



**ECONOMIC MALADIES IN AFRICAN COUNTRIES:
A DISCOURSE ON VOCATIONAL AND TECHNICAL
EDUCATION CURRICULUM IN NIGERIA FOR
DEVELOPMENT**

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ABSTRACT

Economy is widely acknowledged as a powerful instrument of social change and development. This fact holds for all societies to the extent that their economic sector is never left to chances in policy terms. However, the reality in African countries, is that despite several initiatives to face-lift their economic sector, economic crunch remains a cankerworm hindering optimum development. This informed the paper to examine economic maladies in African countries with respect to vocational and technical education curriculum touch points and operational logistics in Nigerian perspectives for development. Economic issue is presented as a perennial problem of developing countries which must not be left to fallow. In this respect, as a way forward, the touch points examined in Nigerian context include value crises in Nigerian education and the assault on vocational and technical education (VTE) curricular practices; the status of VTE in the training institutions and the matters arising in the curriculum of VTE programmes in theory and practice. In order to address economic maladies in Nigeria out of which the rest African countries would learn lessons for unique development, twenty operational logistics along with the expected outcomes are put forward for Nigerian as a country amidst economic maladies. The paper concluded that the utilitarian values of vocational and technical education curriculum would make impacts on production, economic generation and development with timely consideration of the operational logistics enunciated.

1.0 Introduction

Economic problem is obviously one of the chronic cases of developing nations of the world, and many a time, it results from inadequacies in educational ideologies and lapses in the implementation of policies under the auspices of the political direction of any ruling government. In Nigeria. Ogbonna (2024) reported that Nigeria is currently experiencing its worst economic crises in a generation, leading to widespread hardship and anger. He added that government policies have worsened the

economic crises. Also, the enigma of graduate unemployment, in this context, African continent, is fast threatening manpower development. Meanwhile, in the search for a better society, Vocational and Technical Education (VTE) curriculum is adjudged to be a strong tool for development vis-à-vis a magical wand to project Africa beyond the present state. In defense of this, the author of this paper is reminded of some philosophical assertions as follows:

“The Indian youth needs to be empowered, and it can be done through good education and vocational training”
– M. M. Pallam Raju.

“Give vocational and technical education training to the manually minded, and the children’s court of the future will have less to do” – Anonymous.

Vocational training and technical schools should be a larger part of our education portfolio” – Donald Trump.

It is no gain say the fact that quality vocational/technical education is crucial to the socio-political and economic development of any nation (Alade, 2020). Pertinent in this paper therefore, is the “Economic Maladies in African Countries: A Discourse on Vocational and Technical Education Curriculum in Nigeria for Development.

In the historical records of the concerned African countries, the perennial issues which are no longer news and which on several occasion have appeared on broadcasting networks, local and social media include economic comatose, ill-prepared graduates for the labour market, poverty, joblessness and youth restiveness among others. Although, Africa is the second largest continent in the world, the World Bank ratings based on Gross National Income (GNI) per capita as a widely used indicator for rating countries wealth and development showed that the poorest countries in Africa are located in sub-Saharan Africa. An observed regional trend that has caused ten African countries to be the poorest are political instability, conflicts, and lack of economic development. The identified factors often led to high poverty rates. poor education outcomes and low life expectancy. In Nigerian context, in order to address the problems, including the economic maladies, education is seen as a fulcrum and a part in human development, the products of which results from relevant and functional curriculum through which the citizens are

trained to develop occupationally. When citizens, including the youths are trained to acquire specific and relevant skills, they become employable, either by themselves or by the government and industries (Alade, 2016). The ultimate end of the training is individual and societal development.

In the opinion of Ojeleye and Olagbende (2016), the development of any nation is hinged on the philosophy of education, and they further asserted that vocational and technical education programmes are laudable as they are geared towards emancipation and sustainability of individual and the nation at large. However, the upsurge of the lingering problems identified in the preceding paragraph coupled with graduates’ quest for certificates in African countries without commensurate vocational skills that could encourage them to be self-reliance and be job creators vis-à-vis the resulting restiveness and some other emerging forms of economic crises in African communities and regions in recent times remain unabated. Du Toit (2023) observed that if more people have an income or employment, societies would experience greater economic equality.

However, the upsetting trends of economic maladies caught the attention of the author of this paper that skill-based fields have commercial values for individual to sustain his/her livelihood, address economic crunch, and for both national and international development in African continent. Although, available records reported that successive governments have not rest on their oars to curtail the upsurge of graduate unemployment which has grossly led to communal economic hardship, poverty and social vices in the society. Regrettably, the reality on ground, from Nigerian perspective is that, despite various vocational/technical and entrepreneurship initiatives and poverty alleviation programmes, the problem of hunger, unemployment, poverty, economic hardship and hard earn salaries as well as the

downturn of sales in the labour market contribute more threats to development.

The foregoing social-economic and educational maladies must not be left to fallow, hence, this paper explored a conceptual discourse on vocational and technical education curriculum touch points in Nigerian context with due attention given to the value crises in Nigerian education and the assault on vocational and technical education (VTE) and its curriculum; matters arising in the curriculum of VTE programmes in theory and practice; institutional issues; and operational logistic for development that is sustainable.

Vocational and Technical Education Curriculum Touch Points in Nigerian Context

The touch points in this paper cover a good number of key parameters which must be discussed so that vocational and technical education curriculum could serve as one of the survival avenues to address the economic maladies. The pertinent touch points are as follows:

Conceptual Discourse on Vocational and Technical Education

Any discourse on vocational education and vocational technical education is incomplete without the word "vocation". That is why the word vocation is rarely used in isolation when discussing a skilled-based programme. The word vocation has a Latin origin "vocare", which means |to call|. The particular occupation for which you are responsible is your vocation and you are expected to "care" for it - vocare, - vocationally caring. That is why it becomes imperative for every individual to have an "avocation". An avocation is thus a trade you do and care for in practical terms. This is beyond a theoretical acquisition of concepts and principles without practice. Another word for vocation implies "rat race; practice; skill; grip; enterprise; art; craft; business; handicraft; profession etc. These words are

activity-based. Vocational and technical education thus, have affinity with vocation.

The word "vocational" is an adjectival word relating to vocations. It relates to applied educational courses concerned with skills needed for an occupation, profession or trade. Whenever the word "vocational" is mentioned, vocational skill-based programmes is not excluded. The skill-based programmes are many, but the present society is sentimental about vocational programmes. For instance, what differentiate a mechanic from a medical surgeon? As an auto mechanic expert operates the engine of a vehicle, a medical surgeon operates the engine of man, that is, human womb. The basic difference is that human mechanic has life in it while a motor vehicle's engine is non-living - The dichotomy borders on human orientation and societal perception.

In 1978, World Bank described vocational education as any kind of training that aims primarily at preparing individuals for a job. It is any form of education whose primary purpose is to prepare persons for employment in recognized occupations. Vocational education is a form of organized education that specifically prepares an individual for self-support (Alade, 2013). Skill development in vocational education is predominantly workshop-based. He added that vocational education is concerned not only with manual skills involved in an occupation, it also covers all the competencies needed to function effectively in employment. Also, in respect of vocational and technical education curriculum matters and apprenticeship training, vocational skills are trade related practical skills that help a person master a trade on a specific skill-based curriculum or job for functional living. The skills may be obtained on the job, through apprenticeship or in a vocational institution.

In addition, technical education is the education acquired to earn a living in an occupation in which success is dependent

largely on technical information and basic principles of science and technology as applied to design, production, distribution and services in the labour market. The component of technical education may vary considerably depending on the type of personnel to be prepared and the educational level. It should be noted that graduates of technical education programmes usually bridge the gap between the professional engineers and the craftsmen, technicians and artisans (Alade, 2009). Yahaya (2006) cited in Akinteye and Folarin (2016) confirmed that vocational and technical education is the type of education designed to prepare skilled workers for industry, agriculture, commerce and home economics, which is usually provided at the upper secondary school level. The programmes of VTE include general studies and practical training for development of skills required by chosen occupation and related theory. In comprehensive term, vocational and technical education (VTE) are designed to prepare individual to acquire practical skills, basic scientific and technical education, and VTE remains a veritable tool for both individual, national and international development. It is through skills acquisition with related theory that individual could harness the resources at his/her disposal to meet the manpower and economic development needs of the nation.

The word development is often conceptualized as improvement in the quality of life and conditions of human life. When there is drastic reduction of poverty, improvement in security, expansion in life chances of citizens, reduction of illiteracy, pestilence, starvation within the communities as well as rapid economic growth and consistent increase in output, productivity and income per head in a nation, this is development. Developmental efforts that would be global, could cut across such areas as social inclusion, literacy, safety, infrastructure, human capital development, competitiveness and other developmental indicators or initiatives capable of adding value to the people and the wider society.

The curriculum of vocational and technical education, is the programme of education that anchors the skill-based values of the society through its objectives, content, learning activities and evaluation components altogether with a view to bringing developmental changes to the society.

As a touch point, it should be remembered that the need and quest for a more relevant education to Nigerian populace shortly after independence as against an all-bookish education with theoretical tendencies later ushered in vocational and technical education (VTE). When VTE evolved, the aim was to empower the citizenry as a right step to depart from the traditional theoretical-based school system to one which is comprehensive enough to accommodate general education as well as the study of technologies and related sciences, and the acquisition of practical skills, attitudes, and knowledge relating to occupations in various sectors of economic and social lives. Thus, the development of vocational and technical education curriculum at various levels of education in Nigeria started gaining more ground in educational policies, curriculum reviews, education structure and in implementation approaches in Nigerian education till date.

Value Crises in Nigerian Education and the Assault on Vocational and Technical Education and Its Curriculum

The history of today's value-laden policies in Nigeria, no doubt, shows the value of education for self-reliance, self-fulfillment, self-employment, job creation and wealth generation. On value crises in Nigerian education, Alade and Yisa (2009) reported thus:

History recorded that during the apprenticeship scheme of the pre-colonial era and the practices of the populace, the value of vocationally-based programmes was very effective in conception and actualization. Its strength was tampered

with by the colonial administrators because their primary aim was to train clergymen or preacher and interpreters who could read, write and speak Elementary English, serve as shop assistants or tax collectors and other religious and clerical services. The aim of the colonial masters to prepare the colonial populace for their service work affected the development of indigenous vocational and technical education even after Nigerian independence (p.188).

As a result, Nigeria as a developing nation had experienced series of crises in vocational and technical education at various times, and these have adversely affected the country's progress at various times especially on economic terms where the jobless youths cannot fend for themselves due to lack of vocational skills for employability.

Though, the educational reforms and attempts in Nigeria raised high hopes, the emerging modifications in values, and value changes due to the dynamic nature of the society still hold to a proportionate extent on the reflection of the past. The truth in Nigeria as adjudged by situation analysis, is that the value-laden vocationally-oriented programmes in Nigerian educational institutions many a time, remain a paper work, without commensurate attention given to them in practice by respective stakeholders of education. The regret stems from the fact that for over forty years of the implementation of 6-3-3-4 system of education in Nigeria, and the acclaimed 9-3-4 education structure, the vocational and technical aspects of the expanded secondary school curriculum like woodwork, metalwork, building construction, basic electrical/electronics, auto mechanics and technical drawing among others are still unpopular in most schools in Nigeria. The attitudinal relegation of the talented students in technical subjects and possibly the erroneous notion that government technical-based colleges are meant for those who could not meet up academically, is altogether an assault on the value-laden

vocationally-based aspect(s) of Nigeria education curricular practices.

The historic assault on vocational and technical education curricular practices is also observed in the stigma attached to each term on vocational and technical education. For instance: some quarters and authorities look upon vocational and technical preparations as mere job training whereas they ascribe the term career to such occupational fields as medicine, law, science, and engineering. They see the carpenter, the bricklayer, the mechanic, and the electrician for example, as being engaged in mere jobs. The assault is indeed a touch point yearning for how do we get out of the woods of value crises in the world of continuous reforms in Nigerian education with the bias towards vocational and technical education? The implication is that economic issues in Nigeria among other African countries remain continuously emerging.

Vocational and Technical Education Programmes in the Training Institutions in Nigeria

In Nigeria, the basic programme of activities given to students at the junior secondary level is to expose them to vocational and technical education at the preparatory level often referred to as prevocational education. Part of the specific purposes is to introduce them into the world of technology and appreciation of technology towards interest arousal and choice of vocation at the end of junior secondary school and professionalism later in life as identified by the federal government of Nigeria in its National Policy on Education. A further consolidation of the above at the senior secondary school level is the introduction of 34 trade subjects in the contemporary times to further fulfill the vision of Nigerian Educational Policy for vocational and technical education.

The National Policy further stipulates the establishment of technical colleges in every state of the federation with junior secondary certificate, and also evidence of ability

shown in the technical courses as well as a proof of exceptional ability in the artisan training centers as the requirements for admission. The essence of the establishment of technical colleges is a step further to pursue the goals of vocational and technical education to the fullest in Nigeria. Technical Colleges offer advance craft courses to prepare master craftsmen for supervisory positions in industries and in teaching. The courses offered in the technical colleges include mechanic trades, building trades, wood trades, computer-craft practice, electrical engineering trade, textiles trade, printing trades, hospitality, business trade, beauty trades, and shoe making among others.

The National Business and Technical Examinations Board (NABTEB) handles technical and business examinations and award the National Technical Certificate (NTE), the National Business Certificate (NBC), the Advanced National Technical Certificate (ANTC), and Advanced National Business Certificate (ANBC). The graduates of the technical colleges have the option(s) of securing employment, set up their own business and become self-employed and be able to employ others and or, pursue further education in advanced craft/technical programme in post-secondary technical institutions such as Polytechnics, Monotechnics, Colleges of Education (Technical) and Universities.

The goals of the tertiary technical education especially with focus on the polytechnics as stipulated in the National Policy on Education by the Federal Republic of Nigeria (2013) among others are to:

- Provide full time or part-time courses, instruction and training in engineering, other technologies, applied sciences, business and management leading to production of trained manpower.
- Provide the technical knowledge and skills for the production of technicians, technologists and other skilled

personnel who shall be enterprising and self-reliant.

- Provide the technical knowledge and skills necessary for agricultural, industrial, commercial and economic development of Nigeria etc.

It is believed that by the end of these tertiary institution programmes, a lot of students would be turned out technically equipped for one trade or the other.

On the role of tertiary education in national development through high level relevant manpower training, criticisms abound on the extent to which the existing vocational and technical programmes function in equipping trainees with saleable skills for everyday life and for work. These are further touch points in vocational and technical education programmes and their curricula in the institutions of higher learning where they are offered.

Matters Arising in the Curriculum of Vocational and Technical Education (VTE) Programmes in Theory and Practice

Apart from the value crises bedeviling vocational and technical education in Nigeria, another touch points are the emerging issues on vocational and technical education curriculum in various dimensions. Curriculum is the hub of VTE programmes. It is the anchorage of vocational priorities enshrined in the goals of tertiary technical education in Nigeria. Despite the fact that reviews of curricula policies, educational content, teaching and learning strategies with implications on wealth creation with a view to improving the productivity of the human output from existing tertiary institutions have been put on record by Alade (2013), Alabekee, Okeke and Afor (2016), the crucial issues of the moment on vocational and technical education curricula matters include the following:

- i. Available evidence recorded that the curriculum of a subject with practical content is generally organized into an average of 67% for the theoretical classes and 33% for laboratory. Students also use the laboratory to develop case examples on their own time. The question is, what percentage ratio of theory to practical is on ground in the VTE training institutions?
- ii. The curriculum analysis shows that the learning experiences provided to Nigerian children from basic through higher education as written down on paper are rich, varied and capable of meeting the immediate future needs of the learners. However, researches on learning achievement of learners from primary to higher institutions have shown a huge gulf between the intended curriculum and what learners actually learn. Vocational and technical education is no exception as attested to by the rate of unemployment increasing yearly in Nigeria.
- iii. Deficiencies in practical terms obviously exist in curriculum policies and implementation strategies-there is inadequate approach to vocational and technical education curriculum development whereby, all the stakeholders should have been consulted in the process and final drafting of a vocational curriculum. The question is to what extent are students, parents, teachers, instructors and government make their inputs in VTE curriculum formulation?
- iv. The curricula for trades and programmes in technical colleges and polytechnics respectively are deficient in information and communication technology. This deficiency contributed significantly to the graduate not being relevant in the workplace in the 21st century (Alabekee, Okeke & Afor, 2016).
- v. The mode of vocational and technical education curriculum delivery and provision of adequately skill vocational curriculum implementers and the equipment needed remain a problem. For instance, to what extent are the human resources for implementing vocational and technical education curriculum update their knowledge and skills in response to the modern trends in societal values and technological achievement? The shortage of requisite equipment and learning facilities is a serious problem in the curriculum reform agenda. Thus, the research priorities on vocational and technical education curricula could not be influenced with a view to provoking curriculum reforms. Hence there is stagnation in curriculum reform implementation, and this slows down the role of VTE in advancing national development.
- vi. The curriculum reform and innovation in Nigeria are adjudged to be too academic and overloaded with intellectual content at the expense of vocational and technical education.
- vii. The VTE programmes as well as their curricula with the requirements are found to be deficient on the requirements and the skills needed by industrial sectors and private organizations.
- viii. There is usually a shortage of highly competent indigenous teaching and support staff with wide practical knowledge of vocational and technical trade for effective curriculum implementation.
- ix. Vocational and technical education curriculum suffers from lack of

indigenous and practically-based textbooks in form of work-books and practical manuals for its curriculum implementation. A good number of the suitable textbooks are often illustrated with examples from outside the local environments and which are irrelevant to the peculiar needs of Nigerian labour market.

- x. Assessment and evaluation processes in Technical Vocational Education and Training institutions, remain largely “academic” in spite of global trend towards industry-based standard. In order to consolidate this, the author observed from the training institutions that most of the assessment criteria and approaches of VTE curriculum in Nigeria are based on educational standards, but deficient in occupational standard. That is, it is expected that the curricular dictate of vocational and technical education programmes or trades should reflect what the trainees need to be able to do for vocational competency, rather than what can be achieved at the end of a specific vocational programme. In essence, what is interpreted as mastery, in the assessment and education techniques in vocational and technical education programme is at least a pass score and on approved grade points (benchmark) at the expense of employability skills competency which should be more significant. All these have implications on the market economy of Nigeria as a nation.

Institutional Issues Affecting Vocational and Technical Education in Nigeria

Apart from the matters arising on the curriculum of vocational and technical education in Nigeria earlier discussed, part of which are institutional issues affecting VTE curriculum in theory and practice, some

other areas of concern slowing down the contributions of VTE in addressing economic maladies for development, in the training institutions are x-rayed as follows:

- i. Institutional Administrative Leadership Issue: Only leaders who have strong beliefs in the importance and benefits of vocational and technical education and can communicate such beliefs to others should be vocational administrators – Observations show that failure of the government to install national experts in the leadership position of vocational programmes has often affected the planning, organizing, staffing, controlling, directing, motivating and evaluation responsibilities of the leadership in respect of the skill-based programmes. By implication, any VTE programme in the hands of non-expert often lead to a vocational education system that is extremely bookish and devoid of practical. More so, rigidity of the administrative skills against innovative approaches to VTE programme has remained one of the burning points in Nigeria.
- ii. The smooth running of VTE programmes is obviously theoretical as a result of inadequate funding; shortage of input resources like equipment, machinery and personnel. The fault of inadequate funding could either come from the proprietor of the training institutions (government or private bodies) or/ the chief accounting officer of the institution.
- iii. Inadequate modern information and communication technology (ICT tools – The revolutionary approach expected in vocational and technical education institutions to embrace ICT evolution and explore its potentials to redefine the terms of teaching and learning vocational and technical education subjects/courses remains an institutional problem. Hence, the tools

- of ICT like Web delivery, navigator, multi-threaded web feature and interactive ICT teaching and learning approaches could not be applied to break the barriers to instructional practices in VTE courses.
- iv. Epileptic Power Supply - It is no longer news that there is paralysis in electricity generation for VTE programmes.
 - v. Unstable internet connectivity - Poor network, network breaking, speedy data consumption and internet fluctuating have been part of the slogan in implementation and administrative practices.
 - vi. Poor state of vocational and technical education libraries- where VTE libraries exist, foreign books are in stock while modern, relevant and well referred practical-based vocational textual materials are uncommon. For instance, it is no longer news that attention is not often given to the availability and adequacy of vocational and technical education textual materials except during accreditation exercise! Who is to blame?
 - vii. Lapses in students' industrial work experience scheme (SIWES) - As laudable as SIWES is in vocational and technical education programme implementation, there is a wide gap between the intention and the way it is practiced. The essence of SIWES is for the trainees to be exposed to the onsite practicals of what they are taught in the formal education system. More often than not, field work experience in SIWES shows lapses in supervision and monitoring (no constant monitoring of the trainees). Also, abstinence of trainees in their places of industrial attachment as well as the place of industrial experience not directly a replica of what they are offering in their training institutions, and no formal synergy between the training institutions and the industries of industrial attachment are obvious touch points. A good number of trainees attend to the industrial work at will, and the remuneration (allowance) approved to be given to the students' trainees many a time is not paid to time and it is sometimes attacked by administrative bottler-neck. The implication on the long run is that the purpose of SIWES programme is usually not maximally achieved.
 - viii. Stringent Admission requirements for vocational and technical education programme as a course of study in Nigeria tertiary institutions - The observation here is that vocational and technical education, which is a form of education that fosters the development of occupational skills needed in preparation for work is attached rigidly to students having ordinary level (O/L) credits in some subjects. A case in hand is technical education. The O/L requirements to study technical education in some Nigerian tertiary institutions include English Language, Mathematics and some specific science subjects. Why and how many roadside artisans mechanic, master craftsmen, panel beaters, painters, woodworkers, automobile, rewires, radionics have ordinary level credits in physics and chemistry among others before they become experts in their vocational skills in Nigerian society? The operational logistics put forward later in this paper would show the stakeholders in Nigeria and other concerned African countries the way out of the woods.
- The implication of it all is that despite the fact that vocational and technical education is value-laden, the touch points obviously reveal that VTE cannot fuel development and global competitiveness in its present form in Nigeria. The touch points altogether have actually pointed out most of the

burning points which should be addressed in VTE in order to move the society forward. In sum, the touch points are misconceptions about the word vocational and technical education, value crises, and the assault on vocational technical education in Nigeria. Others are the matters arising in the curriculum of vocational and technical education programmes and institutional issues among others. All the enumerated touch points are yearning for solutions. What are the ways to go if truly vocational and technical education would serve as a medium to address economic maladies in Nigeria and the rest of African countries? The possible and pragmatic way forward are presented as operational logistics in the next sub-title.

Operational Logistics on Vocational and Technical Education Curriculum to Address Economic Maladies for Development

In order to create jobs, generate wealth, and enhance productivity for development, skills development (employability skills and entrepreneurship skills) through vocational and technical education curricular practices is very important. This is why the need for operational logistics on vocational and technical education curriculum in theory and practice becomes very significant. The logistics demand the following approaches for a better yield.

1. The need for activitymania approach in vocational and technical education curriculum design and implementation in the training institutions: The use of activitymania approach is the pragmatic suggestion of the writer of this paper for enhanced productivity and for VTE to serve as an effective catalyst for development. What is activitymania approach? Activitymania approach is a teaching approach which entails an exploration and collection of arranged and hands-on activities through which learners demonstrate the features of the subjects

matter of a discipline or course in order to grasp the understanding needed of an eventful end (Alade, 2007; Alade, 2021). We cannot throw away the kits and manuals (practical tools and practical guide). There is timely need for all the stakeholders of VTE curriculum at various levels of the training institutions to revisit its respective curriculum document. How? Each theme/topic or the subject matter should have a corresponding specific practical activity to be carried out beyond only the common subject matter to be covered as are usually stated in the programme (handbooks) documents. Activitymania approach encourages active participation and contributions of learners to instructors’ instructional delivery.

The implementers of VTE curriculum should note the following essentials as fundamentals for effective activitymania approach:

- i. There should be pre-planning, definite focus and span on the subject matter to be treated over a period of time;
- ii. The objectives should be well defined behaviourally;
- iii. Material provision should be the responsibilities of the institution, the trainers/instructors and the students (trainees).
- iv. The prescribed procedures for the activities should be highlighted.
- v. The approach should encourage both the trainers’ and trainees’ interaction;
- vi. Trainees’ creativity and spirit of inquiry should be encouraged, and this also covers problem-solving approach;
- vii. The activitymania approach should be intellectually challenging by

encouraging the development of higher order cognitive skills and creativity;

- viii. Flexibility in the use of activitymania approach is essential, it is not a one-way traffic;
 - ix. The approach should be both process and product-oriented.
2. The use of vocational workbook: A vocational workbook is a lighter book compared to textbooks and it contains instructions and exercises on selected topics/subjects matter on a particular course in vocational and technical education which a trainee can do or work on both within the class, workshop or laboratory/studio and outside the formal teaching-learning process. A vocational workbook is activity-based and should not be confused with activitymania approach. It may be likened to the use of alternative to practicals but caution should be made not to equate it with real practical. For instance, a woodwork student in senior secondary school III may be asked to sketch all the constructional details of a bookshelf construction in a typical workbook. Later, the real practicals to be carried out should not be far to the activities carried out in the workbook. The use of vocational workbook promotes the acquisition of skills in VTE for better preparation of trainees for the world of work.

Use of andragogical and pedagogical dynamics in the delivery modes of vocational and technical education curriculum: As a curriculum and instruction expert, the instructional delivery mode being recommended for VTE is a mix of andragogy and pedagogy in tertiary training institutions. Pedagogic is defined as "a school teacher". One who instructs in a pedantic or dogmatic manner. In pedagogic model of instruction, the VTE instructor

assume responsibility for taking decisions about what is learned by the trainees, and how and when something would be learned. This is trainer-oriented/trainer-directed learning. It was to an extent (A pedagogical approach). This type of learning has its roots in constructionism, and it is believed that wisdom is evil, and that adults should direct, control and ultimately limit children's learning to keep them innocent. In pedagogy, the educational focus is on transmitting, in a teacher-controlled environment, the content/subject matter. However, andragogy implies a focus on teaching the acquisition of and critical thinking about the content and its application in real-life practical settings (<http://www.sergeciaesabe/Essays/Andragogy.htm>). Andragogy is a practical mode of delivery that must be sloganized in VTE programmes and applied likewise though with a blend of pedagogy - "Andragogy-pedagogy mix". Andragogy permits greater involvement of trainees in the learning activity. It should be noted that higher education should not dismiss the pedagogy model of curriculum delivery, instead, it should be "andragogy-pedagogy mix" for effective skills acquisition for development.

- 3. Campaign against Conservatism ("we have always done it this way") - The addiction to the traditional approach to VTE programme implementation should be jettisoned. That is, the use of chalk and talk - too theoretical - one-way direction teaching mostly radiating from the tutors/trainers to the tutees/trainees with occasional trainees' participation should be massively campaigned against and monitored by appropriate authorities like Baldwin sometimes said around 2003, "that is the way it is always being done around here". What about in Nigeria case? - Conservatism in implementation approaches to curricula policies. Those at the helm of affairs of VTE matters in policy formulation and implementation should henceforth not become stalwart

defenders of the status quo of pedagogy, I quote, "that is the way we have always done it" (that is, according to traditions). The time has come to break the traditional pattern of addressing VTE issues in Nigeria. A change would bring rehabilitation to the pitfalls in VTE programmes implementation, the end results would promote development.

4. Need for Review of Admission Requirements of Entrants into Vocational and Technical Education Programmes in Nigeria: Everyone is endowed with gifts and talents. We imprison the potentials of individual youth that could be admitted to acquire vocational skills by restricting tertiary institution admission requirements in some VTE programmes to those who are science-based only. Similarly, policies that makes vocational and technical education programme a no-go area in term of admission requirements to those in the arts/humanities have robbed a proportionate percentage of them of fulfilling their natural vocational endowment. Where do we go from here? In Nigeria of today, English Language and Mathematics are the first two requirements for any university degree. Those two subjects and "say any other three" should also be considered for admission in some vocational/technical education programme. In technical education to be specific, if students without Physics and Chemistry background are admitted, there is the need to integrate Technical Physics (TPH) as applied to technical education and Technical Chemistry (TCH) as applied to technical education among others as required courses/remedial courses in the curriculum review of technical education. It is my candid opinion that such students would blend in due course and enrollment in technical education will improve. Some other

vocational courses where the admission requirements are also denying those who could be vocationally groomed admission should also consider some in respect of the subjects they mandate for prospective trainees to have at ordinary level before considering them for admission. This recommendation is not in any way degrading the existing admission requirements, but it is ideal to make the admission requirements more flexible and more open to the youth in the outside world because manual dexterity in vocational skills with related theory is the emphasis, not the impression of making them pure scientists.

5. Vocational Talent Hunt (VTH): All VTE training institutions are encouraged to integrate Vocational Talent Hunt (VTH) in their programme of activities. Through VTH, there would be opportunity for trainees to demonstrate their creativity innovativeness (novelty) in form of creativity skills, cultural creativity, vocational creativity, and this would encourage institutional talent hunt competition with a view to bringing out the best out of the VTE trainees - The Vocational Talent Hunt activities may be intermittently organized in the course of the students' academic programmes.
6. Collaborations and linkages on vocational and technical education with other institutions and bodies on local and global best practices in VTE programme e.g. in the area of research priorities, exchange of personnel for cross fertilization of innovations and skills development to encourage even global competitiveness among others. This is "operation do it together".
7. Administrative of Vocational and Technical Education Leadership: Only leaders who have strong beliefs in the

- importance and relevance of vocational and technical education and communicate same to others through effective administrative potentials should be entrusted with VTE policy design and implementation.
8. Provision of learning resources must be improved: vocational e-library is essential in this information -driven age. Modern equipment, facilities and tools need more attention. The involvement of philanthropists, organizations and foundations added to governments own responsibilities in the provision of resources for VTE would boost the output.
 9. Interact of Things (IOT) through technology packages for online instructional delivery in the computer age is very essential. To be specific, IOT would fuel instructional delivery which has to do with the provision of courses online via the internet; easy navigation of the interface on VTE materials to allow students to always have quick access to key information on VTE, and provide navigation in the form of concept maps; interactive learning with commercial courseware and other programmes and the web materials itself; access to research materials, etc.
 10. Staff professional development: Professionalism of VTE staff needs periodic "tune ups" (skill up) through training, workshops, seminars and conferences on global practices in their field and innovative methodology and expertise.
 11. Assessment criteria to be used for VTE should be more practical-based, mostly focused on skills acquisition and occupational-oriented other than the traditional academic achievement assessment and evaluation mode that are still popular in Nigerian education. Perhaps I may ask, how many hours are allocated for practical/workshop/laboratory/studio assessment and examination in the present-day education in Nigeria?
 12. Adequate Funding: Vocational and technical education in Nigeria needs a significant measure of funds for optimal performance. Funds are needed to implement policies and to finance VTE reforms. The culture of injecting low level of funds to VTE sector should change by the appropriate quarters because comprehensive reforms in the value-laden. VTE cannot be carried out without adequate funding.
 13. Address the Value Crises/Assault on Vocational and Technical Education: The value crises and assault on VTE in Nigeria should be addressed through adequate education and sensitization of the entire social classes in the society and use of professional guidance counselors. This would help to encourage better enrolment in the programme and discard such negative notion about vocational and technical education. The more youths are enrolled, the more they will be trained and productive, and in the final result, the more the country, Nigeria is said to develop economically, socially and lots more.
 14. Formal institution and industry collaborative synergy: This operational logistic call for the need to formalize a working synergy between VTE training institutions and industrial sectors (establishments) to allow for the integration of the learning activities and opportunities available both in the institution and the informal sector Alade (2013) referred to this curriculum operational logistic as enhanced school-to-work approach where in whatever is taught in the formal system is a replica of what operates in the employment market,

and such is further complemented by what operates practically in the world of work.

15. Review of the Students' Industrial Work Experience Scheme (SIWES) mode of practice: For adequate supervision and monitoring, it is ideal that private establishments/industrial sectors should be contacted by the institutions where VTE is offered to enlist them as part of the recognized establishments for students posting during their internship / industrial attachment experience. This would give further recognition to them, and such establishments can be consulted through students and other stakeholders. This approach will curtail the lackadaisical attitude of the guilty SIWES students being experienced more often by SIWES supervisors. VTE policy makers however need to work on how to empower the establishment/industrial sectors that volunteers to be part of the school- industrial scheme monetarily to get their cooperation which in turn will empower the student (trainees) in skills acquisition. It is where people are skilled that businesses prosper, job creation expands, and societies thrives in the local and world ratings.
16. Revamping Guidance and Counselling in Nigerian Educational Institutions: The exposure of youth to the values embedded on the type of education and career choice available to them determine to a large extent the economics growth and national development of the country. It is unfortunate that in Nigeria, many youth are denied a career in VTE due to inadequate vocational guidance. Effective vocational guidance in Nigerian educational institutions to inform youth of career prospects and opportunities within each vocation or trade, to better guide vocational choice or selection will improve the

enrollment future of entrants into VTE institutions and the future influence on national development. Those professionally trained personnel in guidance and counseling should be employed and be posted to Nigerian educational institutions because the roles of personnel in schools are dissimilar. The professional roles of counselors differ from teachers and vice versa. The status of professional counselors must therefore be restructured and be repositioned in Nigerian education system because they play the role of vocational career doctors.

17. Need for Vocational and |Technical Education Universities (VTEU) in Nigeria: It is not an overstatement to advocate for the establishment of Vocational and Technical Education Universities (VTEU) in Nigeria for sufficient production of manpower for national development. There are some discipline-based universities in Nigeria already. The Vocational and Technical Education Universities to be established should capture different categories of trades which would provide opportunities for job creation and economic empowerment for Nigerians in the near future. The idea of establishing VTEU is likened to pure science-based/ engineering-based universities, and must accommodate most of artisan trades and business enterprises in the society as well as integrating technology so as not to undermine global competitiveness.
18. Empowering Artisans Apprenticeship Scheme (AAS): A segment of vocational and technical education and training which is an avenue for wealth creation and national development is an Artisan Apprenticeship Scheme (AAS). Over the years in Nigeria, artisans, popularly tagged roadside artisans' have emerged as dependable vocational group which contribute to

national economic development (Alade, 2013). Artisans (masters) with their joinery men and apprentices usually trained under the apprenticeship system. The apprenticeship scheme belongs to non-formal-education, hence their significant. The need of the moment is to improve their educational level and empower them financially and with training in modern machines, equipment and tools. Nigerian government can set up modalities for this at the local government for easy capturing of their data.

19. Need for Trash to Treasure Studies in Vocational and Technical Education Training Institutions: In the forward march to ensure that VTE serves as an avenue to address economic maladies for development, there is the need to introduce Trash to Treasure Studies (TTS) in the curriculum of all the tentacles of vocational-based programme - Business Education, Technical Education, Agricultural Science Education, and Home Economics Education among others. Trash to treasure can be otherwise be referred to as Waste to Wealth Studies (WWS). This innovation implies a collection of different categories of waste materials (trash) in the society and studying the conversion processes by VTE trainees in specific establishments in Nigerian communities. The objectives, contents, the learning activities and the evaluation techniques with appropriate methodology for the learning process must be developed by curriculum experts, VTE experts and directors or entrepreneurs in different categories of the waste to wealth items/trash to treasure items in the society.

Listen to these - *"As the world struggle to manage its waste, residents of Ibadan, in Nigeria present Alternative ways to recycle"*.

- Jumoke Olowokere's giant Christmas tree was constructed from discarded bottles, and it has become a permanent fixture on the street near her office in Ibadan as reported by Amogunla and Jazeem (2021). The floating cans, nylon water sachets, empty bottles and other waste materials discarded by humans, and swept away by rain down the drain can be converted to wealth/treasure - vocational trainees need to learn such process.
- Ade Dagunduro in his own vocational effort, "not trash, but a thing of beauty", surrounded by art pieces in his gallery in Dugbe at the hearth of Ibadan, with his desire to, push the boundaries of what he learned within the walls of a university as a graduate of Fine Art from Obafemi Awolowo University, Ile Ife, took up more training in painting and sculpture, claiming that "school was more theoretical, less practical. When you get out of school and into the real world, you realize there is much more to learn", he says. In his thinking outside the box, and to be more creative, learned to manipulate waste materials like used tyres which would otherwise be burned, to make an ox (A thing of beauty).
- Adegoke Lasisi made a school bag from 250 used water sachets - The discarded "pure water" sachets and nylon were gathered from common sight on road and in gutters - "I began to pick them up" she says. "I also began to think of what I could do with them"

The above are evidences of trash to treasure/waste to wealth indeed. These are all pointers to the need to make vocational and technical education, training and entrepreneurial studies portfolio more valuable to the individuals and the society.

Re-focusing Vocational/Technical and Entrepreneurship Initiatives and Poverty

Alleviation Programmes for development: The formal vocational and technical education curriculum in the training institutions are indeed limited in meeting the challenges of Nigerian economy and national development, thus my submission is that Nigerian stakeholders should look beyond the formal curriculum. The need arises in the emerging society to refocus the numerous economic initiatives, and poverty alleviation programmes which had been explored by successive Nigerian governments at various era.

Expected Outcomes of Vocational and Technical Education Curriculum amidst Economic Maladies in Nigerian Continent in Africa for Development

On the view that the operational logistics for effective vocational and technical education in Nigeria would be given the much needed attention by the stakeholders of education, the following are the expected outcomes. All other African countries should learn from the subject matter.

- i. Reduction of joblessness of the graduates from training institutions.
- ii. Production of professionally skilled and self-reliant graduates.
- iii. Increase in graduates with more creative potentials and innovative acumen for social functioning.
- iv. A more visible specialization training, and better job opportunities and higher earnings are made possible.
- v. It enhances human development through relevant skills and knowledge acquisition to participate effectively in social, economic and technological innovation processes and advancement.
- vi. It makes impacts on productivity, economic regeneration and development.

- vii. It empowers youth to engage in production careers and services for poverty alleviation and sustainable live hood.
- viii. It breeds job creation by creating employment opportunities and income generating activities in the formal and informal sectors of the society.
- ix. A well pursued vocational and technical education curbs crime, youth restiveness and promote national security.
- x. A success of vocational and technical education gives rise to skills intensification, use of modern manufacturing processes and advances in knowledge economy as well as production for development in Nigeria and Africa as a whole.

Conclusion

Vocational and technical education in different forms thus far, in Nigeria, has been one of the programmes with utilitarian values, and has featured frequently in the educational plans and discourse of the country till date. The touch points and the matters arising in this paper are no doubt, the areas yearning for adequate attention, and the operational logistics put forward are worthy of timely consideration. The VTE training institutions cannot achieve development all alone, As a result, vocational/technical and entrepreneurship initiatives in Nigeria as well as poverty alleviation programmes outside the formal education system would remain veritable and added supplements to enhance economic survival and worthwhile development. Going by the thesis of the paper, a case for and a re-think of vocational and technical education in theory and practice through its curriculum is the responsibility of all stakeholders in the contemporary Nigerian society.

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