

Review Article

Imperative of conceptual teaching in Technical and Vocational Education and Training for self-reliance

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ABSTRACT

This paper examines the meaning of entrepreneurship in relation to educational transformation, especially in Technical and Vocational Education and Training (TVET), the importance of conceptual teaching and learning in the achievement of the objectives of entrepreneurship in TVET. The submission is that conceptual teaching is central to meaningful learning and unless the philosophy and principles of a TVET is deeply understood by the teacher and student alike, there can be no adaptation and innovation, which can enhance transformation. Some recommendations were proffered for TVET transformation.

Keywords: Conceptual teaching, Entrepreneurial skill, Technical, Vocational education training

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INTRODUCTION

Education is a potential device for national development. Education is generally viewed as an important instrument for empowerment of individuals for self-sustenance and development of society where they dwell. Nwadiani^[1] stated that education is acclaimed to be the solution to the myriad of problems facing humankind. Education provides an opportunity to learn and unlearn himself of certain ethics, values, beliefs, and principles of life which will further help to enlighten his mind, character, and personality. Technical and Vocational Education and Training (TVET) is a type of education, which operates in the school system in Nigeria. TVET is a comprehensive program, which equips the recipients with necessary knowledge, skills, and attitude to enable the recipients to succeed in their chosen industrial and business careers.^[2]

According to UNESCO,^[3] TVET is a comprehensive term referring to those aspects of the educational process in addition to general education, the study of technologies and related sciences, and the acquisition of practical skills, attitudes, understanding, and knowledge relating to occupations in

various sectors of the economic and social life. Quality TVET helps to provide training opportunities in competencies that help to develop the recipients' knowledge of science and technology in broad occupational areas.^[3] TVET can be seen as follows: (i) An integral part of general education; (ii) a means of preparing for occupational fields and effective participation in the world of work; (iii) an aspect of lifelong learning and a preparation for responsible citizenship; (iv) an instrument for promoting environmentally sound sustainable development; and (v) a method of facilitating poverty alleviation.^[3] Similarly, UNESCO^[4] defined TVET as all forms and aspects of education that is technical and vocational in nature, provided either in educational institutions or under their authority, by public authorities, the private sector or through other forms of organized education, formal or non-formal, and aiming to ensure that all members of the community have access to the pathways of lifelong learning. Federal Republic of Nigeria^[5] stated that the objectives of TVET are to:

- i. Provide trained workforce in applied science, technology, and commerce particularly at subprofessional level;
- ii. Provide the technical knowledge and vocational skills necessary for agricultural, industrial, commercial, and economic development;

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- iii. Provide 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 impart the necessary skills, leading to the production of craftsmen, technicians, and other skilled personnel who will be enterprising and self-reliant; and
- vi. Enable our young men and women to have an intelligent understanding of the increasing complexity of technology.

Oviawe *et al.*^[6] stated that TVET has a focus to develop the creative and manipulative potentials of its recipients for the benefit of humanity. Thus, TVET helps to fight ignorance and illiteracy toward producing competent human resources for economic and social development.

TVET is a comprehensive discipline, whose programs content encompasses the knowledge, attitude, and skills needed by all citizens to effectively manage their personal businesses and economic systems. TVET also provides recipients the opportunity to acquire vocational knowledge, attitude, and skills needed for entry-level employment and advancement in a broad range of industrial and business careers. In addition, TVET in Nigeria includes industrial training program designed to equip the learners with practical skills and competences that the recipients need to manage resources under their control (American Vocational Association in Ubulom.^[7] In addition, Ubulom^[7] reported that TVET is a program in which educational and industrial sectors of an economy collaborate as partners in the preparation of the individual learners to adequately fit into both the industry and classroom as professionals.

Effective implementation of TVET demands that its training should be fashioned in the same operation and process using the same machines and equipment. In the contemporary dynamic technology-driven world of business and industry, the input is important in the development and implementation of a comprehensive, adequate, and relevant curriculum. The nature of TVET program places a demand on public (government agencies) and private sector partnership and collaboration for its effective implementation. The partnership is to provide synergy in the development of curricular that is relevant and can adequately meet current demands for competent TVET graduates at various levels of qualifications in the world of work; to provide needed resources for adequate empowerment of the learners with requisite competencies for gainful employment; to provide recipients relevant learning experiences that would enable them to acquire necessary competence to adequately meet the challenges in the dynamic world of work; and to produce graduates who are sensitive and are apt to respond to the emerging issues in their environments which they can harness and turn to economic and social advantages through entrepreneurial processes.

According to Okejom, entrepreneurship education is the education that exposes clients to acquisition of skills, ideas, and management abilities necessary for business establishment and job creation by school graduates for self-employment. Entrepreneurship education can be said to be a type of education that prepares its clients to be adequately equipped to acquire sellable competencies, which could be used to run a business; one's business or that of others. Entrepreneurship education is focused on exposing clients to basic skills and attitude basically for individuals' and the societies' social economic development. Entrepreneurship education can be seen as education which empowers the recipients with requisite knowledge, attitude, and competencies that are necessary for the individual to acquaint himself with his environment and explore its potentials for the mutual, social, and fiscal benefits of the individual and the society.

Entrepreneurship education is beneficial in the following ways: It is a means of creating jobs for the youths, a method of economic divergence, creates opportunities for creating wealth, aids modification of technical and vocational jobs, enhances effective utilization of local resources, stimulates entrepreneurial culture and technological development, and means of transformation of schools curricular to be relevant to the societal needs.^[8]

Transformation means changeover through modification. In relation to TVET, it is the integration of entrepreneurship into TVET programs at all levels of education as a national economic and empowerment strategy.^[9] The purpose of the integration is to start a crucial process of enablement, to equip and empower TVET graduates to become employers of labor, to reorientate the learner on the importance of entrepreneurship as a means of breaking the shackles of unemployment, and to make them successful entrepreneurs after graduation. The high rate of unemployment among graduates is the direct result of insufficient entrepreneurship education in the curricula of the Nigerian universities, and also a grip of the value orientation that limits every school graduate employment opportunity to paid employment instead of self-employment which consequently degrades the low employment rate of school graduates due to the limited available paid job opportunities in Nigerian economy which cannot engage all the unemployed school graduates. Most of Nigeria societal ills and problems are caused by the joblessness and poverty that is biting high on Nigerians.^[10]

Available statistics show that 80% of Nigerian youths are unemployed.^[11] A recent United Nations publication on poverty index in Nigeria puts national poverty index at 46%. The incidences of social economic vices such as suicide bombing, kidnaping, oil pipeline vandalization, and ritual killing have reached unprecedented rate that has become of international concern. Therefore, entrepreneurship in

TVET is a transformational initiative to ensure economic empowerment and development of TVET program graduates for value orientation, job creation, income generation, and wealth creation. TVET has been identified as the means of creating entrepreneurship awareness and with the development of relevant skills toward the achievement of the desired transformation.^[12] The teacher of TVET has the responsibility for the implementation of the TVET program to make it entrepreneurial. This paper, therefore, seeks to examine the place of conceptual teaching in the transformation of TVET for economic empowerment and development of the graduates for self-reliance.

Meaning of Conceptual Teaching

Concepts are the abstract representative of various classes of objects, events, ideas, and behavior grouped according to their common criteria attributes. Eboh^[13] reported that a concept is a logical meaning derived from sense impression, theory, and observations (empirical findings). To conceptualize according to the author, is to formulate ideas, to formulate or communicate precisely the meaning of a term. It entails the process of identifying, comprehending, specifying, and separating a set of attributes that define an event, idea, or a thing. It also entails decomposing, organizing, grouping, organizing, and synthesizing a set of indicators to form a new term, event, phenomenon, or another thing.^[14] Conceptualization reduces and simplifies the complexity of the environment by defining and explaining the objects in the environment through categorization, enhances understanding of a thing in different dimensions, and promotes innovativeness and diversity of its uses. It helps in identifying various indicators by which the quality or attributes of a thing can be judged.^[14] The indicators so identified provide justification for or otherwise the need for its improvement, total rejection, or modification. It fosters conviction and stimulates a search for a better alternative where such is necessary. Conceptual knowledge is an important tool for problem-solving. It facilitates comprehension, which is useful in knowledge retention and retrieval and diversity of application. Conceptualization in this study means the understanding of TVET as economic empowerment and development strategy of the learners' entrepreneurship potentials for value orientation toward self-employment, job creation, wealth creation, and income generation. It entails using the critical attributes of entrepreneurship to group, analyze, synthesize, and evaluate concepts in TVET curricular to identify potentials, deficiencies, and the gaps (needs to be filled) in the content and the design of a TVET curricular as entrepreneurship development tool. The conceptualization of TVET programs as an entrepreneurship development tool helps the teacher to be ingenious, creative, and innovative in teaching and learning process. The teacher selects suitable learning experience and design conducive context through the choice of appropriate teaching methods to facilitate learners' perception and extraction of common elements in social economic events

in his environment. It enhances the grouping of the elements into common and uncommon categories to identify the area of needed intervention for improvement or a total change. While teaching new industrial or business concepts to students, categorization enables the teacher to foster meaningful learning to avoid misconception, which impedes innovation and application in creative ways.

Misconception is the perception of concepts by learners in a different way apart from the scientifically or professionally accepted definition. When misconceptions are permanent and continuous, they prevent meaningful learning of a subject matter. Meaningful learning, as posited by Ausubel *et al.*,^[15] occurs when the learner, to some relevant concepts already existing in the learners' cognitive structure, that is, the learner's organized prior learning experiences, links new information. Meaningful learning entails thorough understanding of the fundamental principles and elements that underlie a discipline or an idea. For instance, economic self-reliance through skill acquisition for gainful employment is the underlying focus of all TVET programs at all levels of education.^[5] Self-reliance entails erecting students' learning positioning toward self-employment for job creation, wealth generation, and poverty alleviation. Education for self-reliance entails the development of the learners' knowledge, attitude, skills, and motivation to successfully start and sustain a profitable business unit; training students in employable skills geared toward meeting the demands of new global workplace and developing a new breed of school leavers with the spirit of enterprise and industry. Experiential teaching method is the most compatible delivery method for facilitating meaningful learning.

Experiential learning is learning through personal engagement and active participation of learners in the learning process. In experiential learning, learners are expected to have thorough understanding of the base structure (global themes) of the subject matter and the constituent topics. Rogers in Roberts^[16] stated that for learning to be meaningful and experimental, it must satisfy elements of process and context. That is, instructional process should foster learners' direct personal involvement in learning activities, stimulate learners' curiosity and initiatives, be persuasive and challenging, focuses student attention on meaning, and enhances students' continuous evaluation of self-performance. In relation to the context, Joplin in Roberts^[16] stated that experimental learning environment should have sufficient support and feedback. The support is in the form of resources (human and materials) to allow the learners to be challenged and embarked on exploration of learning environment. The author explained that the purpose of feedback is to provide learners with knowledge of the result of their performance. Another element in fostering experiential learning is debriefing. To debrief is to give an account of one's experience in the process of learning, which involves recounting one's feats, identifying one's flaws and challenges

during learning. The purpose of debriefing is to enable learners to sort and filter their observations from the learning experience to compare the observations with the reality of events in their environments, trade, or professional practice.

Learning experience in the opinion of Dale and Roberts^[16] is in the continuum, ranging from direct concrete experiences to abstract experiences through the use of verbal symbols. The author presented three categories of experiences, which are concrete experience learning by doing (practice), experience by observation, and learning experience by abstract symbols. Examples of learning by doing are learning through real-life experience, contrived experience, and interactive models such as in cooperative learning, use of resource persons, use of social networks, multimedia and technologies, and dramatic participation in role-playing.^[16] Learning through observation is slightly abstract in which students do not interact directly with the phenomenon but merely observe the doings. This includes learning through demonstration, field trip, and exhibitions. In the opinion of the author, the most abstract learning is where the experiences are through symbolic representations such as in motion pictures, still pictures other audio or audio-visual devices media.

To entrench sustainable self-reliance in TVET graduates, teaching in TVET must be based on meaningful learning through real-life or contrived experiences. Symbolic expression should be enriched with learning supports such as charts, pictures, and ICT gadgets. This is to enable the individual, acquire relevant experiences that could motivate, and sustain their interest in enterprise development facing the challenges in initiating and nurturing into maturity a business unit, which is the ultimate goal of entrepreneurship education.^[9] Acquisition of entrepreneurship skills is better achieved in a field of personal experience and in a setting where the learner can pursue his/her learning objective cooperatively and collaboratively with peers, more knowledgeable persons, or a teacher.

Obstacles in Teaching Concepts in TVET

Some of the identified obstacles in conceptual teaching of TVET are as follows: Curriculum deficiency, teachers ignorance and erroneous beliefs, lack of adequate teaching materials, and students' low level of motivation.^[17] Okoye^[18] identified curriculum deficiencies in terms of specification course concepts, which are not compatible with labor market demands, teaching methods that are not suitable for conceptualization of contents. Other challenges according to the author are teachers' incompetence in instructional planning and delivery. The teachers' professional incompetence also impede his ability to properly align theory with practice, link classroom concepts to community, and society practices, the resultant effect is teaching abstract concepts that have no cultural and real-life bearing with the learners' daily experiences and interactions.

Other challenges are the inadequacy of the needed resources such as fund to procure material for teaching and learning, the time, which may not be adequate due to incessant strike and student unrest.

CONCLUSION

Entrepreneurship skill development in TVET depends on the level of the students' consciousness and understanding of the underlying ideas, principles, and theories. Concept learning entails ability to comprehend the various dimensions of a concept, decompose, identify, isolate, group, and synthesize the criteria attributes to improve or modify its practice. To transform a program into a functional and entrepreneurial one, the philosophy, theories, and principles of such program should be taught and learnt meaningfully to enable the learners to relate them to practices in their own immediate societies so that by so doing, the learners can analyze, classify and group related variables, decipher missing links, and devise improvement strategy to fill the gap. The filling of the gap process can take the form of enterprises development activities where the learner nurtures the needed idea into a business initiate. Unless concepts are taught experientially in TVET to foster meaningfulness, there cannot be innovation, adaptation of technology, and transfer of classroom learning experience to problem-solving in national and personal development. Therefore, business concepts should be taught as means to an end, which is the arousal and harnessing of learners' entrepreneurial potentials for social economic empowerment and development.

RECOMMENDATIONS

Entrepreneurship education should be used as a catalyst to transform Nigerian educational delivery system from teaching and learning for acquisition of inert knowledge to a functional education, an empowerment tool to harness the abundant natural and human resources to meet the needs of the society and to solve social economic problems militating against the development of the nation.

Unemployment is one of the debilitating social economic problems facing Nigeria. Therefore, conceptual teaching and learning should be explored to meaningfully expose the learners to criteria attributes of entrepreneurship education and stimulate the learners appreciation of economic self-reliance as an underlying philosophy of entrepreneurship education conceptual teaching of entrepreneurship education should be used to transform value orientation of Nigerians from seen education as preparation for paid employment and office work only rather than an avenue to understand the economic dynamics of a society, to acquire requisite skills for gainful employment and to identify felt societal needs that can be

turned into entrepreneurial advantage for the individuals and the society mutual benefits. With that mindset, promotion of self-employment as a viable career alternative among youths will be enhanced.

Various concepts which are vital to the development of enterprise culture can be easily entrenched within the society. Furthermore, there will be a national consciousness in which education is seen as preparation of different population cohorts to take advantage of the abundant business opportunities within the country. Individuals and corporate entities will realize that they are gent of economic development and empowerment who should provide requisite supportive measures for entrepreneurial development in their communities.

Entrepreneurship educators should consciously and deliberately expose learners to the real-life expression of concepts such as entrepreneurial behavior, creativity, innovation, entrepreneurial culture, and other generic skills that are fundamental to entrepreneurship development. Through the adoption and application of appropriate training methods and techniques that involve the school, industry, and civil society collaborations. The focus of such collaboration should be the motivation and empowerment of individuals for successful enterprises development, gainfully employment and be liberated from the clutches of unemployment, poverty, and other social ills associated with unemployment and low productivity.

Way Forward

Entrepreneurship education should be used as a catalyst to transform the Nigerian educational delivery system from teaching and learning for acquisition of inert knowledge to a functional education, an empowerment tool to harness the abundant natural and workforce needs of the society and to solve social economic problems militating against the development of the nation.

Among the debilitating social economic problems facing Nigeria, unemployment stands out. Therefore, conceptual teaching and learning should be explored to meaningfully expose the learners to criteria attributes of entrepreneurship education and stimulate the learners' appreciation of economic self-reliance as an underlying philosophy of entrepreneurship education.

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