ASSESSMENT OF THE CHALLENGES OF TECHNOLOGY EDUCATION TEACHERS IN CURRICULUM INNOVATION IN TECHNICAL COLLEGES IN OYO STATE

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MATRIC NO: 2007/1/28540BT

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MINNA, NIGER STATE.

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A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF INDUSTRIAL

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CERTIFICATION

I OGUNTADE, ADETOLA JEREMIAH matriculation number 2007/1/28450BT, an undergraduate student of the Department of Industrial and Technology Education certify that the work embodied in this project is original and has not been submitted in part or full for any other diploma or degree of this or any other university .

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Name   Signature

APROVED PAGE

This project has been read and approved as meeting the requirement for the award of B.Tech Degree in Industrial and Technology Education of the Department of Industrial and Technology Education, School of Science and Science Education, Federal University of Technology, Minna.

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 Head of Department   Signature/Date

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External Supervisor   Signature/Date

DEDICATION

This project is dedicated to the Almighty God whom in his grace gives and preserved my life and also to the memory of my late mummy and niece, Mulikat Oguntade and Risqot Lasisi. May your gentile soul rest in perfect peace, in Jesus name AMEN.

ACKNOWLEDGEMENT

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Abstract

The study aimed on the assessment of challenges of technology education teachers in curriculum innovation in technical colleges in Oyo state. Three research questions were formulated to guide the study. A 39 items questionnaire was used to collect data from the Technology Education Teachers and Administrators from technical colleges in Oyo state. The data collected were analyzed using mean frequency count and standard deviation. The result of the findings revealed that both Administrators and Technology Education Teachers shared similar views that all the planning skills stated are required in the innovation of curriculum in technical colleges and all the strategies that could be used to improve the performance of technology education teachers stated are also needed. Based on the findings, it was recommended among others that government should provide all necessary facilities for Technology Education Teacher who is seriously involved in curriculum innovation, workshops and seminars should be organized to update Technology Education Teacher with current development in technology especially in their area of specialization which could be used later for curriculum innovation for our technical colleges.

CHAPTER 1

INTRODUCTIUON

Background of the Study

The important of assessment in any activity or programme cannot be overemphasized as no activities or programme can determined whether it achieves it objectives or not without assessing it. Wikipedia (2012) defined assessment as a systematic, rigorous, and meticulous application of scientific methods to determine the design, implementation, improvement or outcomes of a programme. It is a resource-intensive process, frequently requiring resources, such as, evaluator expertise, labour, time and a sizeable budget. It also refers as the comparison of actual impacts against strategic plans. It looks at original objectives, at what was accomplished and how it was accomplished. According to New Oxford English dictionary (2010) assessment is to evaluate or estimate the nature, value, or quality of a programme or something. Mongiat (2009) see it as a process to determine the quality of a program by formulating a judgment. Webster (2012) defined it as a way to determine the significance, worth or condition of a program usually by study. In other for the word to be valid, a project or job must be available which may include any of the educational programme such as programme implementation , facilities for the programme, curriculum for the programme, and others.

The term curriculum has not yet gained a universally accepted or precisely definition. The term has been with several meanings and a number of different definitions of it have been proposed. Thus, the meaning of curriculum differs among people in Nigeria historically and philosophically some of the recent definitions are presented in this study.

Oluchukwu (1999), see it as a written document featuring an outline of the subject matters to be taught. Igwe(1994) define curriculum as a plan that consists of learning opportunities for a specific time frame and place, a tool that aims to bring about behaviour changes in students as a result of planned activities and includes all learning experiences received by students with the guidance of the school. Then, Okoro (1994), present what he called a "conventional" definition of curriculum as the totality of all experiences that the student is exposed to under the direction of the school. Since the needs, interest of the students who are the consumers of the education offer by curriculum changes, curriculum has to be innovated.

According to Olaitan and Ali (1997) Curriculum innovation is a modification or a review of what exists for the purpose of adding or substituting some elements (modules) as a result of observable needs or societal demand for improvement. In a more technical form they define curriculum innovation as a process by which a curriculum planner delete the irrelevant information or knowledge or skill of an existing curriculum ,and substituting with available improved ones, taking into consideration the required resources for its success. Curriculum innovation includes when shortfalls in a curriculum package are added and also when over loading are shed off for the purpose of effectiveness of the curriculum. Curriculum innovation will be a continuous process by which an individual acquires basic skills that enable him to function effectively as member of society if they are been educated.

Technology Education is an integrated, experience- based instructional program designed to prepare students to be knowledgeable about technology - its evolution, systems, technologies, utilization, and social and cultural significance. Technical education has undergone a lot of changes for the technological improvement of mankind. Today, technical institutions have been

recognized as a good base for training skilled manpower that can effectively be utilized in this country.

Technology education teachers are the set of people that have the qualification, ability and methodology in the utilization of the resources in transmitting the appropriate skills, knowledge and attitudes to the students or trainees .The technology education teachers plan the curriculum of schools both the formal and informal content and process by which learners gain knowledge and understanding, develop skills, alter attitudes, and values as defined by Doll (1996). Interdisciplinary teams of technology education teachers train and work together for cross-curriculum planning and integrated delivery of instruction. In the process of innovating the curriculum, there are varieties of challenges facing curriculum planning, but in general they are classified into three types, global challenges (external), internal challenges of the education systems, and challenges specific to the Region.

Statement of the Problem

The perception by people that the economic utilization of natural resources for the welfare of man is a major endeavour today can be traced to the fact that technology has moved from its crude method of application to automated way of doing things .There are no enough competent technology education teachers to innovate the curriculum in technical colleges in Oyo state to meet the social economic growth in the area of technology and where there are a few technology education teachers to innovate curriculum , they lack the required information, source facilities needed to innovate the curriculum .

The study is therefore, carried out to provide possible means of improving the performance of technology education teachers in curriculum innovation in technical colleges of Oyo Sate.

Purpose of the Study

The purpose of this study is to assess the challenges of technology education teachers in curriculum innovation in technical colleges in Oyo State.

Specifically the Study is to:

1. Determine what is needed by Technology Education Teachers in technical colleges for curriculum innovation.

2. Identify the planning skills required by technology education teachers in technical colleges for curriculum innovation.

3. Identify the strategies that could be use to improve the performance of technology education teachers in curriculum innovation in technical colleges

Significance of the Study

It is aimed that the findings of this study will be beneficial to the Technology Education Teachers, the Technical board of administrator, the industry and the community at large.

The government and curriculum planners stand to benefit from the findings of this study. The information provided in the finding of this study could be used by the government through the assistance of the curriculum planners to improve or develop new curriculum which will meet the present needs of society.

The study will be beneficial to students learning in the technical colleges because when curriculum is well innovated to suit their needs it will stimulate their interest towards learning. Also the state of unemployment and technological underdevelopment will also be minimal when graduates are development to be self- reliant and they suit the needs of the industries.

The finding of this study will significantly contribute to the knowledge of training technology education teachers more especially the study will help technology planner and administrator on how to develop an effective curriculum and the best Way to implement it to achieve the goals of technical education and will also help the technical teachers to know the knowledge they need to acquire in other to work effectively . This implies that , it will specifically be of great importance to National Board for Technical Education (NBTE) if there technology education teachers have a better understanding on curriculum innovation System.

Scope of the study

The study focused on the assessment of challenges of technology education teachers in curriculum innovation in technical colleges. The study covered what is needed by Technology Education Teachers in technical colleges for curriculum innovation; the planning skills required by technology education teachers in technical colleges for curriculum innovation and identify the strategies that could be used to improve the performance of technology education teachers in curriculum innovation in technical colleges.

Assumption of the Study

The following assumptions were made in this study

1. The Technology Education Teachers in technical colleges can provide reliable answers to the research questions in this study.

2. The response from the respondents is valid to provide answers to the innovation of curriculum in technical colleges.

Research Questions

The study provides answers to the following research questions.

1. What is needed by Technology Education Teachers in technical colleges   for curriculum innovation?

2. What are the planning skills required by technology education teachers in technical colleges for curriculum innovation?

3. What are the strategies that could be use to improve the performance of technology education teachers in curriculum innovation in   technical colleges?

Chapter II

REVIEW OF RELATED LITERATURE

Literature related to the study is reviewed under the following headings:

1. Curriculum Design and Development.

2. Curriculum Evaluation.

3. Curriculum Innovation

4. Technical and Vocational Education

5. Challenges of technology education teacher in curriculum innovation in technical colleges

6. Summary of Related Reviewed Literature

Curriculum Design and Development

Education is vital for socio-economic and political development (Agba, Ushie & Agba, 2007).It is instrument par excellence for national development (National Policy on Education, NPE, 2004). It is a potent tool in graduating families out of poverty and promoting social security. Education is the frontier for social justice and the wheels of social mobility and redistribution of societal wealth. Education is also seen as a process by which human beings convey their past experiences, new findings, and values accumulated for many years, in their struggle for survival and development. It enables individuals and society to make all-rounded participation in the development process by acquiring knowledge, abilities, skills and attitudes (TGE, 1994). Thus, in a world based on science and technology, education determines the level

of prosperity, welfare, and security of the people. That is why educators say that on the quality and number of persons coming out of the school and colleges will depend on the success in the great enterprise of national reconstruction whose principal objective is to raise the standard of living of our people (Aggrawal, 1997).

In sum, education is a cornerstone of economic and social development and a principal means of improving the welfare of individuals. It improves the productive capacity of societies and their political, economic, and scientific institutions. It also helps to reduce poverty by mitigating its effects on   population, health and nutrition and by increasing the values and efficiently of the labor offered by the poor (World Bank, 1991).

To bring the above desired results or development systematic organization of education is necessary. That is to say that to achieve the desired target, one needs well-organized programmes of study that schools will implement. In other words since education is a deliberate effort, plan is needed to guide this effort. Such a systematic programmes are generally referred to as the curriculum of the school system, at each level or cycle of education (Shiundo and Omulando, 1992).

The term curriculum is often used to describe only the goals, objectives, or plans, something distinct from the "means" of methods, materials, and assessment. Yet since each of these components are essential for effective learning-and since each includes hidden barriers that undermine student efforts to become master learners-curriculum design should consider each of them as a piece. Thus the term curriculum is a Latin word meaning "the course of a chariot race" (Schubert, 1986). Traditionally curriculum included two elements: content and examination (Harden and Stamper, 1999). According to Burton & McDonald (2001) it is difficult to provide a

simple dictionary definition for this term because of its complex nature. Simply it can be considered as the list of topics taught in the school or in an institution. In wider view it encompasses all the experiences that the student undergoes through while being part of that institution. However several other definition of curriculum by educationist are presented in this study .

The curriculum is a coherent unit of planned activities that are undertaken by a learner during his entire learning career under the coaching of the institution. The curriculum indicates what objectives must be achieved by the student and what tasks must be fulfilled in order to achieve these. A curriculum always primarily relates to an entire study program and consists of course subjects and possibly groups of course subjects. Traditionally content has always been considered the most important and relevant component of the curriculum

Harden (1997) said that a curriculum should be viewed not simply as an aggregate of separate subjects, but rather as a program of study where the whole is greater than the sum of the parts. Cronbleth (1992) defines curriculum as answering three questions: what knowledge, skills and values are most worthwhile? Why are they most worthwhile? How should the young acquire them? According to Garcia-Barbero (1995) curriculum is the result of bringing together a number of elements - content, strategies and methods to ensure quality in education and excellence in performance, but should have a right mix of elements to ensure efficiency and to facilitate learning. Harden (2001) has elaborated on this concept "a curriculum is a sophisticated blend of educational strategies, course content, learning outcomes, educational experiences, assessment, the educational environment and the individual students' learning style, personal timetable and the program of work" . He concluded that there is no single definition of

curriculum that really conveys its total meaning and therefore the struggle for a better definition of curriculum continues.

Curriculum designing and development is one of the most important but difficult tasks in any nation's educational system. Success in the attainment of the nation's overall aims and objectives. Thus is because all development hinges on the quality of its educational system which in turn is largely determined by the quality of the curriculum at all levels of the educational system. Curriculum development according to Offer (1994) is the term used to describe the creation of curriculum materials that are products of curriculum planning for use by the learners. It is the building up of curriculum materials, Which had been adjudged during the curriculum planning period to be most relevant in accomplishing specific goal via a given curriculum.

Curriculum development involves the refurbishing, refining of the inadequacies in instructional material, curriculum content, materials, implementation strategies and procedure in planned and implemented curriculum for implementation; geared towards curriculum improvements. However, while realizing the place of curriculum development in national development, it is emphatically clear that process of curriculum development worldwide has been directed toward the achievement of the key areas of science, technology, agriculture industry, commerce, politics and economics and as for technical education, the curriculum must agree with Nigeria educational objectives and aspiration of the people. Such a situation will replace the books in curriculum patterned after the English culture. However, no matter the complexity of the planning involved, the process of curriculum development must reflect the philosophy of the education of the particular country the curriculum is planned for.

Therefore, it has become imperative that there is need for the development of a curriculum that will reflect the objectives of the National policy on education (F.G.N 1981) which spelt out five broad aims of technical education as follows:

(i) Provide trained manpower particularly in applied science, technology, and commercial at sub-professional grades.

(ii) Provides the technical knowledge and vocational skills necessary for agricultural, industrial, commercial and economic development.

(iii) Provide the people who can apply scientific knowledge to the improvement and solution of environmental problems for the use and convenience of man.

(iv) Give an introduction to professional studies in engineering and other technologies.

(v) Give training and improve the necessary skill leading to the production of craftsmen, technical and other skilled personnel who will be enterprising and self reliant and;

(vi) Enable young men and women to have an intelligent understanding of the increasing complexion of technology.

It is from this perspective that the significance of technical colleges should be viewed. Many people have often wondered at the situation where the majority of Nigerian youth are suffering in the midst of abundant resources. The majority of people in the third world countries are very poor yet most of these countries as pointed out by Stewart (1982) posses in abundant supply of the most important factor of production which is manpower , an effective curriculum in every society must indeed reflect what the people feel, believe and do; it must be seen as the deliberate systematic and planned attempt not only to change behaviours of the children and youth, but also to enable them gain the social thought with insight and power to build a society with life more abundant .Thus, curriculum development is an important aspect an education

system which determine   the experiences that will prepare the individual members to build the expected environment for growth.

Curriculum Evaluation

Human beings all over the world have evolved over time a culture of judgment. At most level of human   action,   individuals,   group,   institution,   and   governments   pass   judgement   about appropriateness or inappropriate, goodness or   badness, desirability or undesirability of events, decisions performances, processes, objects, situations and the like.   The general concept of evaluation can be perceived as frequent decision- making and judgements which individuals, groups, institutions and governments pass on what affect their lives and those of others. Such decisions or judgements are usually taken on the basis of experience, information, evidence, or date . Uga Onwuka (1996).

 In taken these decisions, a systematic or initiative approach may be followed. Whichever approach is followed, the process of getting the information, analysing it and drawing a final conclusion is evaluation. From ancient times when man passed judgments on objects and human beings, and makes choices of food, shelter and career, evaluation has served a selection function. Although the general concept of evaluation has remained the same, the quality of evaluation improved with the application of the scientific method to, and utilisation of modern technologies in the process of evaluation.

 Lewy 1980   defined evaluation this way , 'Evaluation   essentially   is   the   provision   of information for the sake of facilitating decision making at various stages of curriculum developments. Evaluation also implies the selection of criteria, the collection of data, and analysis. Bloom(1971) viewed evaluation   as the   systematic   collection   of evidence to

determine whether in fact certain changes are taking place in the learners as well as to determine the amount or degree of changes in individual students. This definition subtly focuses on the goals of evaluation. It stresses the effectiveness of the programme in bringing about the desired behaviour changes in the learner. This means questioning the merit of the programme. It also focuses on the process of getting the evidence on learner's performance.

In the light of the above definitions ,Onwuka(1996) sees curriculum evaluation as a continuous process which may look for the diagnosis of strengths and weaknesses in the curriculum , or an identification of the results of instruction , or a recognition of the need for teacher ,or the selection of a new basis for changing educational policies. All these process point to the need to view curriculum evaluation in a broad sense. The broad – sense approach to evaluation was illustrated by Bloom and others their view encompasses:

1. Evaluation as a method of acquiring and processing the evidence needed to improve the students learning and teaching.

2. Evaluation as including a great variety of evidence beyond the usual final paper and pencil examination.

3. Evaluation as an aid to clarifying the significant goals and objectives of education and as a process for determining the extent to which students are developing in these desired ways.

4. Evaluation as a system of quality control in which it may be determined at each step in the teaching – learning process whether the process is effective or not, what changes must be made to ensure its effectiveness before it is too late , and

5. Finally , evaluation as a tool in the educational practice for ascertaining whether alternative procedures are equally effective or not in achieving a set of educational ends

Significantly, evaluation serves a number of purposes in the curriculum .And in stressing the purpose of evaluation Alegun (1990) stated that it gives direction to instructional activities and provides empirical bases for curriculum activities . It further determines the merits and limitation of the instructional programme through the data provision of data on learner achievement , and in addition, it supplies data for a comprehensive judgment on the individual learner. Scriven(1980) sees it as forming the process of curriculum development , of a field experience connected with the improvement of learning theory, of an investment preliminary to decision about purchase or rejection of materials; it may be a data gathering activity for supporting a request for research support.

Therefore Curriculum evaluation goes beyond the general concept of evaluation. It employs systematic and scientific methodology. It utilises modern technologies and various human expertise to arrive at the best alternatives in education. It does not rule out unidentified other possibilities. Hence, it is always fluid. It involves the identification and provision of information, the selection of criteria, data collection, data analyses and drawing logical conclusions for specific purposes using the above process(Acha 1996, Institute of Education, University of Nigeria, Nsukka).

Curriculum Innovation

The use of technology has increased greatly in this modern dispensation. Education has moved from manual operational procedures to full automation of most of the teaching learning

processes. Adeshina and Tunde (2012). For example" In the office education (an integral part of business education), there are now such terms as word processing, data processing, reprographics, micrographics that are used to describe many technological processes that have evolved from traditional office occupations. The advent of technology has brought about a faster and more efficient ways and means of handling office procedures and decision making processes based on accurate information, hence, most business organizations and even governmental agencies are now adopting office automation, which is also referred to as of in their routine operations".

An innovation is usually characterized through some materialized plan which describes the intended practices, and the aspired ways of changing them, and argues the theories which justify the rationale. It uses some material, other resources (time, money) and specific social structures to make people act in another way. Its real test lies in being put into practice. Thus, innovation is a practice to change practices, Fullan and Stiegelbauer (1991). This innovation therefore is a challenge to our educational systems, and the curriculum must be revisited to embrace these changes or else, we would be producing Nigeria Certificate in technical Education, and Nigeria University graduates in technical education whose certificates would be obsolete. Adeshina and Tunde (2012). The skills they have so acquired while in school may not fit approximately with the current demands in the world of work. It is against this backdrop, that advocacy is made here for a review of existing curriculum at all technical colleges' institutions in Nigeria, in order to make technical education up-to-date and relevant to the current world of work demands.

Olaitan (2003) explained that curriculum innovation is a process by which new ideas, Knowledge, skills and attitudes are included in a curriculum to bring about new changes and new goals in the educational set-up of a society as a result of technological development of

improvement. Change occurs in the area of science and technology, politics, industrialization, education, business etc. Innovation in technical education has become a necessity as the existing curriculum has failed to achieve the desired objectives of technical education due to the new ideas, skills and attitudes of doing things globally, especially with rapid changes in technology. Curriculum innovation in technical education would entail revisiting the curriculum content of technical education with, a view to adding new business ideas, skill, knowledge and attitudes in business Nwokomah (2005). For example, the addition of entrepreneurship education, which is aimed at meeting the needs of the society to help graduates become self-reliant. The Nigeria NPE (2004) stated that, education should achieve the following goals:

1. The inculcation of national unity,

2. The inculcation of the right type of values and attitudes for the survival of the individual and the Nigerian society,

3. The training of the mind in the understanding of the world around,

4. And the acquisition of appropriate skills, abilities and competencies both mental and physical as equipment for the individual to live in and contribute to the development of this society.

They also explained the aims and objectives of technical education as a vocational course, to provide technical knowledge in applied sciences, technology and business, particularly craft, advanced craft at technical levels, provision of technical knowledge and vocational skills necessary for agriculture, commercial and economic development, to give training and impact the necessary skills to individuals to enable them become self-reliant economically. Also, Osuala (2002) emphasize that technical education should aid in developing within an individual:

1. The knowledge, skills, abilities, and attitudes that will enable him to use sound reasoning in making personal business decisions as consumer of goods and services,

2. . An understanding of and an appreciation for a nation's business enterprise system, emphasized both the privileges and responsibilities for participation in, preserving, and improving it,

3. A level of economic literacy sufficient to enable the individual to analyze alternatives to make reasoned judgments sound decisions and to take intelligent action as a citizen in a democratic society,

4. . An acquaintanceship with the broad range of occupations opportunities in technology sector of the economy.

Unfortunately, the products of the existing curriculum in technical colleges lack some necessary modern ideals, skills and attitudes to function in an information technology based world of work. This gave rise to the production of graduates without employable skill. Instead of producing job providers, the curriculum continues to produce job seekers.

However , the factor that can influence experts to review an existing curriculum to bring about the needed curriculum reform were enumerated by Olaitan and Ali (1997) as follows:

1. When the curriculum is subjected to public criticism of ineffectiveness or not meeting people's needs. When there is public criticism of the educational system for not meeting people's needs there is needs to embark on activities to identify the faults.

2. When the curriculum is observed as not meeting the need it was set for at the target time ,that is, if a curriculum is not achieve a particular objective within a stipulated time (e.g. ten years) and after that target period , the curriculum is still very far from achieving those objectives , there is need for a hard review of the curriculum .

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3. When it is observed that there is inadequate qualified manpower and resources to implement a well planned curriculum , there is need for a review of the curriculum to meet the available manpower and resources, while aggressive training of manpower and sourcing for resources are embarked upon for the purpose of implementing a new curriculum .

4. When an ambition curriculum is planned with the purpose of achieving greater height from the society but at some point in time the society experiences an economic hitch that may affect a full scale implementation of the curriculum thereby rending the objectives unachieving ; there is need to review the curriculum to meet the level of economy of the society .

5. When a country is competing technologically, either inn warfare, business. Invention discovery, governance e.t.c. with other country or countries that are far ahead.

6. When a country is threatened scientifically, economically or technologically or governance by other neighbouring countries for the purpose of exploitation of available untapped resources. Curriculum reform in such a threatened country is inevitable for the survival of the citizens.

It is viewed from the factors above that many people regarded the NPE as both an innovation and as a reform in education. It is a reform in that it introduced a 6-3-3-4 school system incorporating a nine-year basic education programme as a clear departure from the past. The provision for a core curriculum (or core subjects) and optional curriculum (or elective subjects) is also a significant change. The aims of these changes are to guarantee an all-round education for learners, and to bring some degree of diversity into curriculum development.

In conclusion, If Nigeria is to achieve economic Independence, Technical colleges should be seen as the foundation for technological literacy and our technical colleges curriculum content should be reinforced appropriately to meet the desired goal set.

Technical and Vocational Education

Technical and vocational education (TVE) has been an integral part of national development strategies in many societies because of its impact on productivity and economic development. Despite its contributions the leaders of Nigeria have not given this aspect of education the attention it deserves.

Vocational and technical education in Nigeria has a chequered history. In tracing the history of vocational technical education in Nigeria, Okoro (1998) reported that the development of vocational and technical education in Nigeria made slow progress from its earliest times to date. For the purpose of clarity, vocational education is that skill-based programme designed for sub-professional level education and based on a specific vocation. Technical education, on the other hand, is a planned program of courses and learning experiences that begins with exploration of career options, supports basic academic and life skills, and enables achievement of high academic standards, leadership, preparation for industry-defined work, and advanced and continuing education." . By 1909 only two institutions offering some form of vocational education was existing in the country. The hope woddle training institute has developed a technical programme in tailoring, carpentry and some commercial subjects, and the Nassarawa School established by the government in 1909 had courses in metal work, carpentry, welding and leather work.

After 1944, it became clear that Nigeria could not take off economically without technical man power and the need for the development of technical education become mandatory and vocational and technical education has been absent in the Nigeria formal traditional secondary school, not until after the report of Ashby commission investment in education(1960) that some serious thought s of introducing vocational technical education in Nigeria technical schools was viewed with some interest .

In the ten- year education plan (1946-55), provision was made for the training of technicians, craftmen and artisans. By 1948, the Yaba technical institute and three others in then northern, western and eastern region were established. The first technical school in Nigeria was the Roman Catholic agriculture school in the 1948 at Togo, Badagry, where students Were settled on plantation and taught the rudiments of agriculture production .Badagry, where students

The search for this type of functional education and government seeing for the benefit of all citizens, the country's educational goal in terms of its relevance to the needs of the individual as well as in terms of the kind of society desired in relation to the environment and the realities of the modern world and rapid social charges should be clearly set out. Okoro (1993) reported that in 1973 the government summoned a seminar of distinguished educational experts under the chairmanship of |Chief S.O Adebo former permanent representative of Nigeria at the United Nation . The recommendations at the seminar emerged as the national policy on education (F.G.N, 1981), which defined both vocational and technical education as that aspect of education which leads to the acquisition of practical and applied skill as well as basic scientific knowledge.

In respect with the new National policy on education (F.G.N;1981) the federal Government in her effort to meet the demands of the new system of education decided in 1982 to go ahead

with the appropriate education , that will provide and sustain her quest for scientific education ,industrial and technology advancement .The introduction of technical education is to encourage the acquisition of practical skill in student and to encourage them to use hands in making, repairing and assembling things. Okoro (1990), writing the objectives of technical education feels that it is increasing employability of school leavers in technical and vocational skills and to train craftsmen, technicians and skill personnel. Therefore, it is in other to achieve this objective, the Federal Government introduced 6-3-3-4 system of education in 1982.

The government accomplishes these functions through a number of bodies, including the national advisory council on technical education and industrial training, the industrial training fund (I.T.F.) the national board for technical education, the national technical teachers college and national board for business and technical education (NABTEB).

However, vocational and technical education is that aspect of education that utilizes scientific knowledge in the acquisition of problems. Which is greatly needed in conserving and developing the nation resources, and also to help the Nigeria youth as well as adults acquire technical training in relevant field for self reliance.

Challenges of Technology Education Teachers in Curriculum Innovation in Technical colleges

TO cope with the changes in the modern world, technical subjects should be properly innovated ,taught and well understood in the technical colleges, it is worthy of note that for one to learn and understand technical subjects properly, the curriculum must be well organized ,must interest the learner and must meet the market demands of the nation, this Salami (2004) believed that technical teachers should be In position to stimulate interest in students in order to perform well

in his vocation . This stimulate of interest can be achieved through stimulation of various senses in the body through the use of well reformed curriculum .At the same time one has to understand that technology education teacher faces some challenges in reforming the curriculum which Webster new dictionary(2010) define challenges as call to take part in do something difficult. Some of the challenges of technology education teachers in curriculum innovation are presented in this study

Challenge of Organization and Management of Vocational Education in Nigeria

 The merger of the management of vocational education with that of general education and allowing the general educator as chief executives of the institutional set up is detrimental and counter- productive to the effective organization and administration of vocational education programmes in this country Ekon(2000). Nwachukwu, (1984) defined management as the co-ordination of all resources of an organization through the process of planning, organizing, directing and controlling in order to achieve organizational objective.   New Oxford Dictionary(2010) defined organization as the act of organizing   a group using a systematic approach or arrangement . It is fallacious to think that putting the two educational programmes under a single control system can ever make for democracy and flexibility in educational management . It must be emphasized that vocational and technical education differ markedly from general education with reference to its philosophy, contents, methods of instruction and instructional resources. It always results in an unhealthy rivalry when two programmes are allowed to operate under a single generalist control system. It is generally experienced that under this set-up the general administrators in authority are not always at sympathy with the aims of vocational education. Experience has shown that majority of the general administrators while in single control system , assign vocational teachers to teach general education subjects such as

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physics , chemistry , mathematics . The administrative strategy is to prove to prove to the students the superiority of general education over vocational education. Oftentimes, the general administrators encourage only the indigent student to take up vocational education programmes. More pathetic of the unwholesome attitude of general administrators is in the starving of the vocational education programmes under the sphere of their of funds, adequate instructional times and resources. In this situation technology education teachers must put into consideration the management of vocational and technical education before innovating the curriculum because the general administrators refuse to understand that vocation education is the capital intensive and that its training environment must be made to replica of the environment in which the trainees will subsequently work.

Issue of funding Vocational   Education

Closely related to the problems of misconceptions and organization and management of vocational education in Nigeria is poor funding because the majority of Nigerians do not fully appreciate or understand the place of vocational   in the national building and development drive, the policy-makers who   were oriented in general education discipline always put the allocation of substantial part of national budget to vocational and technical education as a minor priority. As such only an insignificant proportion of the national budget is often approved for vocational education programmes Oke (1999). According to Concise dictionary(2010) "funds" is financial resources for a special purpose.

Besides, the unsympathetic approaches demonstrated by the administrators of most Nigerian higher institutions of learning where vocational education programmes are mounted have left much to be desired . In recent times , they prefer to host all-colleges games or undertake

gigantic project in their institutions wherein they will collect 10% kick-backs in place of equipping the vocational programmes with training resources . Presently, most technical colleges running vocational education programmes have not been able to procure adequate relevant tools and equipment or space –parts for training and retraining work ,Ekong(2000). Some equipment or parts of the equipment damaged during the training have not been replaced for years. Hence, most equipment and tools become disused or malfunctioning. Consumable such as wood, nails, metal sheets, electrodes, computer software, cables, clothing, fertilizers and other agro-chemicals are not affordable because of no funds. The factor of funds is a challenge for technology education teachers in curriculum innovation in technical colleges because it must be plan in response to the availability of financial resources available to them .The questions one needs to ask for the society why the programmes of vocational education are grossly starved of funds.

Problems of Training Facilities in Vocational educations

Many survey researches carried out in Nigeria in institutions running Vocational education programmes on the availability of training resources often revealed the presence of inadequate training facilities in the training institutions Ekong(2000). "Facility " is defined by Encyclopedia (2012) as a building , service , or piece of equipment provided for a particular purpose with the aim of to ease a job or work. At the secondary school level , for instance there have been general complaints about introductory Technology equipment imported by the government in the early 1980s as being completely knocked – down and cut of use for lack of maintenance , poor storage or obsolesce ,Mfon(1998) . Likewise, the stories are not different concerning most equipment and tools found in the technical colleges. These institution were last supplied with the training tools and equipment during the second republic era. Hence,

they are obsolete for training and retraining programmes of vocational education. It should be appreciated that as the world of technology changes almost on daily basis, the developed nations such as United States of America, Japan, Britain, France, Germany etc. are developing new technologies and equipment. Therefore if the products of Nigeria technical colleges must keep abreast with the global technological advancement, then their training must not only rely on obsolete tools and equipment imported into the country for more than two decades, Umoh(2001). This have a great impact on the technology education teachers in the process of reforming the curriculum in technical colleges because the availability of facilities and easy means of accessing tools and equipment by the student and means of supply such facilities must be considered. if inadequate supply of material is high than the rate of supply to the programmes the curriculum will surely face a set back which will affect the objectives of the curriculum on the students and on National development at large.

Problems of Teachers and Teacher Education

The technology education teachers face challenges from the teaching service and from teacher education, especially as the agitation for more salaries and improved welfare continue to dominate teachers' demands, Igwe (1997), The problem of improving the welfare of teachers, however, appears to go beyond mere salary increases. Terms of service for teaching should not only attract but also retain the best brains. Teachers want not only better conditions and better fringe benefits, but also a better working environment with tools and materials for research and opportunities for self-development more easily available, Ekweme (2006) .Government must involve teachers themselves in working out effective ways of making the teaching profession viable for serving teachers and attractive to incoming ones.

The teacher retraining opportunities that currently exist are mostly centralized training in which many teachers participate. This mode of training is believed to have limited impact and level of transfer to actual classroom practice on the part of teachers (NPEC, 1999). In-service training ought to be on-going, regular and woven into the fabric of the teachers' daily activities while also addressing the expressed concern and needs of teachers.

More science and vocational studies teachers are needed for any meaningful development in science and technology education. Government could consider greater financial incentives to attract more teachers to science. At the tertiary levels, the shortage of teachers, as a result of brain drain resulting from the low status and the lack of attraction to the teaching profession, is considerable. Government must seriously address the issue cause of the negative influence it as on the technical teacher which flows down to the act of restructuring the curriculum in technical colleges. In the non-formal sector, the issue of instructors' stipends remains intractable problem. Insufficient and irregular payment of instructor stipends is a very serious inhibiting factor for non-formal education. Considering that, without instructors regularly available at the learning centres, all efforts at literacy education come to naught, it is time for government to make a categorical commitment to instructor payment in this sub-sector Adeniyi (2001). This could involve working out a matching grant arrangement with providing agencies whatever their affiliation.

Problems of Indequates Textbooks

Most Nigerians blame the situation on the extensive periods of military rule and its accompanying international sanctions against the Nigerian government . During this periods under military, it could not be easy for the Nigerian government to import current textbooks and periodical nor the training institution to benefit from international books Ekong(2000).Textbooks

is seen by Longman Dictionary(2008) as a book use as a standard work for the study of a subject .Moving across the Nigerian libraries only out-dated textbooks and periodicals on vocational and technical education are stocked, Oke (1999) he further stated that few highly trained vocational educators and administrators who would have helped in writing up-to-date textural materials in the specialized areas of vocational education are ill- motivated by the financial cost of publishing their work. In respect of the national policy on education which brought about the general goal of technical colleges across the nation (NPE 2004), the availability and easy access of textbooks must be greatly considered in innovation of the curriculum by the technology education teacher .These conditions have led to the use of "Hand-out" as instructional resource in vocational education in Nigeria. It is therefore doubtful to assume that occupational skills and attitudes can ever be acquired through the dependence on "Hand -outs" as reading material by vocational education students.

The Morale and Status of Teachers

The problems of technology education teacher cannot be detached from the continuing low morale and status of teachers in Nigeria. These are attributable, to a large extent, to poor incentives to improve performance, very poorly equipped working environments, inadequate social recognition, powerlessness and lack of control over working conditions. The old problem of late payment of salaries, too, is again present in some states. Studies conducted in different states provide evidence for these points (Makoju,1998; Nwangwu, 1997). In these circumstances, there are hundreds of under-qualified technical teachers in the system, and this in turn contributes to the low professional status of teaching.

The task of improving teachers' welfare and commitment to their work must be sufficiently addressed in any policy reform framework. This is a matter of recognizing the significance of the

services they render to the nation, since, as it has been observed, rightly, "the kind of teachers trained and posted to a school may well determined what the next generation of Nigerians will be" (Lassa, 2000). In the context of the National policy on education, it is particularly important to minimise the shortcomings of the past National Board for Technical Education programmes as far as teachers are concerned. In the planning process, as Urwick (1987, p.138) observes, due attention needs to be given to "the existing profile of teachers' skills and qualifications, the cost of improving this profile and the existing size of the teaching force".

Over the years, many commissions have been set up to redress the problems but they appear not to have succeeded due to poor implementation of recommendations. If the teachers are not well taken care of financially and they did not also received the recognition they deserved there is no doubt that it will not have an adverse effect on the technical teacher in curriculum innovation in technical colleges because they will considered the workloads in respect to the salary they received also put into consideration the student population.

Therefore the Challenges of Technology Education Teachers in Curriculum Innovation in Technical colleges will not only reduce the performance of the technology education teacher but will also decrease the rate in which students acquire the manipulating skills required to prepare them for immediate employment and at large ,the goals of Nigeria being an Industrious nation will be in jeopardy.

Summary of Related Reviewed Literature

The literature reviewed in this study revealed that it is difficult to provide a simple dictionary definition for curriculum because of its complex nature which means that curriculum has no universal accepted definition. The several meanings and a number of different definitions of it has been proposed among which it is referred as coherent unit of planned activities that are

undertaken by a learner during his entire learning career under the coaching of the institution. It was reviewed that curriculum designing and development is one of the important but most difficult task in any nation's educational system.

The literature has reviewed that for a curriculum to achieved is educational goal, it must undergo the process of innovation which Olaitan (2003) explained that is a process by which new ideas, Knowledge, skills and attitudes are included in a curriculum to bring about new changes and new goals in the educational set-up of a society as a result of technological development of improvement. It is seen that evaluation is essential in curriculum process which Onwuka(1996) sees as a continuous process which may look for the diagnosis of strengths and weaknesses in the curriculum , or an identification of the results of instruction , or a recognition of the need for teacher ,or the selection of a new basis for changing educational policies .

The literature reviewed in this study also showed that technology education teachers faces some challenges in curriculum innovation in technical colleges among the few are Problems of Organization and Management of Vocational Education in Nigeria, Problem of funding Vocational Education, Problems of Training Facilities in Vocational educations , Problems of Teachers and Teacher Education, Problems of Indequates Textbooks , he Morale and Status of Teachers.

The literature reviewed also showed vocational and technical education a chequered history in Nigeria and the development of vocational and technical education in Nigeria made slow progress from its earliest times to date. However vocational education is that skill-based programme designed for sub-professional level education and based on a specific vocation. Technical education, on the other hand, is a planned program of courses and learning experiences that begins with exploration of career options, supports basic academic and life skills, and

enables achievement of high academic standards, leadership, preparation for industry-defined work, and advanced and continuing education.

In Summary, poor curriculum innovation lead to instability of Nigeria economic caused by negligence of industrialisation for self reliance. It is therefore essential that the content of curriculum in our technical colleges be reconstructed and technical teachers should be given the necessary Innovation resources that will reflect our ardour for technological advancement and self-reliance to reduced unemployment in our youth and crime in our Society .

CHAPTER III

METHODOLOGY

This chapter describes the procedure used in the study. They include research design, Area of the study, population, Instrument for data collection, Validation of the instrument, Administration of the instrument, method of data analysis and Decision rule.

Research Design

This study is a descriptive survey research because it involves the use of questionnaire to determine the opinion responses and perception of teachers and administrators on the assessment of challenges of Technology education teachers in curriculum innovation in technical colleges in Oyo State. According to Olaitan(1999) survey research design is a descriptive study in which the entire population or representative sample of the entire population is studied by collecting and analyzing data from the group through the use of questionnaire

Areas of Study

The research study was carried out in all the technical colleges in Oyo State.

Population

The population targeted for the study is 166 which comprises of 144 Technology Education Teachers and 22 administrators working at various Technical Colleges in Oyo state.

TABLE 1:

Showing the relationship between Technical colleges in Oyo State and the Number of Technology Education Teachers and Administrators in the technical colleges.

S/N	Technical colleges	Number of Technology Education Teachers	Number of Adminstrators
1	Government Technical College Ibadan	30	4
2	Government Technical College Iseyin	28	4
3	Government Technical College Ogbomoso	29	5
4	Government Technical College Oyo	30	5
5	Government Technical College Saki	27	4
	TOTAL	144	22

Sample

Twenty (20) teachers and three (3) administrators were randomly selected from each of the school under study. This was arrived at in other to averagely take equal number from each school. According to Musa (1999), sample is a limited number of elements selected from a population to be the representative of the population. The sampling technique used for this study was random sampling.

TABLE 2:

Showing the relationship between the Technical colleges in Oyo State and sample of the Number of Technology Education Teachers and Administrators in the technical colleges used.

S/N	Technical colleges	Number of Technology Education Teachers	Number of Adminstrators
1	Government Technical College Ibadan	20	3
2	Government Technical College Iseyin	20	3
3	Government Technical College Ogbomoso	20	3
4	Government Technical College Oyo	20	3
5	Government Technical College Saki	20	3
	TOTAL	100	15

Instrument for Data Collection

The research instrument used for the study was mainly questionnaire. The instrument was divided into two parts. Part one consist of respondents' personal data and the part two consist of the questionnaire which divided into three sections. Section A deals with the personal data of the respondents and instruction how the questionnaire will be answered. Section B contains thirteen (13) items which deals with the facilities needed by Technology Education Teachers in technical colleges   for curriculum innovation. Section C deals with the planning skills required by technology education teachers in technical colleges for curriculum innovation it contain (11)

items. Section D deals with on the strategies that could be use to improve the performance of technology education teachers in curriculum innovation in technical colleges it contain (15) items.

Validation of the Instruments

The instrument was validated by three lecturers in the department of Industrial and Technology Education, Federal University of Technology, Minna. Their suggestions and correction were used to produce the final draft of the instrument that was used for data collection

Administration of the Instrument

A total of 115 questionnaires were administered by the researcher to the respondent in the five Technical colleges with the help of research assistance in each college and 106 numbers were collected which constitute (92%) as showed in the table below.

Table 3:

Showing the relationship between the numbers of questionnaire issued to the number collected

S/N	Technical colleges	Number of Technology Education Teachers		Number of Administrators	
		Issued	**Collected**	**Issued**	**Collected**
1	Government Technical College Ibadan	20	17	3	3
2	Government Technical College Iseyin	20	19	3	3
3	Government Technical College Ogbomoso	20	18	3	3
4	Government Technical College Oyo	20	17	3	3
5	Government Technical College Saki	20	20	3	3
	TOTAL	100	91	15	15

Total Issued   = 100 + 15 = 115

Total Collected   = 91 + 15 = 106 (92%)

Method of Data Analysis

The data collected by the researcher was analyzed using mean and standard deviation. Mean was used to determine the degree of acceptance and rejection in research questions. The four point rating scale was used as highlighted below:-

Strongly Agree (S.A)   =   4 points

Agree (A)   =   3 points

Disagree (D)   =   2 points

Strongly Disagree (SD) =   1 point

Accepted level of favourable rated item was

$$\frac{4 + 3 + 2 + 1}{4} = \frac{10}{4} = 2.5$$

Decision Rule

  To determine the acceptance level, the mean score of 2.50 and above on a four point rating scale was used as a cut –off. Any responses with a mean of 2.50 and above were considered agreed while responses below 2.50 were considered disagreed

CHAPTER IV

PRESENTATION AND DATA ANALYSIS

This chapter deals with the presentation and analysis of data for the purpose of answering the research questions posed by the researcher. The result of data analysis for the research questions are presented below.

Research Question I

What is needed by Technology Education Teachers in technical colleges for curriculum innovation?

TABLE 1:

Mean scores of the respondents in relation to the needs of Technology Education Teachers in technical colleges for curriculum innovation.

$N_1 = 100$ $N_2 = 15$

S/N	ITEMS	X_1	X_2	X_t	SD_1	SD_2	SD_t	Remark
1	Enough Technology education teachers to innovate the curriculum.	3.55	3.54	3.55	0.80	0.72	0.76	Agreed
2	The Technology education teachers to get financial aid from the Government.	3.20	2.86	3.03	0.96	1.02	0.99	Agreed
3	Seminars and Workshops for Technology education Teachers on curriculum innovation.	3.55	3.54	3.55	0.80	0.72	0.76	Agreed
4	Understanding the difference between the formal and the latter curriculum.	3.72	3.40	3.56	0.91	0.71	0.81	Agreed
5	The teachers are willing to get acquainted with curriculum innovation.	3.33	2.67	3.00	1.05	2.32	1.69	Agreed
6	There are enough Training Facilities for technology education teachers for	3.70	3.40	3.55	0.56	0.78	0.67	Agreed

		X_1	X_2	X_t	SD_1	SD_2	SD_t	
	curriculum innovation							
7	There is environment for self development of technology education teachers	3.82	3.60	3.71	0.37	0.49	0.43	Agreed
8	Understanding the of functionality of curriculum innovation	3.55	3.54	3.55	0.80	0.72	0.72	Agreed
9	Understanding the nature and function of curriculum innovation and what it offers to those seeking it.	3.45	2.17	2.81	0.54	1.24	0.89	Agreed
10	Prior knowledge or exposure on the current curriculum as pre-requisite for the innovated curriculum	3.20	3.00	3.10	0.57	0.82	0.70	Agreed
11	Increment in the wages and salaries of technology education teacher	2.90	3.06	2.98	0.94	1.15	1.05	
12	Knowledge about general way of life of the people the people the curriculum is intended	3.77	3.46	3.62	0.42	0.62	0.52	Agreed
13	Proper placement of technology education teachers in their area of specialization during curriculum innovation	3.50	3.53	3.52	0.50	0.50	0.50	Agreed

KEY: X_1 = Mean score of Teachers.

X_2 = mean score of Administrators.

X_t = average mean score of both Teachers and Administrators.

SD_1 = standard deviation of Teachers

SD_2 = standard deviation of Administrators

SD_t = average standard deviation of both Teachers and Administrators.

The table 1 above revealed that both groups of respondent agreed with all items 1 - 13 in this section with average mean score ranging from 2.81 – 3.71.

Research Question II

What are the planning skills required by technology education teachers in technical colleges for curriculum innovation?

TABLE 2:

Mean scores of the respondents in relation to the planning skills required by technology education teachers in technical colleges for curriculum innovation

$N_1 = 100$ $N_2 = 15$

S/N	ITEMS	X_1	X_2	X_t	SD_1	SD_2	SD_t	Remark
1	Understanding how to formulate the overall philosophy of the innovated curriculum	3.60	3.73	3.67	0.49	0.44	0.47	Agreed
2	Knowledge on the method of setting up the curriculum objectives	3.44	3.53	3.49	0.51	0.50	0.51	Agreed
3	Knowledge of selecting appropriate instructional techniques	2.25	2.13	2.19	1.13	1.07	1.10	Disgreed
4	Proficiency with tools available to them for innovating the curriculum	2.90	2.83	2.87	0.94	1.05	1.00	Agreed
5	Recognising and ability to use the standard and format of innovating curriculum	2.18	2.41	2.30	0.95	1.14	1.05	Disagreed
6	Skills of preliminary planning	2.48	2.97	2.73	0.83	1.09	0.96	Agreed
7	Knowledge of the subject matter	3.84	3.87	3.86	0.37	0.34	0.36	Agreed
8	Understand Subject matter enrichment	3.40	3.20	3.30	0.49	0.79	0.64	Agreed
9	Understanding of the time element	3.44	2.77	3.11	1.09	1.43	1.26	Agreed
10	Understanding of the students which the curriculum is intended for.	3.67	3.27	3.47	0.47	0.62	0.55	Agreed
11	Able to develop deductive and inductive reasoning	2.83	2.19	2.51	0.96	1.05	1.01	Agreed

KEY: X_1 =   Mean score of Teachers.

           X_2 =   mean score of Administrators.

           X_t =   average mean score of both Teachers and Administrators.

           SD_1 =   standard deviation of Teachers

           SD_2 =   standard deviation of Administrators

           SD_t =   average standard deviation of both Teachers and Administrators.

The table 2 above revealed that both groups of respondent agreed with all items 1,2,4,6,7,8,9,10 and 11 with the mean score ranging from 2.51 – 3.86. While both groups disagreed only with item 3 and 5 with means score of 2.19 and 2.30 respectively.

Research Question III

What are the strategies that could be use to improve the performance of technology education teachers in curriculum innovation in   technical colleges?

TABLE 3:

Mean scores of the respondents in relation to the strategies that could be use to improve the performance of technology education teachers in curriculum innovation in   technical colleges.

           $N_1 = 100$ $N_2 = 15$

S/N	ITEMS	X_1	X_2	X_t	SD_1	SD_2	SD_t	Remark
1	Train and re-train technical teachers	3.55	3.40	3.48	0.50	0.71	0.61	Agreed
2	NBTE to organize joint seminar/conferences	3.59	3.40	3.50	0.49	0.61	0.55	Agreed
3	Selecting and using the appropriate method in choosing the technology	2.60	2.80	2.70	1.25	0.91	1.08	Agreed

		X_1	X_2	X				Decision
	education teachers responsible for innovation							
\4	Technical colleges are well funded	3.55	3.73	3.64	0.80	0.44	0.62	Agreed
5	Good planning and administration of technical colleges	3.00	3.33	3.17	1.00	1.08	1.04	Agreed
6	Periodical upgrade of technology education teacher certificates based on professional development	2.97	2.20	2.59	0.85	0.98	0.92	Agreed
7	Sponsor technology education teachers to conference even when they are not presenting paper	3.28	2.26	2.77	0.89	1.03	0.96	Agreed
8	Establish a separate exam and certification body to take charge of technical teacher education	3.15	2.93	3.04	0.87	1.06	0.96	Agreed
9	Focused on vocational and technical education by Government	3.70	3.60	3.65	0.46	0.61	0.54	Agreed
10	Standardize evaluation of technical teacher Programmes	3.20	3.13	3.17	0.81	0.72	0.77	Agreed
11	Welfare of Technology education teachers are well taking care of.	2.63	2.07	2.35	1.14	0.85	1.00	Disagreed
12	Adequate support training material resources must be provided	2.40	2.39	2.40	0.86	0.88	0.87	Disagreed
13	Technology education Teachers received adequate information during innovation of the curriculum	3.24	3.27	3.26	0.82	0.44	0.63	Agreed
14	campaign or orientation programme towards enlightening in curriculum innovation	2.88	2.87	2.88	1.01	0.96	0.99	Agreed
15	Financial cost of training of Technical teachers must shouldered by Schools and Government	3.44	3.53	3.49	0.98	0.50	0.74	Agreed

KEY: X_1 = Mean score of Teachers.

  X_2 = mean score of Administrators.

X_t = average mean score of both Teachers and Administrators.

SD_1 = standard deviation of Teachers

SD_2 = standard deviation of Administrators

SD_t = average standard deviation of both Teachers and Administrators.

The table 3 above revealed that both groups of respondent agreed with all items 1,2,3,4,5,6,7,8,9,10,13,14and 15 with the mean score ranging from 2.59 – 3.65 While both groups disagreed only with item 11 and 12 with means score of 2.34 and 2.40 respectively.

Findings

This section present the summary of findings of the study based on the data collected and analyzed for the research questions which served as the frame work for presenting the finding.

1) **Finding related to the needs of Technology Education Teachers in technical colleges for curriculum innovation. Both respondents agreed with the following concerning the**

    i)   Enough Technology education teachers to innovate the curriculum.

    ii) The technical colleges are well Organized and Managed

    iii) The teacher are willing to get acquainted with curriculum innovation

2) The finding related to the planning skills required by technology education teachers in technical colleges for curriculum innovation

i)   Formulate the overall philosophy of the innovated curriculum.

ii)   Knowledge of setting up the curriculum objectives

iii)   Knowledge of the subject

.

3) The finding related to the strategies that could be use to improve the performance of technology education teachers in curriculum innovation in technical colleges

i)   Train and retrain technical teachers

ii)   Good planning and administration of technical colleges

iii)   Periodical upgrade of technology education teacher certificates

iv)   Sponsor technology education teachers to conference even when they are not presenting paper

v)   Standardize evaluation of technical teacher Programmes

Discussion of findings

The purpose of the study is to assess the challenges of technology education teachers in curriculum Innovation in technical colleges in Oyo state. The process involves determination of needs and planning skills required by Technology Education Teachers in technical colleges for curriculum innovation in order to effectively achieve the purpose of the study. Therefore three research question were formulated which led to the findings stated above. These findings are hereby discussed according to the research questions.

The table 1 above presents the derived from the 1ˢᵗ 13 items of questionnaire which was designed purposely to ascertain needs of Technology Education Teachers in technical colleges for curriculum innovation. It was thus revealed from all the items which both group of respondent agreed. This shows that curriculum innovation required adequate Technology education teachers, teachers have to get acquainted with curriculum innovation, and there must be environment for self –development of technology education teachers and for effective innovation of curriculum technical colleges must be well organized, managed and well funded in all aspects for the effectiveness in carrying their of their duties and responsibilities, These views are agreed with one of the theories of vocational and technical education as postulated by Prosser cited in Okoro (1993), the teachers is himself a master of the skills and knowledge the teacher teaches

However, because the respondents agreed with items 8, and 13 with mean score of shows that the needs of technology   education teachers have not been put in place which will   enhance productive innovation of the curriculum which is in agreement with Campbell (1998), that adequate needs meet of a field or skills is a way of increasing the productive power of such field which will reflect on the nation as a whole.

On the planning skills required by technology education teachers in technical colleges for curriculum innovation it was revealed in table 2 that, the both group of respondents for this agreed that all skills proposed are required in innovating the curriculum in by technology education teachers   in Technical colleges. The grand mean obtained for curriculum planning skills is 3.57, for skills in formulating the overall philosophy of the innovated curriculum, that the skills for setting up the curriculum objectives, selecting appropriate instructional techniques, ability to use the standard and format of innovating curriculum, Knowledge of the subject, Understand Subject matter enrichment, Understanding of the time element, Understanding of

the students which the curriculum is intended for, Able to develop deductive and inductive reasoning there are considered a important skills required in curriculum planning is in agreement with the assertion of Ezeji and Campbell (1998) , that proper and adequate skills acquisition is means of increasing the productive power of a country or environment.

The analysis of the results further showed that the responses of technology education teachers and administrators in technical colleges indicates that skills acquired can assist technical teachers in carrying out projects works which involve doing or making and performing task that have to do with curriculum innovation.

An examination of the results obtained in table 3 reveals that the two groups of respondents accepted that all the improvements proposed are required in technical colleges by technology education teachers in curriculum innovation. That Train and re-train technical teachers will upgrade their knowledge, NBTE organize joint seminar/conferences, Periodical upgrade of technology education teacher certificates based on professional development, Establish a separate exam and certification body to take charge of technical teacher education , Adequate support training material resources should be provided, Technology education Teachers received adequate information during innovation of the curriculum, campaign or orientation programme towards enlightening in curriculum innovation , Financial cost of training of Technical teachers should be done by Schools and Government ,sponsor technical teachers to conference to seminar and conference even when they are not presenting papers, preferential admission status to holders of technical certificates in technical teachers programme and attaching technical educators to innovate the curriculum which is in agreement with assertion of Beko(1999), that   technical teacher   education   programme should   not   exchange developments of practical skill with book work for good productivity and conform with Okoro

(1990) who states that employability of school product and increase in craftsmen, technicians ,and skilled personnel will be done by technical education

CHAPTER V

SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter deals with summary of the study, educational implications of the study as revealed by the findings, conclusion and the recommendation based on the findings.

Summary of the Study

In spite of government efforts in providing educational policies which is expected to launch Nigeria into the much expected technological advancement , the inadequate planning skills acquired by the technology education teachers has pose problem on the other , these problems have become a paramount source of concern among employers of labour. Much of these concern borders on the inability of the technology education teachers from technical colleges not to acquiring needed skills for planning of curriculum or innovating curriculum. This study therefore was conducted to identify the needed planning skills in the area of innovating the curriculum in technical colleges.

A review of related literature reveals the importance of curriculum planning skills acquisition and that the presents skills acquired by the technology education teachers is not adequate and need to be improved to meet the educational requirement of technical colleges in Oyo state.

A survey approach was taken to develop the instruments for the study. The questionnaire was validated by the researcher supervisor and two other lecturer in the department of industrial and technology education at Federal University of Technology Minna, Niger state.

Respondents noted as the population for the study were technology education teachers in technical colleges in Oyo state, and administrators. The researchers with the help of principals and help of technical department in the technical colleges administered the questionnaire.

Tables were employed in the presentation of the data. The data relevant to each research question were analyzed.

Implication of the Study

The findings of the study have implications in the improvement needs of the performance of technology education teachers in technical colleges.

The findings of the study regarding the needs of Technology Education Teachers in technical colleges in curriculum innovation shows that adequate Technology education teachers, financial aid from the Government, Training Facilities for technology education teachers, self – development of technology education teachers was accepted as needed improvements. The educational implication of this is that if these needs are not improved, we shall end up producing students from technical colleges who cannot perform practical task in their various area of specialization . Another implication is that if this students do not acquire the appropriate skills, they will end up not self – reliant and enterprising because their inability to meet up with the presents market demand.

Another major finding of this study showed that the appropriate planning skills required by technology education teachers in technical colleges for curriculum innovation are not treated well in the curriculum of building the teachers. The implication of this will lead to shortage of skilled graduate in technical area of specialization in technical colleges. But on the other hands, if planning skills regarding curriculum are improved in our technical colleges we shall have

technical students who are competent in performing in both practical and theoretical task in their area of specialization. This will help them to meet market demands and also become self-reliant after graduating from technical colleges. Another important implication is that the strategies that could be use to improve the performance of technology education teachers in curriculum innovation in technical colleges are being put in place or are covered ,we shall have skilled ,knowledgeable technology education teachers who can carrying out innovation of the curriculum perfectly.

Conclusions

Based on the study, the following conclusion among others were drawn, that skills and technique required by technical students in technical colleges in being self reliant, meeting the demand of market and being enterprise needed improvement and also technology education teachers need to improve on themselves by driving towards self development.

The problems being faced by students in their practical and theoretical work at higher level of education is due to the fact that they were not exposed and taught with adequate curriculum which meets the present technological development .

Conclusively, the educators and findings bodies need to come together and effects changes in the technical colleges curriculum in other to give our youth the right to be employable and also meet the demand of present market.

Recommendations

Based on the findings of this study, the following recommendations were proffered.

1) Technology education teachers should undergo in-service training in other to be acquitted with present technology skills

2) Government and non government organization need to provide the right equipment, and competent teachers capable of injecting this new skills into the curriculum to meet the needs of the students

3) Effort should be made by the government to involve private organization and other stake others in the financing of technical colleges.

4) The government and concerned bodies should set up an implementation committee who will supervise in the implementation of the new reformed curriculum.

Suggestion for Further Research

The following of the suggestion were made for further research

1) Strategies for effective improvement of performance of technology education teachers in curriculum innovation in technical colleges.

2) Ways of meeting the needs of Technology Education Teachers in technical colleges for curriculum innovation

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APPENDIX I

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA

DEPARTMENT OF INDUSTRAIL AND TECHNOLOGY EDUCATION

WOODWORK TECHNOLOGY OPTION

QUEISTIONAIRE ON:

ASSESSMENT OF THE CHALLENGES OF TECHNOLOGY EDUCATION TEACHERS IN CURRICULUM INNOVATION IN TECHNICAL COLLEGES IN OYO STATE.

SECTION A

PERSONNAL DATA

Please kindly provide the information required bellow. All information and responses supplied to the items of this questionnaire will be used particularly for the purpose of this research work and will be treated as confidential. Your prompt and honest response will be duly appreciated.

i.   Name of School: _____

ii. Respondent: Teacher [   ] Administrator   [   ]

SECTION B

QUESTIONAIRES

Please indicate the option that appeal to you by ticking the appropriate box.

Key to response options

SA   =   Strongly Agreed

A   =   Agreed

D   =   Disagreed

SD   =   Strongly Disagreed

RESEARCH QUESTION I

What is needed by Technology Education Teachers in technical colleges for curriculum innovation?

S/N	ITEMS	SA	A	D	SD
1	Enough Technology education teachers to innovate the curriculum.				
2	The Technology education teachers to get financial aid from the Government.				
3	Seminars and Workshops for Technology education Teachers on curriculum innovation.				
4	Understanding the difference between the formal and the latter curriculum.				
5	The teachers are willing to get acquainted with curriculum innovation.				
6	There are enough Training Facilities for technology education teachers for curriculum innovation				
7	There is environment for self development of technology education teachers				
8	Understanding the of functionality of curriculum innovation				
9	Understanding the nature and function of curriculum innovation and what it offers to those seeking it.				
10	Prior knowledge or exposure on the current curriculum as pre-requisite for the innovated curriculum				
11	Increment in the wages and salaries of technology education teacher				
12	Knowledge about general way of life of the people the people the curriculum is intended				
13	Proper placement of technology education teachers in their area of specialization during curriculum innovation				

RESEARCH QUESTION 2

What are the planning skills required by technology education teachers in technical colleges for curriculum innovation?

S/N	ITEMS	SA	A	D	SD
1	Understanding how to formulate the overall philosophy of the innovated curriculum				
2	Knowledge on the method of setting up the curriculum objectives				
3	Knowledge of selecting appropriate instructional techniques				
4	Proficiency with tools available to them for innovating the curriculum				
5	Recognising and ability to use the standard and format of innovating curriculum				
6	Skills of preliminary planning				
7	Knowledge of the subject matter				
8	Understand Subject matter enrichment				
9	Understanding of the time element				
10	Understanding of the students which the curriculum is intended for.				
11	Able to develop deductive and inductive reasoning				

RESEARCH QUESTION 3

What are the strategies that could be use to improve the performance of technology education teachers in curriculum innovation in technical colleges?

S/N	ITEMS	SA	A	D	SD
1	Train and re-train technical teachers				
2	NBTE to organize joint seminar/conferences				
3	Selecting and using the appropriate method in choosing the technology education teachers responsible for innovation				
4	Technical colleges are well funded				
5	Good planning and administration of technical colleges				
6	Periodical upgrade of technology education teacher certificates based on professional development				
7	Sponsor technology education teachers to conference even when they are not presenting paper				
8	Establish a separate exam and certification body to take charge of technical teacher education				
9	Focused on vocational and technical education by Government				
10	Standardize evaluation of technical teacher Programmes				
11	Welfare of Technology education teachers are well taking care of.				
12	Adequate support training material resources must be provided				
13	Technology education Teachers received adequate information during innovation of the curriculum				
14	campaign or orientation programme towards enlightening in curriculum innovation				
15	Financial cost of training of Technical teachers must shouldered by Schools and Government				

APPENDIX III

Formula used for data analysis in analysing the data collected. The following formula were used

Mean($\overline{X}$)

$$\overline{X} = \sum \frac{FX}{n}$$

Where:

F = frequency of respondents

x = Nominal value of options

N = total number of respondents

$\sum$ = Summation

Standard deviation

$$S.D = \sqrt{\sum f(X - \overline{X})^2 / N}$$

Where:

N = Total respondents sum

F = frequency

X = scores squad

X = Nominal value of options

$\overline{X}$ = mean score

S.D = Standard deviation

Simple percentage was calculated as follows :

$$\% = \frac{NR}{TR} \times \frac{100}{1}$$

Where:

NR = Number of respondents

TR = Total number of respondents