality assurance system helps to establish an institution's good reputation, image and credibility (Oyebade, Oladipo & Adetoro).

### **Quality Assurance Drivers in Nigerian Technical College System**

According to Maple (2011), quality assurance drivers in Nigerian technical college system include:

- i. Minimum academic standards form the baseline for entrenching quality technical college education, since it prescribes a profile of curriculum, human resources,

- structures, infrastructures, equipment and associated facilities required for establishing, governing and managing the technical colleges.
- ii. Accreditation is the process by which programmes are evaluated against set minimum academic standards and the technical college comprehensive practical skills acquisition and development activities are evaluated against prescribed criteria.
  - iii. Carrying capacity of a technical college is the maximum number of students that the institution can sustain for qualitative education based on available human and material resources.
  - iv. Visitation to technical college is a statutory requirement that empowers the proprietor to ascertain the well-being of the technical college.
  - v. Impact assessment is a specialized form of evaluation aimed at finding out if the core expectations of the establishment of a particular technical college are being met.
  - vi. Research is the driving force for human development as globally determined; such research should be evidenced by publications by the technical college teachers that will enhance skill acquisition and skill development.
  - vii. Training facilities and equipment, infrastructures and utilities are essential driving force for qualitative productivity in any organization, particularly in the technical college system.

### **Possible Factors Militating Against Achieving High Quality Assurance in Trade Subjects in Technical Colleges**

- 1. Poor Societal Attitude towards Technical College Education:** This is concerned with the poor image of vocational education as perceived by the Nigerian public. People still prefer to go about looking for white jobs as a result of low status associated with vocational education. Some parents want their children to be medical doctors, accountants, lawyers, administrators and politicians because of the negative attitude toward vocational education accounts for the decline and lack of interest by the students in the teaching of education in schools. The teacher then has an uphill task teaching people who are not interested in the subject that is being taught.
- 2. Poor Remuneration of Technical College Teachers:** This is a serious problem affecting quality in our technical college educational system in most states in Nigeria and other parts of Africa. Salaries, allowance, and entitlements are sometimes paid in arrears or at times they are being denied. This factor has led to brain drain in recent times as qualified

and highly skilled technical college teachers abandoned the teaching job to look for greener pastures in industries and multi-national companies that pays better both within Nigeria and outside the country. The poor remuneration is responsible for the poor attitude to work of staff; they go about doing their own business instead of concentrating on how to improve the quality of teaching and learning vocational education in the school. This accounts for ineffectiveness and affect quality assurance.

- 3. Poor Administration and Regular Supervision of Technical College Programme:** Poor administration and supervision of Technical College programme can greatly affect the quality assurance in schools, lack of co-ordination between the various federal and state agencies responsible for the administration of vocational education program has resulted in costly duplication of efforts and inability to design appropriate curricular for the Nigerian youth. Government, administrators, and proprietors do not take internal and external supervision seriously in the institutions.
- 4. Examination Malpractice in Technical Colleges:** Examination in technical colleges is challenged by malpractice. This is because students are not ready to work hard, read or go through the normal academic exercise; rather they prefer short cuts and the easy way out. Hence they are often lured to employing malpractices of various kinds during examination and if this is not stopped quality cannot be achieved.
- 5. Poor Assessment Methods in Technical Colleges:** The course content of vocational education in schools still consists of the cognitive aspect of learning instead of productive indicators. The assessment ought to be both practical and theoretical which will enable them function properly in the society; assessment should be an ongoing exercise more directed towards solving actual practical problems not just pseudo tasks.
- 6. Absenteeism of Teachers and Students:** Technical college teachers leave their duties for other personal assignment without teaching and covering the syllabus and at the end set examination questions that cover the syllabus that they did not teach leaving the students to their own faith. On the part of the students, since some teachers are always absent, some students also neglect their teachers and only appear during examination. Consequently, this set of students cannot write anything meaningful in the examinations.
- 7. Total Disregard of Accreditation Report:** In some technical colleges, full accreditation reports are always disregarded or complied with. It has been observed that some technical college programmes after being denied accreditation still go on to run the programmes without addressing the deficiencies observed during accreditation which undermines quality assurance in the technical college education system.
- 8. Inadequate Funding of Technical Colleges:** Inadequate funding is a very serious issue affecting vocational education programme. Inspire of the efforts of the different governments of the federation to provide funds for technical college education, and the huge amount of money expended, technical college education still lacks fund to implement various programmes in some trade subjects. Inadequate financial resources in the technical college education have the effect of limiting the educational development

policy of both state and local governments. Due to inadequate funding and misappropriation of funds, basic infrastructures are lacking in our technical college workshops are not provided for the program in some schools. Even where they are available, they are either empty or stocked with obsolete items. The strict implementation of vocational education will remain elusive without competent vocational teachers. Many institutions producing vocational teachers are not able to do so due to low level of funding which then results in lack of equipments, accommodation, workshop, training materials and money for maintaining equipments.

- 9. Staff Quality and Quantity in Technical Colleges:** The quality of teachers employed in technical colleges and other agencies responsible for the training of vocational education teachers is very crucial. The quality of a teacher in charge of training as one of the indicators of standards in technical college education. The continuous shortage of vocational experts is a major factor affecting the development and quality of vocational education in Nigeria and other parts of the world. As a result of inadequate qualified personnel most of the equipment and machines in some schools are easily abandoned because they lack competent hands to manipulate them. The need for technical manpower in the present stage of development is very important as one strive towards being a self-reliant nation it is noted that no meaningful development can take place without a conscious effort to develop manpower in vocational areas. Quality cannot be guaranteed when the quality and quantity of personnel are inadequate to meet the desired expectation in technical college education.
- 10. Inadequate Practical Training Facilities:** The connection between existing training facilities for practical, the course curriculum and minimum standard is very important and a vital point to consider for quality assurance to be maintained, many institutions running vocational education programmes struggle to have sufficient facilities, thus it is difficult for them to procure necessary equipments for the programme and this results to over utilization of the existing facilities it is important to note that no curriculum can be adequately covered without adequate practical training facilities to work the curriculum out and no talk of standard can be achieved when the curriculum is not adequately covered.
- 11. Retraining the Trainers:** The socio economic and societal needs today are enormous and varied. New machines and tools are required daily to meet the complex industrial needs of modern times in the area of vocational education. Looking at today's situation the vocational skills being exhibited by technical college teachers may not meet the demands of tomorrow for technical progress. Moreover, current skills and bodies of knowledge create a need for retraining of technical college teachers who may be out of touch with the current industrial trends. On the job training is very necessary for the success of today's vocational teacher and also a tool for ensuring quality assurance in vocational education (Zunaed, 2011).

### **Strategies for achieving quality assurance in Trade Subjects in Technical Colleges**

1. Seminars, workshops and conferences should be organized regularly for technical college teachers in the various trade subject areas to acquaint them with the use of the modern equipment.
2. An implementation committee on enhancing quality among technical college teachers in the various trade subject areas should be set up and this committee should always be made up of people who are experts in technical college education.
3. A built-in evaluation instrument should be constructed as an appendage of implementation committee document for the purpose of periodical evaluation of both the implementation processes and the success or failure of technical college education programme.
4. There should be regular inspection of technical college from the vocational and technical education section of the Ministries of Education (Federal and State) in Nigeria. This inspection should focus on technical college accountability process, maintenance of equipment, improving performance and quality of teaching and developing an annual report covering school performance, students' achievement and financial performance.
5. More technical college teachers should be trained and employed in Nigeria to be able to cope with the increase in the population of students.
6. Efforts should be geared towards the provision of technical equipment in the various trade subject areas necessary for enhancing technical college education programme in Nigeria by the various government, philanthropist, communities, private sectors and organizations.
7. Special allowances should be paid to technical college teachers to boost their morale for high productivity.
8. There should be a monitoring team from the State and Federal Ministries of Education to check on-going technical college education programmes for flaws or breakdowns, provision of information to regulate activities and undertake corrective actions.
9. Technical college teachers in the various trade areas should be encouraged to attend in-service trainings such as sandwich and part-time training through government sponsorship in Nigeria.
10. A strategic implementation framework is also vital to the success of quality assurance efforts. The framework should begin with a quality policy statement for managing and encouraging participatory management technical college education especially in the various trade areas.
11. Technical college teachers in the various trade areas and auxiliary workshop workers should be trained in Quality Assurance methods, problem solving technique, and communication techniques. This has been found to be effective in resolving problems such as low staff morale, low student performance, truancy and student failure. Other

- areas of success include more student involvement, decline in dropouts' rate, growth in Parent-Teacher-Association (PTA) membership and greater faculty involvement in professional activities.
12. Interdepartmental meetings of the various heads of sections in the various trade areas could be a useful strategy for problem solving and new programme initiatives in technical college education system.
  13. A watchdog body could be necessary to ensure quality as well as defined benchmark against which to judge standards and quality. The agency should be set up by government, should be autonomous and have universal acceptability and credibility.
  14. On curriculum and instruction, specify academic standards and quality for technical college education. Set criteria. Specify the educational processes, learning experiences and resources that will be used. Specify students' mode of assessment in technical college.
  15. Establish standards for ensuring quality in technical college programme design, approval and review procedures. This may include internal and external peer review of learning materials, moderation of assessment and course evaluation.
  16. Specify how technical college programme delivery will be managed including who is accountable for doing what. For staff support, provide teaching staff with training in relevant aspects of student managements systems, educational design and pedagogy, ICT use, and policy and procedures. For instance, it is important that staff are aware of institutional policies about assessment of student learning, plagiarism and return of student assignments, as well as how to optimize the use of e-mail and online learning management systems.
  17. Technical college teachers should be aware of the support services available to students. On students support, document the nature and content of student and staff records, and assign responsibility for tracking them. Specify student support services, including locations, scope, standard of service and accessibility.
  18. Establish procedures for the scheduling, notification, administration and conditions of examinations, along with processes that ensure the integrity of examinations and marking. Schedule regular monitoring and review against specified performance indicators in technical college education system.
  19. On students outcomes, establish acceptable rates of student progression and retention. Develop mechanisms for monitoring student progress and strategies for identifying and responding to problems. Ensure that students can progress, by examining scheduling, calendars, mode of offering and pre-requisites.
  20. Establishing a consistent and regular reward system to serve as incentive to the active technical college teachers, instructors, workshop attendants as well as students to motivate research and practical skills development activities in the various trade areas in technical colleges.

## **Conclusion**

From the extensive facts seen from the detailed literature reviewed, the need for quality assurance in various trade subject areas in technical colleges cannot be over emphasized as the performance indicators of the trade programme still leave so much to be attended to in answering the numerous questions of quality of assurance status of trade subjects in trade programmes in technical colleges in Nigeria. Since technical college education is paramount in national and industrial development, all stakeholders and institutions should put up concerted efforts in ensuring quality in technical college education. Therefore, there is urgent need for government and the various stakeholders to intensify effort to acquaint themselves with the identified strategies for achieving quality assurance in trade subjects in the trade areas in technical colleges in Nigeria.

## **Recommendations**

Based on the extensive review of literature, the following recommendations are made:

1. Adequate and qualified technical subject teachers should be regularly recruited and posted to technical colleges to avoid shortage of staff in the various trade areas in technical colleges.
2. The government should provide equipment, works shop machines, for effective implementation of technical education curriculum in technical college.
3. Practical method of teaching trade subjects in technical colleges should be emphasized so that the youths will acquire basic practical skills and knowledge for self-reliance and general development of the society. Technical college teachers should endeavour to prepare adequately for their lessons by employing the use of real or concrete materials as instructional materials.
4. The government who is a major stakeholder in the education sector should appreciate the strategic position of technical college education and increase funding and budgetary allocation to the sector.
5. Experts in technical college education should teach trade subjects or courses and headship of vocational education department should be strictly restricted to vocational education professionals.
6. The welfare of technical college teachers should be promptly attended to by stakeholders. For example, regular payment of salaries, allowances, promotions and remuneration.
7. There should be provision for in-service training and retraining of technical teachers to equip them with new ideas, methods of the value and benefit of technical college education and what role it is expected to play in the nation's technological development.

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