

Vocational Colleges Curricula: A Comparative Study between Malaysia and Nigeria

Halliru Shuaibu ^{a, b, *}, Siti Hajar Mohd Amin ^a, Sarimah Ismail ^a, Yusri Kamin ^a

^a Department of Technical and Engineering Education, School of Education, Faculty of Social Science and Humanities, Universiti Teknologi Malaysia, Malaysia.

^b Federal College of Education (Technical) Bichi, Kano-Nigeria

*Corresponding Author: hallirushuaibu76@gmail.com DOI: <https://doi.org/10.34256/ajir1949>

Received: 09-10-2019

Accepted: 24-12-2019

Abstract: The aims of Vocational Colleges (VCs) are to give training and impart necessary skills leading to the production of craftsmen who will be enterprising and self-reliant. Many developing countries face the problem of unemployment among graduates; this may not be far from curricula modules mismatching job requirements. The scenario of low participation of private sector in skills development of graduates exists in Nigeria as a result of which the needs of local industries is not met. The objective of this paper is to compare the curriculum framework, courses/subjects-matter, aims, modes of transaction, and evaluation strategies in VCs in Malaysia and Nigeria. The methodology used in this study involved gathering previous studies on comparative analysis in education through Google Scholar, Science Direct, and JSTOR. Related Procedia were also retrieved from Elsevier. Literatures show that students have to adapt with 21st century knowledge, skills, innovative practice and competence as key points to job creation and wealth generation. The findings of this paper show that the curriculum structures in VCs in Malaysia are more updated than in Nigeria. However, curricula in VCs in Malaysia and Nigeria still need some improvements in entrepreneurship skills. This is necessary for effective transmission of knowledge and skills from school to work environment in the 21st century.

Keywords: Curriculum Framework, Aims and Objective, Vocational Curriculum Courses, Modes of Transaction.

1. Introduction

There are 80 Vocational Colleges (VCs) in Malaysia offering two types of programs, namely: Malaysian Vocational Diploma (MVD) and Ministry of Education (MoE) Apprenticeship Programme. Four types of certificates are given to graduates, viz: MVD, Malaysian Skills Certificate; Malaysian Vocational Certificate; and Industry/International Certification. This

programme is offered to student after they finish their lower secondary school examination (age 16 years old), with the aim of nurturing their skills. It is produced to meet the needs of the country's semi-skilled manpower, and employers requiring skillful vocational education graduates to form world-class human capital [1] and [2].

For MVD, specific skills and knowledge in fields are exposed to develop and update students' knowledge for suitable occupations. Students who have attended the Malaysian Vocational Certificate (MVC) programme for 2 years will spend 2 more years to be awarded MDV in the same course at VC. For the MoE Apprenticeship programme, the use of National Dual Training System (NDTS) model from the Ministry of Development Department was modified according to the print of the Ministry of Education Malaysia to be awarded Malaysian skills certificate (level 1-3) [3]. The programmes offered at VC are targeting 70% of graduates to the job market, 20% of students will continue their study and another 10% will become entrepreneurs as mention in Vocational Education Transformation (VET) [2].

Vocational Enterprise Institutions (VEIs), otherwise called Vocational Colleges were approved by the Federal Government of Nigeria to provide an alternative route to higher education, as part of the on-going reform of the Technical and Vocational Education (TVET) sector. The number of VEIs in Nigeria is 82: 71 Private, 9 Federal, 2 State ownership (Kano & Ogun States of Nigeria). They are private institutions which will offer competency based-skills in vocational or professional education and training at post-basic and post-secondary levels to equip the youth as well as working adults with vocational skills and knowledge to meet the increasing demand for skilled manpower in the various sectors of national economy [4].

[5] stated that candidates must not be less than 14 years of age who has completed three years of Junior Secondary education or its equivalent. Special consideration may be given to sponsored candidates with lower academic qualifications who hold trade test certificates and are capable of benefiting from the programme. Other category of beneficiaries includes: School leavers who wish to acquire demonstrable practical skills

to secure employment or generate employment, persons seeking for career paths that do not need university degrees, persons who have not studied for some time and desire to do so, persons without time for full time study but want to enhance their skills, persons wishing to go into self-employment, and adults seeking opportunities to re-skill themselves. The rationale for conducting this study is to analyse and compare the curricula of vocational colleges in Malaysia and Nigeria with the hope that results of the study will bring forward appreciable improvement in the curricula of the two countries for better socio-economic growth.

Many literatures show that students have to adapt with 21st century knowledge, skills, innovative practice and competence as key points to job creation and wealth generation in any nation aspiring for socio-economic independence. It is the responsibility of education to equip students with suitable and effective work skills for this socio-economic independence. This can be achieved through the curriculum of vocational colleges as the instrument (or mechanism) for transmitting suitable and effective work skills through teaching and learning. However, lack of capacity to accommodate increasing number of candidates, low participation of private sector in skill training and development, inadequate funding, and mismatch between the training provided by colleges to graduates and the needs of employers of labour leave a lot of gaps that need to be investigated in areas such as effectiveness of the working curricula. This idea is supported by [6] and [7].

The main objective of the study is to compare Vocational Colleges' curricula structure. Specifically, the study determined:

- a) The similarity and difference in curricula framework of VCs between Malaysia and Nigeria.
- b) The similarity and difference in course/subjects-matter of VCs between Malaysia and Nigeria.

- c) The similarity and difference in aim/objectives of VCs between Malaysia and Nigeria.
- d) The similarity and difference in modes of transaction of VCs between Malaysia and Nigeria.
- e) The similarity and difference in evaluation strategies of VCs between Malaysia and Nigeria.

The following four (4) research questions guided the study:

- a) What are the similarities and differences in curricula framework of VCs between Malaysia and Nigeria?
- b) What are the similarities and differences in course/subjects-matter of VCs between Malaysia and Nigeria?
- c) What are the similarities and differences in aim/objectives of VCs between Malaysia and Nigeria?
- d) What are the similarities and differences in modes of transaction of VCs between Malaysia and Nigeria?

2. Methodology

Previous studies on vocational colleges and comparative analysis in education were searched through electronic databases, namely: Google Scholar, Library Genesis, Science Direct, Elsevier and JSTOR. Conference proceedings were also obtained and utilized. The searching covered a period of five years (from 2013 to 2018). The following keywords were used to search for related publications: curriculum framework, vocational courses, curriculum integration in VCs. All publications obtained were recorded. After analysis of the studies, a summary was presented in Table 1.

3. Results

The data collected in this study are limited on five criteria of Malaysian and Nigerian VC's curricula structure only. However, for the finding, focus was made on

similarity and limitation as can be seen in Table 8. The explanation about similarity and limitation of Malaysian and Nigerian VC's curricula structure is mentioned under discussion.

4. Discussion

The curricula of Malaysia and Nigeria are developed in similar manner with the main components that can fulfil the general and specific knowledge and skills that student need in present and future life after graduation. Moreover, 21st century skills (critical thinking and problem solving; communication; collaboration; and creativity) are elements discovered in the education system that will affect students' responsibility, family, school and community. Curricula focus is found to be multifaceted for satisfying modern occupations. Thus, the theory and practical elements contained in each curriculum shows that the curriculum framework is built on standard. The percentage of theory and skills in the curriculum frameworks show that Vocational Colleges (VCs) are serious to produce semi-skilled future workers as demanded by policies and employers, since most of the students in the VCs are admitted from lower academic qualifications. Students are prepared to face economic growth in terms labour. However, electrical energy may pose a challenge for Nigeria but Malaysia has stable electrical energy to enhance productivity for sustainable growth [8].

Contemporary workers are facing new working scope that institutions need collaboration in several disciplines and need serious action to avoid producing less skilled and irrelevant workers especially among graduates. A good course content in educational programme is important to make sure students can compete in global market.

Table 1. The Similarity and Limitation between Malaysian and Nigerian Curriculam.

Components	Similar	Limitation
Framework	- Have theory and practical element	<p>Malaysian limit; Focus on academic module, VC cluster program, OJT and School Enterprise - MoE crate and modify curriculum from Department of Skills Development -Malaysia show percentage 20:80 for DVM and 70:30 for CVM - designed based on student- centered learning with teaching method likes Production-Based Education (PBE), Competency-Based Education (CBE) and On-Job-Training (OJT)</p> <p>Nigerian limit - Nigeria only refer NBTE - Percentage of curriculum in Nigeria more detailed (80% practical content, 15% Theoretical studies and 5% General studies component).</p>
Courses	<p>-Generally, the number and name of component quite similar event they use different term -based on modular -English and mathematic is a same subject in general studies/ academic module - the course specific to the job tittle/work name -same course name named Computer Studies, Agriculture, Automotive Mechatronics, Block laying and Concreting, Carpentry and Joinery, Cosmetology and Beauty Therapy, Electrical Installation and Repair Work, Fabrication and Welding, Fashion Design, Hospitality and Tourism, Motor Vehicle Mechanics, and Refrigeration and Air-conditioning. -industry practice as a compulsory activities</p>	<p>Malaysian limit -The courses develop according curriculum framework - Module academic content general knowledge to know for a student - Cluster program courses were offer limited in 8 field but not all VC offered because it offered according the facility in the VC and it may be change time by time according need from industry in Malaysia - On the Job Training function to evaluate student's competent their knowledge and skills in field work by a teacher and employee - The module for entrepreneur provides general knowledge in entrepreneurship to encourage VC students' creative, innovative and entrepreneurship interests.</p> <p>Nigerian limit; - General studies contented English Language, Economics, Physics, Chemistry, Biology, Entrepreneurial Studies and Mathematics</p>
Aims and objectives	The entities such MoE and VEI are designed with similar objectives in general, based on the needs of each country.	<p>Malaysian limit; - Every VC in Malaysia will create their own vision, mission and objective</p> <p>Nigerian limit; - General and professional education to promote self-employment and national economic growth.</p>
Modes of transaction	- Have total contact hour meeting before award student studies program	<p>Malaysian Limit; - 8 semesters (3 ½ - 4 years) for each system with diploma level for DVM and 12 months for Apprentice program - Total credit hour 90 where 1 credit hour = 40-hour teaching time according MQF (3,600 hours)</p> <p>Nigerian limit; -3 – 6 year with modular courses. - 2700 contact hours for the hold program in VC and additional 480 hours contact hours in industry per year - National Vocational Certificate (NVC) award at the end of a programme.</p>
Evaluation strategies	<p>- Same number of assessment but different method -Have terminal and final examinations</p>	<p>Malaysian limit; - 4 assessment method in general evaluation (quiz, test, practical work and individual assignment) - 2 types Specifications Evaluation (continuous assessment and final examination) - OJT have their own assessment</p> <p>Nigerian limit; - 4 assessment methods (project work; assignment and test; terminal and final examinations)</p>

Specific course title and English language were used in both Malaysian and Nigerian Vocational College cluster courses and general study. The importance of specific course title cannot be overlooked because according to [9] specific course title and the teaching method in the curricula help students to competent in their studies. On the other hand, Nigeria's curriculum framework for VCs possessed similar framework except that entry requirements and industrial attachment were clearly spelt-out whereas School enterprise was used instead of industrial attachment in Malaysian VCs.

The courses/subjects-matter contained in the curricula of Malaysia and Nigeria are similar professionally except the presence of general courses such as English language, Physics, Chemistry, Mathematics among others, in Nigeria's curriculum. Also, Malaysian Vocational Colleges added Mandarin, and Arabic language as entrepreneur languages in their curriculum as a component of general education.

Aims and objective in Nigerian Vocational Colleges are generally built by National Board for Technical Education whereas the aim of VC is to give training and impart the necessary skills leading to the production of craftsmen who will be enterprising and self-reliant [6]. In Malaysia, the aims and goals are set from VC itself; where the director, teacher and staff can use their creativity to achieve these aims and goal via students' performance in and out of college. The objectives of VCs in Nigeria were found to be broader than that in Malaysia, for example setting new standards in design and delivery of competency and skills-based education and training in order to contribute to technology, capital, and industry expertise in TVET – through participation in curriculum development, training, networks, and access to production equipment and know how.

The credit system serves as the mode of transaction in Malaysian VCs, the total credit hours for MDV programme is 90 (3,600 hours meeting), whereas in Nigeria the total contact hours in VCs are 2700 and another 480 hours

have to follow at the industry per year. Thus, 3180 hours for the entire programme is used in Nigeria. It is observed that VCs in Malaysia have an advantage of 420 hours more compared to their Nigerian counterpart. Credit hour is the international mechanism for transaction mode in curricular programme. This credit hour system is important to standardize the suitable teaching method and workload of the course according to level of study and content of learning outcomes [10]. Also, [11] and [12] buttressed that effective knowledge and skills obtainable from both schools and industries should centre on individuals' ability and modern teaching methods, for instance Production-Based Education (PBE), Competency-Based Education (CBE), and On-the-Job-Training (OJT).

Evaluation strategy is the best way to define whether the content of the program was understood and assimilated by the students or not [13]. The authors found out that variety of evaluation strategies are practised in both Malaysia and Nigeria for assessing students learning in VCs. Such evaluation strategies found common to both countries were: project work; assignment, test, final examinations, quiz, practical work and presentation. The variety of assessment methods is good to investigate the significance and impact of the program [14].

4. Conclusion and Recommendations

This study is limited to compare curricula structure similarities and differences in Malaysia and Nigeria. This comparative analysis can be used for curriculum structure improvement because each curriculum has strengths and weaknesses. To improve in this curriculum structure is the gap in this review. Holistic and up-to-date curriculum structure is important to help other educational institutions especially VCs to fulfil the need and new revolution in industries. As the 21st century skills are needed, it is the one reason

of the transformation in TVET. In the same way, it can make VC students get a secure job.

Clearly, curriculum framework explains the general plans in educational programme, for instance the main idea of the national economic and global needs; and the type of educational outputs. By that, the course development can be conducted as the main mechanism to implement the curriculum structure. Both VCs of the two countries highlighted the functions of English language as a way to internationalize their students beside the vocational subjects. In addition, Malaysian VCs offer entrepreneur language like Mandarin and Arabic to enhance their students as entrepreneurs.

However, the source of generating goals and specific objectives in educational programmes is not as important as translating them into practice using available resources, and creativity of staff in the VC. While a Board created aim and objectives for VCs in Nigeria the staff of VCs developed them in Malaysia. Transaction mode is also important to transfer course subject content to teaching and learning activities. Using perfect and updated teaching strategy and method is important in TVET area because skills can only be applied with good understanding in knowledge; and to make sure the time durations will be accomplished as stated in curriculum framework, noting that teacher centred strategies are not stimulants to psychomotor and affective domains in teaching and learning. Similarly, evaluation strategies measure achievement of knowledge and skills attained by students in the programme. With variety of assessments methods, feedback to teaching and learning process can be known by both students and teachers for remedial actions.

References

- [1] C.C. Kee, H.L. Kiong, Malaysia's Education Crisis- Can TVET Help? *Malaysian Journal of Economic Studies*, 53 (2016) 115 – 134.

- [2] F. Abdullah, (2017) Ministry of Education Technical and Vocational Education and Training, *Education Seminar of Forward Johor*, Slide presentation.
- [3] Ministry of Education (2013) Vocational College Framework Program. Malaysian Ministry of Education.
- [4] National Board for Technical Education, (2007) Vocational enterprise institutions, NBTE: Kaduna-Nigeria.
- [5] Federal Republic of Nigeria (FRN, 2014). *National Policy on Education*. Nigerian Educational Research and Development Council (NERDC): Abuja-Nigeria.
- [6] I. Tumba, H. Shuaibu, Strategies for improving students' acquisition of practical skills in electrical installation and maintenance work trade in technical colleges in Kano State. *International journal of engineering and science*, 5 (2016) 2319-1805.
- [7] B.S. Abubakar, *Effects of the practice-based inquiry cycle in teaching building technology on the performance of pre-service NCE technical teachers*, Unpublished PhD thesis submitted to the Department of Curriculum and Instruction, Ahmadu Bello University Zaria, Nigeria, (2017).
- [8] OPO Productivity Data Book, (2017) Asian Productivity Organization, Keio University, Tokyo,.
- [9] Z.E. Davidson, C. Palermo, Developing Research Competence in Undergraduate Students through Hands on Learning, *Journal of Biomedical Education*, 15 (2015) 1-9.
- [10] A.J. Munoz, Flipping Lectures: Analysing Student Work loading EMI Contexts, *Journal Procedia-Social and Behavioural Sciences*, 212 (2015) 35-41.
- [11] M. Karhumaki, *Competence Assessment and Competence Development: Case Pori Energia*, Turku University of Applied Science, Degree Thesis (2015).
- [12] N.S. Bidabadi, A.R. Isfahani, R.A, Nasri, R. Khalili, Effective Teaching Method in Higher Education: Requirements and Barriers, *Journal of Advances in Medical Education & Professionalism*, 4 (2016) 170-179.
- [13] N. Thomas, An Analysis of Program Evaluation Course Content in CSHSE-Accredited Human servis Baccalaureate Programs, *Journal Studies in Educational Evaluation*, 59 (2018) 187-194.
- [14] B.F.H. Smith, I. Walkinshaw, On Evaluating the Effectiveness of University-Wide Creding-Bearing English Language Enhancement Courses, *Journal of English for Academic Purposes*, 31 (2017) 72-83.
- [15] N. Zakaria, A. Yamin, R. Maarooof, Career Management Skills Among Vocational Students, *IOP Conference Series: Material Science and Engineering*, 226 (2017) 1-6.
- [16] N. Tvenge, O. Ogorodynk, Development of Evaluation Tools for Learning Factories in Manufacturing Education, *Journal Procedia Manufacturing*, 23 (2018) 33 – 38.

Funding: No funding was received for conducting this study.

Conflict of Interest: The authors have no conflicts of interest to declare that they are relevant to the content of this article.

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