An Analysis and Application of Charles Allen Prosser's Theories for Functional and Quality Technical and Vocational Education in Nigeria

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***Abstract*: The development of any nation exclusively depends on effective participation of her indigenous skilled technical manpower accessible for enhancing the quality of life of her citizenry. This state of affairs can be attained by improvement on the infrastructures and facilities in institution of learning with the aim of exposing students' for labour market. Thus this will enable students after graduation to participate and tackle the needs of the industries. This paper therefore was designed to look at an analysis and application of Charles Allen Prosser's theories for functional and quality technical and vocational education in Nigeria. In accordance with the concept of lifelong education, one of the major roles of Technical and Vocational Education (TVE) is to develop individuals with high technical skills as desired in the industries in this present technological age. This paper discussed exhaustively the conceptual clarification of technical and vocational education, brief history of Charles Allen Prosser's, Charles Prosser's philosophy defined, an analysis of Charles Allen Prosser's theories and implications in TVE, In addition, Charles Allen Prosser's for functional and quality TVE, relevant of Prosser's theories in TVE. Obviously, Prosser's life was dedicated to the promotion of technical and vocational education programmes and inculcation of similar principles into the curriculum. Thus it was recommended that the government should build functionary workshops, laboratories and libraries to enhance the teaching and learning in technical and tertiary institutions in Nigeria. Also, the government should train qualified teachers and experts to operate the complex machines and equipment. Consequently, every technical and vocational educator responsible for programmes of instruction, should uphold the Prosser's theories for functional and quality technical and vocational education. They should endeavour to make serious efforts to implement them in teaching and learning practical in the workshop(s). This could provide self-employment, job creation among the youths as well as promote sustainable technological development of the nation.**

***Keywords*: Charles Allen Prosser's Theories, Functional, Quality, Technical and Vocational Education**

I. INTRODUCTION

It is generally believed that one of the major parameters for measuring a country's economic growth, development and self-reliance is the extent of the country's development in vocational and technical education. Thus the neglect of vocational and technical education has social implications as it rub the nation of the contributions the graduates would make on national development. More importantly, the society needs competent auto-mechanics, carpenters, plumbers, electricians, secretaries, fashion designers, storekeepers, and accountants to mention but a few. The current preoccupation with university education in Nigeria reduces economic opportunities of those who are more oriented toward work than academic Okoro, (2016). Not everyone needs a university education. Who would employ them if everyone became a university graduate? Graduates of vocational and technical institutions are highly skilled entrepreneurs. Many of the so-called expatriate engineers who are being paid huge sum of money in foreign currencies for the construction of road and bridges in Nigeria are graduates of technical colleges. Hitherto, Nigeria is not taking this sector, technical, vocational education and training very seriously.

The foundation of TVE is based on philosophy which was mainly established for self-employment and self-reliance of the individual(s) who partake in it. Viewing the philosophy and sociology of TVE in the Nigerian school system, it is not a hidden fact that the impact of the philosophy is not felt in the society. By now, Nigeria ought to have been competing favourably with the developed nations of the world technologically. Today, it is unfortunate to mention that the country cannot boast of manufacturing tools and equipment by themselves. How could they have achieved this task when the philosophy of TVE is not judiciously followed and implemented? The sociological influence of the society on TVE has made the matter worse. TVE has remained a subordinate discipline in terms of societal recognition, adequate funding and parental/children choice Eze and Okorafor, (2012). Thus, making graduates of TVE programmes unproductive, less resourceful, job seekers and not job creators. Graduates have to undergo additional training before they are engaged in the production and maintenance processes of the industry. Hence, it required the government to refocus TVE programme with the sole aim to be used in training the students for sustainable youth's empowerment. This could be possible through the application of principles outlined by Prosser's learning theory as well as results of psychological studies on learning technical and vocational education.

Thus TVE could be the most reliable vehicle for economic growth. So, Nigeria, as a nation, could depend on TVE as a means for technological, industrial and economic in

achieving national development. For the philosophy of technical and vocational education to be in harmony with Nigeria's national objectives, it has to be geared towards self-realization; better human relationship, individual and national efficiency, effective citizenship national consciousness, national unity as well as towards social, cultural, economic political, scientific and technological progress. Thus the goals of TVE no doubt intended to make vocational and technical education more practical oriented in approach, functional, quality and job oriented. If the goals of VTE are properly fostered, the vocational field would bring about the desired technological development.

Thus, the objectives of TVE in Nigeria as enshrined in National Policy on Education, Federal Republic of Nigeria, (FRN, 2013) are as follows;

(i) To provide trained manpower in applied science, technology and business particularly at craft, advance craft and technical levels;
(ii) To provide the technical knowledge and vocational skills necessary for agricultural, industrial, commercial and economic development;
(iii) To give training and impart the necessary skills leading to individuals self-reliant economically.
(iv) To provide people who can apply scientific knowledge to the improvement and solution of environmental problems for the use and convenience of man
(v) To give introduction to professional studies in engineering and other technologies
(vi) To prepare individuals for careers with practical or manual operations, which is traditionally not academic related and specific to a particular trade, vocation or occupation.

Conceptual Clarification of Technical and Vocational Education

Technical and Vocational Education (TVE) are in most cases used interchangeably. However though similar, they are not the same. Vocational education is an aspect of technical education that lay emphasis on skills acquisition and functional education for the development of the society. That is, it leads to employment in a job, a trade or occupation. Vocational training is a system which aims at providing recipients with the necessary knowledge and skills to exercise a profession in order to be integrated in the labour market. Vocational training includes initial vocational training and continuing vocational training. While technical education is an aspect of education which leads to the acquisition of practical and applied skills as well as basic scientific knowledge. It gives both quality and quantity of the manpower required for transformation of a country in a technical world of work. In order words, Technical education is a structured system aimed at providing recipients with the necessary knowledge and skills to continue their studies at tertiary education level or to exercise a profession in order to be integrated into the labour market (Ezenwafor, 2015). Technical education, on the other hand places more emphasis on theoretical education.

Accordingly, Ene, (2014) defined TVE as that type of education that train and help to prepare the individual for employment in a specific occupation or trade. Whereas, Eze and Okorafor, (2012) defined vocational education as the education designed to prepare skilled personnel at lower levels of qualification for one or a group of occupations, trades or jobs. Accordingly, Nwanneka and Iwuanyawu, (2019), stated that vocational education as the training or retraining which is given in schools or classes under public supervision and control. Vocational education leads to the acquisition of practical and applied skills, as well as basic scientific knowledge that will enable the individual to be prepared for the world of work. .

TVE is therefore a single and inseparable concept used to describe the education for the acquisition of socially acceptable skills (Miller, Nwaekete and Akiti, 2016). UNESCO in Ekpenyong, (2011) well-defined TVE as a comprehensive term referring to the educational process when it involves, in addition to general education, the study of technologies and related science and the acquisition of practical skill and knowledge relating to occupations in various sectors of economic and social life. TVE according to Malgwi in Abdullahi, (2012) is a systematic study of techniques for making and doing things. TVE is described as the training of individuals for the implementation of technological development of a nation by providing the citizens with the right skills necessary for employment (Bwala. 2012).

TVE could also be described as an educational training which comprehends knowledge, skills, competencies, structural activities, abilities, capabilities and all other structural experiences acquired through formal, on-the-job or off-the job which is capable of enhancing recipients opportunity for securing jobs in various sector of the economy or even enabling the person to be self-dependent by being a job creator. Federal Republic of Nigeria- FRN, (2014) stated that technical vocational education is an aspect 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 relative to occupations in various sectors of economic and social life.

TVE systems play a crucial role in the social and economic development of a nation. Owing to their dynamic nature, they are continuously subject to the forces driving change in the schools, industry and society. Mechanized farming requires technical skills that could be obtained in technical and vocational schools. The real tests of success of TVE are the employability of the graduates, personal development, opportunities for further education and career development, public acceptance and image. Ultimately, the effectiveness and responsiveness of a TVE system would be measured by its impact on the social and economic

development of the nation. It promotes the national economy through foreign exchange by exporting our products. The knowledge of TVE helps in the conversion of local raw materials, this reduces the importation of foreign goods which lessen our import dependency and encourage exportation of our local products. It is believed that the promotion of technical and vocational education would enable an individual to be better, more useful and productive citizen of the society for a sustainable development in Nigeria (Musa, Muhammad and Musa, 2019).

Therefore, the contributions of TVE in any country in the world today is enormous, hence it plays a very significant role on the national welfare. Kama in Okwelle, Beako and Ojotule, (2019) declared that students acquired knowledge and/or learn new skills for current or future job, to increase earnings, to improve career opportunities. In the current globalizing world, economic markets are shifting from a local to a global arena. Competition in economic markets has become more and more intense. The economic development drives the demand for expertise and high quality workforce in various fields of the whole society, leading to a new round of development of technical and vocational education. In the global market place, skilled workforce is the key to competitive prosperity.

Brief History of Charles Allen Prosser

Charles Allen Prosser is known as the father of vocational education in the United States. He was born in New Albany in 1871 where he received his elementary and high school education. Prosser obtained B.A. and M.A. degrees from DePauw University in 1897 and 1906, respectively. Along with his L.L.B. degrees from the University of Louisville and his PhD. from Columbia University. Prosser's also received many honorary degrees from several Universities. Charles Allen Prosser was a teacher, educator, and an influential figure to the American educational system of the early twentieth century. Charles Allen Prosser taught history and physics at the old New Albany High School located at Bank and Spring Streets. He served as Superintendent of the local schools from 1900 to 1908. During this time he streamlined the old instruction system, upgraded teacher qualifications, built the then new high school located at E. 6th and Spring Streets, helped the city obtain the present library, and instituted the community's First Night School Programme.

While, Prosser's was a superintendent, he met so many boys who were into working with their hands creating things and learning a trade. He began to feel that schools should help the trades train workers. Prosser was granted a leave to work on his PhD. and did not return to the superintendence at New Albany. Prosser's succeeding employment includes the superintendent of the Children's Aid Society in New York City where evening industrial classes were given; Deputy Commissioner of Industrial Education for Massachusetts; Secretary of the National Society for the Promotion of Industrial Education, New York City. Also, while Prosser was Secretary of the National Society, he traveled widely forming and enthusing individuals and groups, suggesting programmes and standards and helping to share pass legislation to awaken the Nation to the possibilities to the state and federal aid to Vocational Education. For 31 years he headed the pioneering Dunwoody Industrial Institute at Minneapolis, where many of today's vocational training concepts were shaped. He was instrumental in the writing and passage of the Smith-Hughes Act that created Federal aid to Vocational Education.

Furthermore, as a writer, Prosser authorized and edited many textbooks on Vocational Education and many of them are still used in the Universities today. He often collaborated with distinguished writers for bulletins and magazine articles. He sparked and encouraged hundreds of men and women in education and industry to pursue courses in Vocational Education. Many of the past and present leaders in Vocational and Industrial Education throughout the United States derived their inspiration for this vital work from their association with Prosser and his dynamic approach and practical philosophy.

In 1911 Prosser's began campaigning for federal funds to provide social and economic opportunities for practically motivated children from fourteen years of age to enroll in vocational programmes. From his view, the duties, tasks, and problems of shop, home, and framework had to be learned in practical ways, preferable by the activity and project method. Pointing to the German model, he propagated a system of dual control, that is, the vocational schools and courses were to be administered not by the general boards of education which already existed, but by separate boards of vocational education, which had to be newly established. In 1911 the report to the National Society for the Promotion of Industrial Education, Prosser declared:

> '*We need vocational schools, paralleling but not rivaling the high school, for those boys and girls over 14 years of age who can give from one to four years to vocational education that will fit them directly, first, for service, and later, for leadership in skilled callings'.*

In the same vein, Prosser's (1914) wrote the influential Report of the National Commission on Aid to Vocational Education and many of the ideas and proposals he expressed there were included into the Smith-Lever Act of 1914 and the Smith-Hughes Act of 1917, Federal laws that he shepherded through Congress. At Dunwoody, the school for workers he directed the students carried out their exercises and projects under conditions as much like those of real work in industry as possible. Since he was convinced that specific industrial methods changed rapidly in the face of changing science and technology, he institutionalized in his school short-term courses for retraining and updating skills and knowledge. In 1917, Prosser's became the first executive director of the Federal Board for Vocational Education, a position he held till 1919. After moving to Minneapolis in 1915. Prosser's worked with Jane Addams in the establishment of a committee for women and girls to receive education in the industrial field.

In the Prosser Resolution of 1945 he once again accused the secondary schools of failing to prepare the great majority of children to take their place in adult society. He claimed that 20 percent of the high school population was receiving an appropriate college-entrance education and another 20 percent was being well served by vocational programmes. But the remaining 60 percent desperately needed life adjustment to engage in vocational education that require practical training that include personality, etiquette, health, home, and family living. In essence, the resolution revived Prosser's old idea that the principal function of schooling should be the adjustment of individuals to the social and occupational circumstances in which they live. In the long run, most of Prosser's initiatives did not prevail; nevertheless, more than any other single person, he was responsible for the fact that vocational education in the United States became the most successful curricular innovation of the twentieth century.

The Education Policies Commission issued a significant report in 1944 Education for All American Youth. According titled, to the Commission, schools were to provide an education for all youth, regardless of their background. The ideas of this Commission easily coincided with those of Prosser's. Education was to be broad based in order to:

- Equip him to enter an occupation suited to his abilities and offering reasonable opportunity for personal growth and social usefulness;
- Prepare him to assume the full responsibilities of American citizenship;
- Give him a fair chance to exercise his right to the pursuit of happiness;
- Stimulate intellectual curiosity, engender satisfaction in intellectual achievement, and cultivate an ability to think rationally; and
- Help him to develop an appreciation of the ethical values which should undergird all life in a democratic society.

Charles Prosser's Philosophy Defined

Charles Prosser believed that society required an intelligent citizenship to meets its many demands. Every person within a society was of value, therefore, service to society was expected of each individual. A changing world demanded a society responsive to scientific methodologies in order to meet new demands. Society was measured by the efficient performance of its citizens as well as efficient service rendered by its agencies.

The main tenet of Prosser's educational philosophy was that all citizens of a democracy were due an education from which they could derive benefit. The prime purpose of an education was to profit society rather than the individual. This could only be achieved by preparing individuals for life's responsibilities. According to Prosser's, the only justification for public education is the need of preparation by its citizens to serve the democracy and not for their individual success or personal enjoyment. Such an education would result in a trained citizenry as well as trained leaders. Everyone was worthy of an education, of which the purpose was training in the performance of socially valuable tasks. Thus, a wide variety of educational programmes should be mandatory due to the divergent abilities, interests, and needs of the population.

Prosser's regarded education and society as inextricably related. Since the demands of life could be subject to change, flexibility must be inherent within education. Thus, education was never to be dominated by traditional, practices. Only in adherence to these principles would all citizens find vocations that were not merely of individual benefit but of value to society. Prosser's remained firmly committed to this educational creed throughout his life and perceived vocational education as a means of satisfying these educational goals. Vocational training prepared the individual for the demands and needs of society and, thus, afforded social efficiency through conservation of natural and human resources. Furthermore, Prosser explained: It conserves material resources by promoting, disseminating and transmitting skill, knowledge and the results of invention, and by conserving human effort. It conserves human resources, not only by conserving human effort, but by promoting morale and intelligence.

TVE, whether offered alone as in special schools or programmes, or integrated into the general education curriculum as in life adjustment training should provide the avenue to meet the democratic ideals of widespread intelligence among the populace and social service. Similarly, Prosser's viewed general training which emphasized fundamental skills in the preparation for life, as a precursor to specific training. The utilization of appropriate instructional methods and employment of appropriate personal, where important considerations to Prosser. His belief that vocational and traditional, general education programmes be kept separate, resulted in his devotion to a dual administrative policy. To ensure that principles of utility prevailed, Prosser's insisted that practical instruction replace lecture and rote learning. Whenever possible, instructors were to be chosen on the basis of their successful employment experiences outside the classroom, rather than their pedagogical skills**.**

An Analysis of Charles Allen Prosser's Theories and Implications in Technical and Vocational Education

Charles Allen Prosser's, (1914) stated theories for functional and quality TVE for skills acquisition and sustainability of economy growth and technological of any nation. Many attempts have been made throughout subsequent years to re-phrase or update these statements, without success. There are certain minimum standards without which one may not reasonably expect to operate a programme of TVE and be effective generally in programmes of either preparatory or extension education. These sixteen theories are being quoted with a short clarification complementing each theory. The following theories as a basis for sound and successful TVE programmes.

Theory -1

'Vocational education will be efficient in proportion as the environment in which the learner is trained is a replica of the environment in which he must subsequently work'

Prosser's first theory explains that the type, kinds, amount, use and arrangement of space, materials, equipment and supplies for a preparatory programme be a replica of those in employment. It has a bearing upon the length of time devoted to skill development necessary to approach industrial practice. It has implications for quality and quantity of production expected. Thus, it has direct implications for teacher and learner relations. It also relates directly to the efficiency with which a student transfers from school to gainful employment

Theory-2

'Effective vocational training can only be given where the training jobs are carried on in the same way with the same operations, the same tools and the same machines as in the occupation itself'

The implications of this statement is that teachers must have recent employment experience in order to be skillful in the use of the latest equipment and must make adequate use of the same types of tools and equipment as would be currently found in employment. Likewise, the teacher must use live work or work identical to that provided in employment for instructional experience rather than pseudo or so-called project work. Emphasized here is that the skills taught should follow the same basic practices as industrial employers would anticipate and learners should be able to move from the training situation to employment situation with little need for adjustment,

Theory-3

'Vocational education will be effective in proportion as it trains the individual directly and specifically in the thinking habits and the manipulative habits required in the occupation itself'

Two significant education factors are implied in this statement. Firstly, thinking habits which implies that the scientific or problem solving method is being developed in students. Secondly, that manipulative skills be performed with sufficient repetition that habit formation takes place. This, in turn, has effect for the length of class periods and for the total length of courses. There is also an implication here for a major feature of the occupation, namely the technically related content where knowledge and facts are as essential for thinking, as tools are for productive work.

Theory- 4

'Vocational education will be effective in proportion as it enables each individual to capitalize his interest, aptitudes and intrinsic intelligence to the highest possible degree'

This theory has direct implications to class size, to individualized instruction, to instructional methods, to effective guidance and selection of learners, and to the promotional plan for the programme. Also, each specific vocation may have its own unique requirements for admission. For example, the depth and ability in mathematics could vary considerable between various occupations, as would the physical and other characteristics of individuals.

Theory-5

'Effective vocational education for any profession, calling, trade, occupation or job can only be given to the selected group of individuals who need it, want it, and are able to profit by it'

TVE is not for everyone and this statement implies that those admitted should be carefully selected through effective guidance procedures and should be potentially successful as future productive workers. Students should be selected on the basis of their own interests and aptitudes, and on the basis of their being potentially a successful employee following preparation.

Theory-6

'Vocational training will be effective in proportion as the specific training experiences for forming right habits of doing and thinking are repeated to the point the habits developed are those of the finished skills necessary for gainful employment'

This statement one of the most crucial requirement for successful vocational preparation. Limited people could be prepared to perform skillfully some work without having spent sufficient time in performing the variety of skills required so that habit formation may take place to the end that they can practice these skills at a future date. The direct implication here is for adequate lengths of time during the day, and for an adequate period of time in months to cover the skill and technical development essential for effective employment as a productive worker.

Theory-7

'Vocational education will be effective in proportional as the instructor has had successful experience in the application of skills and knowledge to the operations and processes he undertakes to teach'

The implication in this theory is that the technical teacher cannot teach that which they do not know; and, since the subject matter of the vocational teacher is composed of the skills and knowledge of the occupation, it would follow that teachers who are recognized as highly competent workers themselves through actual successful employment experience would be most desirable for a TVE programme. The decency of any such experience is also of ultimate importance if learners are to be prepared for current expectation for employers; and this, the decency of work experience of the potential vocational teacher is implied in this proposition

Theory-8

'For every occupation there is a minimum of productive ability which an individual must possess in order to secure or retain employment in that occupation. If vocational education is not carried to that point with that individual, it is neither personally or socially effective'

This theory has a direct bearing upon the proficiency expected of learners who wish to find their place in the world of work. TVE must prepare the individual to meet the employment requirements of employers. Once more, to meet these employment necessities requires considerable preparation, which relates to the length of the period, day or year essential for the particular offering.

Theory-9

'Vocational education must recognize conditions as they are and must train individuals to meet the demands of the market. Although it may be true that more efficient ways of conducting the occupation may be known and that better working conditions are highly desirable'

TVE programmmes can never exist as course in a school system but must be considered a community-wide project. Therefore, this statement implies the dire need for the use of craft committees; for instructors with recent employment experience; and for a programme that is geared to existing opportunities in the community, the area or the state. Instruction beyond immediate needs is encouraged, but not at the cost of basic current needs of employers.

Theory-10

'The effective establishment of process habits in any learner will be secured in proportion as the training is given on actual jobs and not on exercises or pseudo jobs'

This theory emphasizes again the need for live work on which learners may practice developing the skills essential to an occupation. Learners cannot obtain the feel for the kind of work that will be done in employment when working on pseudo jobs or so-called projects. The work performed must be as identical and as up to date as possible with current practice in employment situations.

Theory-11

'The only reliable source of content for specific training in an occupation is in the experience of masters of that occupation'.

This theory reaffirms the need for occupational analysis as the basic method of curriculum development. It also emphasizes the importance of effective involvement of representative occupational advisory committees in assisting in curriculum planning. The occupationally competent instructor must utilize both these resources in the construction of his detailed course content.

Theory-12

'For every occupation there is a body of content which is peculiar to that occupation and to which has practically and functional value in any other occupation'

This theory has direct implication to the close coordinated instructional programme between the related technical construction and the skill development phase of the programme. The application of mathematics and scientific principles to problems of the vocation should be the emphasis rather than teaching segregated subject matter courses that may or may not have direct relationship to the needs of the student. So-called broad or general areas of instruction in the subject matter unrelated to the problems at hand will have little benefit to the development of a competent worker.

Theory-13

'Vocational education will render efficient social service in proportion as it meets the specific training needs of any group at the time that they need it and in such a way they can most effectively profit by the instruction'

This theory emphasizes the desire on the part of an individual to learn, in that vocational education should provide what the learner wants at the time he wants it, and in relation to his own recognized needs. This statement has particular emphasis to the extension programmes for employed workers since they will not use their own time to attend courses unless they are reaping direct benefits of immediate use from such attendance

Theory -14

'Vocational education will be socially efficient in proportion as in its methods of instruction and its personal relations with learners it takes into consideration the particular characteristics of any particular group which it serves'

This theory implies that there is no single set of general characteristics such as school grades, or other such characteristics that should be used as a basis for projecting vocational success; but, rather by knowing the individual student's interests, aptitudes and abilities, he can usually be guided into successful vocational experiences or guided away from enrolling into occupations for which they are unsuited.

Theory-15

'The administration of vocational education will be efficient in proportion as it is elastic and fluid rather than rigid and standardized'

The implication of this theory is for flexibility within the framework of sound standards that support good vocational education rather than maintaining a rigid and inflexible plan. Vocational educators should be always alert to possible upgrading and be willing to work toward continually adjusting the programmes in light of changing employment requirements.

Theory-16

'While every reasonable effort should be made to reduce per capita cost, there is a minimum below which effective vocational education cannot be given, and if the course does not permit this minimum per capita cost, vocational education should not be attempted'

Preparation for employment is generally more costly than general education, whether it be at the skilled, paraprofessional (technical), or professional level. This additional cost is usually dependent upon the space, equipment, materials, and the necessity for smaller class size than would be true of normal academic programmes of instruction. However, this statement directly implies that it is better not to attempt a vocational programme than to operate it below the economic level that would not lead to success. Vocational education is not cheap education, but it is economically sound to provide it. A sound curriculum, therefore, must experience as its center if it have is to be effective in the education of youth and adults.

All experiences in education, all the results of scientific studies have indicated that to be effective, education must be experience-centered. A sound curriculum, therefore, must experience as its center if it have is to be effective in the education of youth and adults.

Basic Application of Prosser's Theories for Functional and Quality Technical and Vocational Education.

From prosser's theories, the following could be inferred:

1. Prosser's theories can be apply in curriculum revision. Prosser's visualized a more broadly based, multifaceted curriculum; one not limited to the classics; a curriculum with practical applications for living. The preparation for initial job entry is a basic responsibility of the public education programme. The curriculum should be goal-centered. For most youth, this goal could be most meaningful when related to preparation for employment. The curriculum should be made relevant to the social and economic conditions of our day and to the maturity of our youth. A core curriculum concept, based upon the occupational goal of a student, should provide a meaningful preparation for employment in our technological society. The curriculum concerns itself not only with the need for mastery of skills, but with total educational, economic, social and physical needs of each student. Also the curriculum for vocational education, therefore, must be concerned with and provide instructional experiences in the psychomotor, cognitive, affective, and perceptive domains. Prosser's anticipated the curriculum of typical training institutions such as State universities, State agricultural and mechanical colleges, and engineering colleges. He deemed the trade and professional content of the curricula as functionally weak. Courses such as algebra, geometry and trigonometry were inappropriately taught in terms of application. Generally speaking these courses were even unnecessary as most students came from secondary educational programmes that provided the mathematical skills needed for vocational instruction.
2. Prosser's theories could be prerequisites ability in reading, writing, and arithmetic and experiences leading to a sound occupational choice. There are no semi-skilled, skilled, or technical occupations which do not require basic literacy in reading, writing, and arithmetic. If such skills are not present when a student enrolls in a TVE programme, they must be taught concurrently with the skills of an occupation. Most individuals can succeed in several different occupations. Each person, therefore, must be provided experiences prior to enrollment in vocational education which could motivate him to want to work and to respect all work; orient him to various semi-skilled, skilled, technical, profession and occupations available in the work force; and give him the opportunity to explore selected occupations to determine his interests and capabilities.
3. Prosser's theories can be apply in practical oriented instructional methods. The most effective training occurred on the job. If this type of setting could not be secured, then school training was to replicate the preferred setting to the greatest degree possible. This meant that students were to dress in the same fashion, use the same tools, have experience on the same machinery, and produce real products as did actual workers in the field instruction. The transmission of knowledge therefore, could be enhanced in direct proportion to the extent that it replicated the work environment in terms of conditions, tools, and thought habits. Strict care was to be taken that school equipment be kept up-to-date. Prosser wrote, "Obsolescent equipment is almost as bad as an obsolescent instructor, courses of instruction and methods of training. Effective training was also related to direct and specific instruction in the same thinking and manipulative habits as workmen. Occupational training was to teach only those relevant and explicit habits unique to each field. Associated to acquisition of correct thought habits, was repetition of instruction. Employment was based on the mastery of habits and only through repeated practice could the worker achieve any degree of skill. Just as repetitive training made for a skilled surgeon, so too would it make for an experienced carpenter.

   Effective instructional delivery was contingent on the instructor's ability to appropriately impart the information to the students. Prosser saw this occurring in four steps. First the student was prepared for the lesson by given notice of the product that would result. Next, the teacher would present

directions as to the needed tools, materials, and methods of operations. The student's application of this instruction was the third step. The final step was termed 'testing' with the instructor appraising the student's work. Important aspects of this instruction were: class discussion takes the place of formal lecture; students learn self-reliance in instruction; trade literature replaces the sole use of textbooks; and, experience becomes the center of all learning.

4. Prosser's theories can be apply in teachers' vocational training. Prosser's stated that efficient instruction in TVE at the secondary level, resulted from the individual's mastery of occupational content and pedagogical skill. He recognized three distinct teacher training plans, each designed to meet the needs of those individuals enrolled. The first plan was designed to provide the totally inexperienced student, with both occupational as well as teaching techniques. Another plan was to offer occupational training to the otherwise trained teacher from another subject area. The third plan addressed the needs of the already skilled worker by offering the required teaching skills. Prosser stated that vocational training was a necessary and high-ranking part of the curriculum because it advanced desirable habits which enhanced the student's adaptation to future social and economic contingencies. This occurred because of the wide spread of the all-round experiences used in training, there is a corresponding wide spread of concomitant learnings in habits which carry over or transfer directly to the occupation. Because of the repetitive, controlled experiences used in the training there is more time to control the teaching, practice, improved use, and retention of these products of good teaching.

   Prosser's maintained that training institutions were incapable of providing occupational skills to the extent of those possessed by the experienced worker. Shop work training was artificial and at best, an inefficient method of providing occupational training. Not enough time could ever be spent at shop work to be commensurate with the skill possessed by the apprentice with an additional four years of actual work experience. This occurred because of the wide spread of the all-round experiences used in training, there is a corresponding wide spread of concomitant learnings in habits which carry over or transfer directly to the occupation. Because of the repetitive, controlled experiences used in the training there is more time to control the teaching, practice, improved use, and retention of these products of good teaching.

5. Prosser's theories can be apply in specific course of study depended upon the individual's area of specialization. However, it was characterized by the following objectives: (i) The ability to visualize content on demand, the ability, as required, to analyze the occupation or any of its operations and determine the things in skill or related knowledge that need to be taught the learner. (ii) The ability to carry on instructing processes, as used in vocational education. (iii) The ability to isolate teaching units that is, the ability to break up the trade or occupations into distinct phases or units of operations and processes and related knowledge that need to be taught. (iv) The ability to set up progressive courses of instruction that is, the ability to organize courses of training in the way the learner can progress most successfully. The ability to deal with learners effectively under school conditions. (vi). The ability to distinguish between education and other forms of. (vii) An understanding of the economic and sociological functions of vocational education. (viii) A knowledge of legislation affecting the work of teachers, especially their work in States and Federal aided schools.

6. Prosser's theories involves time commitment of sufficient length and intensity to provide instruction in the several domains important to a student's successful entrance into and within a chosen occupation. A sound TVE must be concerned with the employability of the student upon completion of the programme and with the student's ability to adjust to technical changes within his occupation and the social setting of the occupation. The unique role of vocational education is preparation for employment, the physical facilities and equipment, qualifications of the instructional staff, organization of the curriculum and recruitment, enrollment, and placement of students must all reflect the unique role of vocation and education as well as a commitment to the common learnings demanded of every educational programme. Therefore, adequate time must be provided for the learner to gain the skills, technical knowledge, social attitudes and competencies essential for entrance into and progress in employment.

7. Prosser's theories can be apply in instruction within TVE must be compatible with findings of research in psychology and education. We learn best when we are ready to learn: When we have a strong purpose, a well-fixed reason for learning something, it is easier to receive the instruction and to make progress in learning. The more often we use what we have learned, the better we can perform or understand it. If the things we have learned are useful and beneficial. Learning something new is made easier if the learning could be built upon something we already know. It is best to start with simple steps which are related to things we can do now or which we already understand and progress to new and more difficult tasks or ideas. Learning takes place by doing. Before the learning could become complete,

we must put into practice what we are endeavouring to learn.

8. Prosser's theories can be apply on the nature of workplaces in our technological society needs formal preparation for entrance into the work force. TVE, therefore, must be a significant part of the educational system in our society. The educational process is constantly affected by the society in which it exists and by the social and economic factors prevailing in that society. Early efforts in education within our nation emphasized the importance of literacy and citizenship training, since a republic depends upon a literate, informed and concerned citizenry. TVE is essential for the productivity of people, not only in competence, but in attitude towards one's occupation and willingness to produce.

9. Prosser's theories can apply to improve the quantity of TVE must be in line with employment patterns and trends locally, state, and nationally, in that order. They must be successful workers within their industrial and social environment. As a future worker in industry and a citizen, the pupil should understand his social and civic rights and responsibilities and should know and have an intelligent interest in the way the city, state, and nation carry on the business of government.

10. Prosser's theories can be apply in our modern science and technology. This had dispelled obsolete notions concerning the selection of subjects based on their ability to train the mind. Thus, subjects were now selected contingent on their: value of usefulness in life; transfer value from school to life situations; and value as instruments to promote principles of sound instruction. Only those subjects that had immediate practical application should be offered. Mastery of any task necessitated the inculcation of correct habits of thought and performance. Prosser's explained:

> '*All that youth carry from school to life are the potential mental reactions which they have developed there. Even facts and ideas are retained and utilized only when they have been tied into neural patterns by some use of them in thinking or doing, or both. Desirable habits in its youth are not only what the country greatly needs, but they are also the only assets the schools can develop which will carry over into improved living. Expression, participation, practice in doing things and thinking about things are the only ways by which they are ever developed—not by the absorption of mere factual learning, untried theories, or preachment! Like all other learning, habits are special and not general. Established in one field of learning they are usable only in that field and in related situations in other fields having identical element'.*

Relevant of Prosser's Theories in Technical and Vocational Education

The relevant of prosser's theories in technical and vocational education are outlined below.

a. *Prosser's theories could enhance TVE programmes.* All students would be prepared to meet the social and economic demands awaiting them as adults. Prosser's saw TVE as a return to the intent of America's founding fathers, which he stated as:

- There should be real equality of opportunity in education;
- The system of education should be adapted to nation needs
- Education should be for social and political service and not idle culture
- Education should be natural and not artificial
- Education should be of such a character as to make the youth efficient in lines of business
- A changing system of education is required to meet changing conditions and needs
- The programme of a new democracy could only be carried out in practice through the aid of education for everybody.

b. Promotes individual needs

In promoting TVE, Prosser's emphasized that it would benefit the individual economically, socially, and educationally. Most persuasively, Prosser's emphasized the need for vocational education in order so that the nations could maintain its global economic superiority as well as resolve over-riding social problems.

c. Provides economic need of the nations

The production of wealth of any country, according to Prosser's, was related to conservation and full utilization of its natural resources and human labour. Both of these were dependent on technical and vocational education. Vocational training would maintain the economic security of the country and the individual. Thus it was needed:

- To conserve and develop our natural resources
- To prevent waste of human labour
- To provide a supplement to apprenticeship
- To increase wage earning power
- To meet the increasing demand for trained workmen
- To offset the increased cost of living
- As a wise business investment and
- Because our national prosperity is at stake

d. Provides technological growth and advancement

Efficient utilization of natural resources was an important aspect of Prosser's economic theory of TVE. He stated that every country had only finite sources of raw materials, whether from natural assets or import. A nation's economic stability and advancement rested upon maximizing this capital through the development and application of scientific and technical knowledge. Dynamic technical and vocational education training responsive to technological advancements would ensure the continued growth of the nation's financial status. Related to management of natural resources was full employment of the work force. Such a programme would decrease the number of those involuntarily unemployed, poorly trained, or untrained,

e. Promoting apprenticeship skills

Prosser's lamented the decline of the apprenticeship plan and viewed vocational education as a means of enhancing the programme. He attributed this downfall as resulting from an apprentice's stagnating skills. A system of continuing education would secure for the worker access to the most current advances in his field. Without this approach, the employee would be unprofitable to himself as well as to society.

e. Increase an individual's wage-earning potential.

According to Prosser, with achievement of economic independence as one's goal, vocational training would increase wage-earning capacity through increased production of goods, supplies and services. A trained work-force would result in increased production that would diminish the effects of price escalation. Another important facet of Prosser's push for TVE was concern over national prosperity. The battles of the future between nations will be fought in the markets of the world. That nation will triumph, with all that its success means to the happiness and welfare of its citizenship, which is able to put the greatest amount of skill and brains into what it produces.

g. Social and educational need

Prosser's deemed TVE as a way to democratize education and thus off set various societal ills. He believed that liberal education over-emphasized the Cardinal Principle of worthy use of leisure time and promoting an aristocratic concept of education. The idea of a liberal education originated from the days when only the rulers of oligarchies enjoyed leisurely pursuits and work was done by society's underclass. Prosser's stated that a true democracy has equality as its main objective. Education that ignored the worker was far from egalitarian.

Prosser's theories in TVE would provide equal educational opportunities for all by providing an education for those who were not benefitting from the liberal education course of studies. It would decrease the drop-out rate in the high schools by providing a curriculum that was not only of interest but of economic value. It would also enable the student to develop to his fullest potential and thus provide society with the highest return on monies expended for education. Through part-time and evening instruction, opportunities for learning would be available to those who were forced to leave school to earn an income.

In terms of **society as a whole**, TVE, according to Prosser's, would limit industrial and social unrest. These civil disturbances were due in part to a lack of job mobility. As a result of the subdivision of labor in large scale operations, the untrained worker was confined to performing the same monotonous task, day in and day out.

Prosser's theories in TVE would also provide this same worker with opportunities for advancement through additional training. The results of not offering such training were rising unemployment and an increase in criminal activity. Vocational education would ensure training in citizenship as well as job preparation, thereby reducing the possibility of an untrained populace becoming dependent or harmful citizens. Similarly, Prosser's believed TVE would be of great benefit to the society through conserving the expenditure of human resources. An effective programme would; within a shorter period of time, make learning and job performance more effortless; maximize the effectiveness of man working with machine; allow man to adapt to a new job due to advances in technology; permit the efficient dissemination of new procedures.

In terms **of individuals**, Prosser's emphasized that TVE would increase their standard of living due to boosted earning power and the acquisition of an improved value system. The end result of people helping themselves would be 'social uplift benefits to the individual would also be realized by the transfer of learning of effective thinking habits. Transference was contingent upon the student's innate interests and efficiency of training procedures. He added that effective thinking was based on internalization of the knowledge to be learned. Inherent in vocational training programmes were visualization of facts (through hands-on instruction), and repetitive training thereby offering a high degree of efficiency of learning. The superiority of TVE programmes, in terms of developing and carrying over thinking habits, could aid in managing societal problems. Vocational training promote a sense of self-confidence and pride which influenced work productivity as well as individual stability. Singular stability would lead to societal equilibrium with vocational education as its impetus.

h. Essentials in teaching**.** An integral part of life preparation education was the teaching force. New subject areas required new teaching prerequisites. Also needed were new ideas concerning the definition of teaching. Prosser's supported three basic ideas concerning teacher qualifications. The first was that the teaching force become more experientially and less academically oriented. Thus, teachers would gain by actually experiencing those things

in life that their students would need to learn. Another prerequisite for the teacher was knowledge of the principles underlying habit psychology for, according to Prosser's, these varied greatly from the ideas that governed traditional, disciplinary studies. The third requirement of teachers was that they possess the ability to create a task analysis of the subject area as it related to life's demands. This would result in the teacher's decreased dependence on textbooks. Students would benefit by being provided with only that information necessary to ensure adjustment to their environment

Possible ways for Implementation of Prosser's Theories

Thus for youths to live democratically with satisfaction to themselves and profit to the society as home members, workers and citizens. Seven established guiding precepts for TVE programmes, which Prosser's agreed wholeheartedly on the following:

1) Recognition should be given to differences between individuals' abilities and personality.
2) Vocational schools would be functional to produce quality and competent students.
3) Courses should be chosen on the basis of their application to solving life problems.
4) Practical experiences would be of predominant importance in teaching and learning activities.
5) Active involvement and cooperation between educators, students, and community and business members.
6) Teachers should be instructed as how to utilize records and test data as a means of measuring their own performance as well as benefitting students.
7) Student's progress would be evaluated in relation to advancement in attitudes, abilities and habits own performance as well as benefitting students.

II. CONCLUSION

Prosser's viewed the purpose of TVE primarily that the individual should to be trained for useful and marketable employment through learning environment, instructional methodology, and teacher qualifications, which duplicated existing industrial conditions as much as possible. The resolutions of TVE in Nigeria will remain unachievable if the challenges posed by the contemporary needs are not met. The nation must therefore look ahead and project evolving strategies for a better implementation of the curriculum that could actualize sustainable development for National economy. Therefore, if every vocational educator responsible for programmes of instruction would only maintain these Prosser's theories in front of them and make a serious effort to meet these goals, the result would, in almost every instance, be sound, quality TVE. Prosser's ideas concerning TVE could serve multiple purposes. His version of social efficiency was realized through establishing the function of schools as serving society. Thus it is the researcher believe that TVE programme could take its rightful place in world today if Prosser's theories could be adopted and indoctrinated, the standard and quality of the TVE programme would definitely improve the system. Any attempt to disregard any one of these basic and fundamental concepts, could only result in undermining and neglecting TVE for effective and improvement of economy of the country.

III. RECOMMENDATIONS

The researcher made the following recommendations for operational application of Charles Allen Prosser's theories in TVE in Nigeria.

1. Curriculum planners should inculcates Prosser's theories in technical and vocational institutions for effective and efficient teaching and learning activities. The curriculum should be revised and made relevant to the social and economic conditions of our day and to the maturity of our youth.
2. Technical teachers should be trained in line with prosser's theories for practical instructional delivery in technical institutions and students mastery of occupational contents and pedagogical skills.
3. Government should provide the necessarily learning facilities and infrastructures so that the learning environment should be a replica of the environment in which students must subsequently work.
4. Students should regularly go for industrial attachment programme to acquire knowledge and skills in the latest tools and equipment.
5. Government should show the willingness in financing technical and vocational education in Nigeria for technological growth and development.

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