
Vocational and Technical Education: A Functional Education for Sustainable Development in a Global Turbulent Era

Dr (Mrs.) Modupe Oluwatoyin Olowe

College of Education,

School of Social Science Education, Department of Business Education,

Bamidele Olumilua University of Education, Science and Technology, Ikere-Ekiti

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ABSTRACT: *Vocational and technical education is a programme that prepares occupational fields for effective participation in the world of work for promoting environmentally sound, sustainable development and for alleviating poverty. This study examines the concept of vocational and technical education (VTE), the principles of functional education, and areas/branches of VTE. The study also look into various ways in which vocational and technical education is a functional education which will be a way out at this turbulent period. Recommendations are given that there must be a continuous review of the curricula and high caliber teachers and qualified lecturers must be employed, the educators should be encouraged and allowed to go for in-service training and upgrading themselves academically and be acquainted with the latest technology development. Non-governmental organizations, and local communities should be called upon to support the government and school authority in funding the programme.*

KEYWORDS: vocational and technical education, functional education, sustainable development

INTRODUCTION

Functional education is the comprehensive process of nurturing individuals to fully realise their cognitive, emotional, and psychomotor capabilities, hence enabling them to make optimal contributions to societal progress. Functional education refers to an educational approach that fosters intellectual development and is aligned with the holistic nature of biological life. It also emphasises the practical application of knowledge in both the present and future. The term "functional" may be defined as something that is operating efficiently and effectively. Education is a crucial determinant of progress. Without significant investment in human capital, no nation can attain sustainable economic progress. Only individuals who consistently engage in learning are highly sought after in the job market. Nigeria requires an efficient educational system that can

provide learners with the necessary information, attitudes, and abilities to enable citizens to effectively engage and adjust to the quickly advancing global socioeconomic, cultural, and political progress. A highly effective education may provide students with the necessary skills and talents to excel in productive endeavours by fostering creativity and innovation. Functional education focuses on practical application rather than theoretical concepts, enabling individuals to acquire the necessary information and skills to effectively participate in productive activities (Josephine & Bokime, 2018). An education system that focuses on practical skills and knowledge helps to decrease the poverty percentage within a nation. (Asaju & Adagba, 2014).

In the midst of contemporary economic and political upheaval, it is imperative that present and prospective business executives undergo training that will mitigate the volatility. Education should involve moulding the child to suit their surroundings, while prioritising their requirements and tendencies as they manifest during their developmental phases. Education serves as more than just a preparation for life, it is life in itself. Education serves as a means of equipping individuals with the necessary skills and knowledge to navigate and succeed in adulthood. Education enhances individuals' comprehension of themselves and the world. It enhances the quality of life and yields extensive social advantages for both people and society. Education enhances individuals' productivity and creativity while fostering entrepreneurship and technical advancements. Furthermore, it plays a pivotal function in ensuring economic and social advancement and enhances the distribution of revenue. The instruction provided must be practical and effective. Education is an essential entitlement that should be readily provided to all individuals as a fundamental human right. The primary index of economic and social growth of a country is crucial.

The economic development of a nation is heavily reliant on advancements in technology and the availability of skilled scientific and technical personnel. Vocational and technical education plays a pivotal role in expediting a nation's industrial advancement. It offers a very effective method for cultivating a highly competent workforce that is needed by different sectors in a nation's economy. Technical and vocational education has been a crucial component of national development strategies in several civilizations due to its significant influence on productivity and economic advancement (Ayeni & Olowe, 2015).

Vocational education is effective when a student, upon completing their studies, is capable of becoming self-sufficient and financially independent. Several capable and highly skilled individuals, who were unable to obtain profitable jobs, have continued to rely on their parents for financial support. This is due to their deficiency in the requisite vocational competencies required for self-employment and for proficiently operating within the contemporary labour market (Peter, 2014). Currently, the nation is experiencing a period of instability and unrest. A turbulent condition refers to a duration characterised by several abrupt and unpredictable alterations. Change has become a frequent occurrence in the volatile economy of deregulation. Turbulent eras are characterised by chaos and turmoil (Longman Dictionary, 2022).

Vocational and technical education is crucial and provides the solution for acquiring skills. Gaining proficiency in various talents may significantly enhance an individual's employability, hence mitigating the issue of unemployment. In order to mitigate unemployment in the nation, it is imperative for governments at all levels to implement innovative strategies to counteract this trend. A study conducted by Ayeni and Olowe (2015) revealed that there is a higher prevalence of persons with inadequate skills in all sectors of the Nigerian economy. In response to this issue, the development of vocational skills has been seen as a means of shaping persons into employable candidates, as jobless individuals require additional abilities in order to secure new employment opportunities. It is advisable to motivate graduates from different universities to get occupational skills that will equip them for self-employment and financial autonomy. Several capable and highly skilled individuals, who were unable to obtain profitable work, have continued to rely on their parents for financial support. This is due to their deficiency in the requisite vocational competencies required for self-employment and for proficiently operating in the contemporary labour market (Peter, 2014). Technical and vocational education can impart these occupational skills. Vocational and Technical Education has a crucial role in mitigating unemployment. This is a comprehensive educational plan designed to promote overall life satisfaction among citizens in a nation. It is a skill-based course that enhances empowerment. Acquiring skills is a means of empowering individuals. According to Wikipedia (2008), skills refer to the abilities that an individual develops via training, enabling them to perform occupational duties with proficiency. Skill acquisition refers to the attainment of sufficient proficiency, expertise, and understanding to effectively perform a certain task or occupation.

Concept of Vocational and Technical Education

In Ikpe's (2010) study, Vocational and Technical Education refers to the branch of education that facilitates the learning of practical and applied skills, together with fundamental scientific knowledge. Vocational and Technical Education is a form of learning that focuses on acquiring practical and applicable skills, as well as fundamental scientific information. Vocational education is a specialised style of instruction aimed at equipping students with the skills and knowledge needed for various sectors such as manufacturing, agriculture, and commerce. (Ewere, 2014). Vocational training is designed to equip learners with the skills necessary for occupations that include hands-on or practical work. Vocational and Technical Education equips students with the necessary skills to function as productive members of a global society, enabling them to thrive in all aspects of life, education, and employment. Vocational and Technical education equips individuals with the necessary skills and knowledge to enter the workforce and actively contribute to the progress of society (Ayeni & Olowe, 2015). Vocational and Technical Education is a practical component of education that focuses on acquiring specific skills. Ewere (2014) further elucidated that Vocational and Technical Education is a type of instruction specifically designed to equip individuals with the necessary skills and knowledge for securing employment in recognised occupations as semi-skilled or skilled workers, technicians, or sub-professionals in emerging fields. It also serves to prepare individuals for enrollment in advanced technical

education programmes. Vocational and technical education, often referred to as education for employment, has primarily emphasised equipping learners with the necessary skills and knowledge to effectively transition into the workforce. Aims and objectives of Vocational and Technical Education as contained in the National Policy of Education (Revised, 2004) includes;

1. To provide trained manpower in the applied science, technology and business particularly at craft, advanced craft and technical levels.
2. To provide the technical knowledge and vocational skills necessary for agricultural commercial and economic development.
3. To give training and impart the necessary skills to individual who shall be self-reliant economically.

The Principles of Functional Education

Yehudah (1999) gave the following principles of functional education;

1. It is necessary to evaluate the kid based on their own perspective and explain them using ideas that they are familiar with. Additionally, teaching them should be done according to their own standards. It is important to treat the child with respect and provide them with support.
2. Functional Education is founded upon the innate curiosity and desire for knowledge, observation, productivity, and playfulness that children possess. The objective is to cultivate within the child a deep yearning for spiritual fulfilment, such as a genuine affection for virtue and industriousness, which cannot be imposed but rather nurtured in an environment of freedom and appropriate living conditions. To achieve this, the school must establish a vibrant and joyful atmosphere that encourages the child to engage with enthusiasm.
3. The child must be placed at the core of the curriculum, which should no longer be designed based on ideas that are external to the child.
4. The educator should thoroughly familiarise themselves with the child's interests and the developmental changes they experience both physically and emotionally. Consequently, the teacher should adjust their teaching methods to align with the child's natural growth.
5. It is inappropriate to expect a youngster to perform an action unless they have a genuine want to do so. To activate the kid, the instructor must create situations that will naturally stimulate the child's action by fulfilling a certain need. The child's motivation should be intrinsic rather than extrinsic, stemming from a real interest in the discussed issue and the associated activities, rather than from fear of punishment or the expectation of a reward. The intrinsic self-discipline will supplant the extrinsic coerced discipline.
6. Education is to cultivate the cognitive and ethical capacities of the kid, rather than inundating them with an abundance of data that are easily forgotten or stored in memory without relevance to their life experiences. Any truth becomes intriguing when it pertains

to the ongoing social activities of the one acquiring knowledge. Therefore, it is important not to distinguish between theoretical studies and the child's innate behaviour.

7. A "active school" or "ecole active" is necessary, where the classroom would function as a laboratory. The teacher's skill in bridging the gap between unappealing study content and the child's inherent requirements will show their artistry.
8. In order to prepare the kid for future social integration, it is necessary to expose them to jobs and subjects that foster social engagement.
9. The teacher should actively engage the moral and spiritual needs of students, fostering cooperation rather than relying solely on lectures. The teacher should assist students in acquiring knowledge through self-study and personal experiences. The teacher's primary attribute should be enthusiasm rather than scholarly expertise. To achieve this, a new type of teacher training is required, one that is primarily focused on psychology and understanding the child and their needs.
10. It is futile to attempt to cultivate talents that are not universally endowed; the school should establish a basic, standardised curriculum and designate other courses as optional electives. An ideal school should be designed to accommodate the child's growth at each stage of development, as every individual possesses unique physical and psychological characteristics to some degree. Consequently, this also implies a method of instructing those with exceptional abilities: Democracy need a morally upright and well-educated group of individuals who possess exceptional abilities. Therefore, it is imperative for democracy to prioritise the cultivation of gifted youngsters in environments that are conducive to their capabilities.
11. Exams that place a heavy load on memory should be eliminated, and instead, a "achievement summary" should be introduced to document accomplishments throughout the school year. To do this, the teacher must employ diagnostic assessments and exams to evaluate the effectiveness of their teaching approach and to assess the progress made by their pupils.

Vocational and Technical Education a Functional Education

The objective of Vocational and Technical Education is to furnish the nation's industry with proficient and skilled workforce, so enhancing its efficiency and productivity. Vocational education is a powerful tool that may be harnessed to address the issue of unemployment and other societal challenges during a tumultuous era. Society invests in order to improve living conditions and enhance economic opportunities.

As stated by Ayeni and Olowe (2015), if students receive adequate training in any of the vocational education fields listed below, they will enhance the nation's economy by becoming valuable assets. They will make significant contributions to national development, even without pursuing traditional office jobs. Vocational and technical education equips learners with the skills and knowledge necessary for employment in fields that include hands-on, practical tasks directly

connected to a certain trade, occupation, or profession. It is an educational programme that equips an individual with the necessary skills and knowledge to secure a well-paying job.

The following are the areas or branches of Vocational and Technical Education and the areas in which students can involve in after graduation as:

1. Agricultural Education

Vocational agriculture offers comprehensive training in several sectors of agricultural production and supply, processing, equipment technology, ornamental horticulture, agrochemical technology, animal product technology, and fertiliser production technology.

Recipients have the opportunity to engage in self-employment and build their own businesses in the fields of Agricultural supplies and services, Agricultural mechanisation, and sales of agricultural products. The company engages in the manufacturing and distribution of various animal feeds, fertilisers, agricultural equipment, and chemicals. Additionally, they may also be involved in activities such as pig farming, fish farming, and crop cultivation.

Specifically, the major classes of Agricultural Education are:

- Crops and animal production
- Agricultural supplies and services
- Agricultural mechanics
- Agricultural products (processing, storage, inspection, marketing)
- Horticulture
- Agricultural resources (conservation, utilization, services)
- Forestry.

2. Business Education

The courses offered in the business education curriculum include Accounting education, Secretarial education/office management education, and Marketing and entrepreneurship education. Business education is a form of training that prepares individuals for self-employment opportunities in various fields such as starting a business, managing finances, organising events and workshops, and engaging in retail and wholesale trade. It also involves promoting and advertising products and services for different establishments, establishing secretarial institutes to train individuals in secretarial and computer skills, providing training in office management and information technology, setting up business centres, and offering consultancy services to organisations in areas such as recruitment, information systems management, and marketing of computer accessories and stationery.

Accounting education

Accounting graduates can

1. Establish a firm which enable them to be a consultant to private and public establishments after registering with a professional body'
2. Establishing accounting schools and learning centers
3. Organizing workshops and seminars for organizations
4. Engaging in writing and publishing books on accounting

Marketing and Entrepreneurial

Graduates can engage in;

1. Buying and selling of any product
2. Sales promotion of all products for different establishment
3. Promotion and advertisement of goods and services
4. Establishment of firm that involve in buying and selling.

Secretarial/ office management education

1. Establishment of secretarial institute where secretaries, computer operators can be trained
2. Establishment of business centers, cyber café where there will be training on production of documents, browsing, typing of documents, photocopies, binding of documents and other office training.
3. Writing and publishing books on secretarial field
4. Organizing seminars and conferences for organization
5. Agents in the area of recruitment in offices
6. Providing consultancy services for organization.

3. Fine and Applied Arts Education

Fine and Applied Arts Education is an essential field that significantly influences the outcomes of Vocational and Technical Education programmes. The disciplines encompassed within Fine and Applied Arts consist of Drawing, Painting, Graphics, Textile design, Ceramics technology, Metal Design, and Fashion Design, all of which fall under the category of Applied Arts. These many creative disciplines provide a range of job prospects in the Industrial and Economic sectors. The jobs covered encompass a diverse array of fields, such as Illustration/Cartooning, Interior Decoration, Advertising Media, Textile Mill, Graphic Art, Ceramic Industry, Plastic Art, Sculpture, Metal Fabrication, Jewellery Designer, and Printing/Minting Industry.

4. Home Economics Education

The course curriculum is based on a thorough study of the skills, information, and attitudes required for the valuable profession of home making. Its purpose is to assist people and families in achieving a more fulfilling home and community life. The intended recipients of this information may include individuals in various roles such as a Nursery School Programme Planner, Recreational Therapist, Nursery School Manager, Preschool Language Instructor, Child Welfare Research Technician, Children's Wear Consultant, Nursery School Food Service Director, Welfare Day-Care Consultant, Child Day-Care Supervisor, Juvenile Court Probation Assistant, Social Service Aid, Recreational Leader, Geriatric Assistant, and Geriatric Companion. The graduate can also open a recreational and playground center; they can be fashion and clothing adviser, fabric demonstrator, bridal consultant, dress-clothing maintenance worker, professional dress maker, dry cleaner, tailor, dyer, fashion and fabric supervisor, sewing specialist, alterations, fashion accessories adviser, power sewing, tailor model, laundry foreman, wardrobe specialist worker, spot cleaner, garment fitter, clothing seamstress, wardrobe assistant, clothing restyling specialist; the graduate can be baker, cake decorator, cookie maker, salad maker, caterer, catering aide, table decorator, children's party planner; furnishings maintenance aid, upholstery cleaner, rug cleaner, Home furnishing laboratory technician, home furnishing adviser, colour coordinator, drapery adviser, home lighting adviser, window display designer, scenic arts supervisor, crafts mills decorations for textile technician, household products technician, package designer, pottery decoration designer. Typically, those who have Home Economics Education might pursue many entrepreneurial ventures, such as opening a fast food establishment, specialising in house and event decorations for weddings and engagements, offering career counselling services, engaging in cake making and decoration, operating a day care facility, and managing a home management centre.

5. Technical and Industrial Education

The many specialisations under Technical and Industrial Education are intended to offer viable career opportunities for those who participate in the curriculum. The available choices focus on training skilled individuals in various occupational fields such as woodworking, metalworking, construction, electrical engineering, electronics, appliance repair, automotive service, aircraft maintenance, business machine maintenance, and various construction and maintenance trades including carpentry, electricity, masonry, plumbing and pipe fitting, drafting, electronics occupation, and refrigeration.

Specifically;

Technical Education

The classes of technical education include:

1. Automotive Occupation

2. Mechanical Occupation
3. Electrical/Electronics Occupations
4. Carpentry and Joinery Trade
5. Woodwork
6. Metallurgical Occupation
7. Servicing
8. Drafting Occupation
9. Refrigeration and Air-conditioning Occupation
10. Computer Occupation.

Industrial Education

Some of the more basic areas of instruction which characterize industrial arts education are:

- (1) Drawing
- (2) Metalworking
- (3) Woodworking
- (4) Electricity and Electronics
- (5) Graphic Arts
- (6) Transportation and Power Mechanics
- (7) Plastics
- (8) Leatherwork
- (9) Ceramics
- (10) Textiles
- (11) Home Mechanics

RECOMMENDATIONS AND CONCLUSION

Thus, the paper recommends as follows:

1. Vocational and Technical education programme needs high caliber teachers, qualified and experience lecturers that possess very high level of theory and strong operational ability to put students through in practical.
2. The educators should be encouraged and allowed to go for in-service training by upgrading themselves academically; going for periodic seminars, conferences and workshops in order to meet with the current needs of the society and upgrading of their knowledge. This will make an impact in imparting right knowledge to their students.
3. The curricula should be effective and there must a continuous reviews and revise in line with the latest technology development.
4. Government and the school authority should endeavor to provide laboratory/workshop well equipped with modern tools/ equipment and infrastructure facilities for teaching and

learning. The equipment should be well maintained. This will help to boost the quality of teaching and learning. The recipients should be exposed to a work environment.

5. The three tiers of government should be involved in the funding and development of vocational and technical education programmes.
6. The management and administration of vocational and technical education programme should not be placed in the hands of imposters that are not experts in the field of vocational and technical education.
7. Non-governmental organisations, and local communities should be called upon to support in funding.

Vocational and technical education (VTE) is a practical form of education that equips students with the necessary skills and knowledge to make valuable contributions to the nation's economy, so becoming an asset to the country. They will make significant contributions to the country's economic development without pursuing traditional office jobs and will be self-sufficient. Functional education provides individuals with practical skills and information that enable them to fully utilise their abilities. It offers individuals the chance to fully utilise their innate abilities without any obstacles. VTE serves as a method to achieve a desired outcome, which is the transfer of information and the learning of skills that are applicable to other occupations or fields. It facilitates the acquisition of lucrative work opportunities. This study aims to elucidate the advantages of vocational education as a practical kind of education for both students and institutions.

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