**Asia Proceedings of Social Sciences
(APSS)**

www.readersinsight.net/APSS

ANALYSIS OF THE PERFORMANCE OBJECTIVES OF NIGERIAN HIGHER NATIONAL DIPLOMA BUILDING TECHNOLOGY CURRICULUM

Musa Ali Jogana *

Department of Building Technology, School of Technical Education
Federal College of Education (Tech.) Bichi, Kano State,
Nigeria
malijogana@gmail.com

Talatu Musa Garba

Department of Education, Faculty of Education,
Bayero University, Kano, Kano State,
Nigeria
talatufm24@gmail.com

Nasiru Mukhtar

Department of Science and Technology Education, Faculty of Education
Bayero University, Kano, Kano State,
Nigeria
nmukhtarbichi@gmail.com

*Corrospoding author's Email: malijogana@gmail.com

Peer-review under responsibility of 5th^d Asia International Conference 2019 Scientific Committee

<http://connectingasia.org/scientific-committee/>

© 2019 Published by Readers Insight Publisher,

1st 306 Savoy Residencia, Block 3 F11/1, 44000 Islamabad. Pakistan,

editor@readersinsight.net

This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

A b s t r a c t

Polytechnics produce technical manpower in various technical and professional disciplines to make nations self-sufficient through efficient man power planning, and optimum utilization and management of resources (Awere, Edu-Buandoh, Dadzie, and Aboagye, 2016). Building construction programme in polytechnics supplies manpower to the various sectors of the economy, notably the construction industries. But documented evidences show that the Nigerian graduates of this programme do not meet up to the requirements of the construction industries regarding the attainment of effective occupational competences (Onwuka, 2009). Consequently, this study analyzed the performance objectives of the HND Building Technology curriculum to establish the sufficiency of the occupational competencies. We generated the data from the curriculum using content analysis and analyzed it with the help of descriptive statistics. Results show that the performance objectives tilted towards cognitive domain with 88.87%. Psychomotor and affective domains were rarely represented in the curriculum with 9.68% and 6.45% respectively. The findings provide curriculum developers with information regarding the inadequacy of basic occupational competences in the Building Technology curriculum for consideration in the event of curriculum review. This study opens the stage of analyzing the content of curriculum of various courses at HND level in Nigerian polytechnic, with a view to identifying the satisfactoriness of the occupational competence therein.

R e s e a r c h   H i g h l i g h t s

Building technology programmes in polytechnics are the major source of efficient technical manpower for construction industries.

The content of the building technology curriculum of Nigerian polytechnics inclined towards performance objectives in the cognitive domain accounting for 88.87%.

Psychomotor and affective domains were rarely represented in the curriculum with 9.68% and 6.45% respectively.

This points to the reason why building technology graduates of this programme are criticized for not acquiring adequate occupational competences to fit in the construction industries.

Graphical Abstract

Research Objectives

This study used content analysis to evaluate the performance objectives contained in the Nigerian Higher National Diploma Building Technology curriculum, to entrench whether or not the incidences of knowledge, skills and attitudes (KSA) in the professional courses are sufficient to support effective acquisition of occupational competencies needed in Nigerian construction industries. This is because several outcries were reported with respect to ineffectiveness of the graduates of this programme in properly fitting with the needs of the industries (Mukhtar, 2014; Atsumbe, 2006). This study is therefore, fundamental considering the importance of occupational competences in the functional growth and development of construction industries. They are developed based on the job requirements of industries and are also the bedrock of any technology curriculum.

Methodology

The researchers used content analysis to generate data from the HND building technology curriculum. The curriculum provided details of the various courses to be taken by the students, and is made up of 3 components most importantly, is the component that described the professional courses that consists of Construction Technology, Building Services and

Maintenance, Structural Design and Detailing, and Estimating and Price Analysis. These courses accounted for between 60-70% of the total contact hours. We included only professional courses because the study targeted the sufficiency of cognitive, psychomotor and affective competences for the acquisition of theoretical and practical skills needed to practice in the industries.

We analyzed the statements of performance objectives, i.e., the mentions of knowledge, skills or attitudes in the professional courses, which are labeled as 'Parent Nodes' in the data assessment (Akeel, Bell, and Mitchell, 2019). According to Bloom (1956) the Knowledge had 6 child nodes, while the Skills and Attitudes possess 5 child nodes each. The curriculum was then scrutinized and coded at the child nodes. In the process of coding, emphasis was given to the objectives of the HND building technology programme. A statement of performance objective had to clearly and specifically state what students should learn or do as a condition for coding. Descriptive statistics was obtained and tabulated as shown in next following section.

Results

Cognitive Content: 'Knowledge' is the least complex level in the domain, and recorded the highest incidences at BSM and BCT with 45 and 41 occurrences respectively, much higher than the expected occurrences. It also recorded a significant appearances in SDD with 12 incidences and fairly low appearances with 2 occurrences. 'Synthesis' is the second most complex level and recorded second highest occurrences in SDD with 40 incidences, 14 in BSM and recorded no incidence in BCT and EPA. 'Evaluation' is the most complex level in this domain, and therefore recorded the lowest incidences in the curriculum.

Psychomotor Content: 'Naturalization' is the most complex level of psychomotor domain and recorded 6, 7 and 5 incidences in BCT, BSM and SDD respectively which are all far below the expected occurrences. It was also recorded just once in EPA. 'Articulation' was recorded twice each for BCT and BSM, once in SDD and absent in EPA. Similarly, 'Precision' was recorded once in BCT, BSM and SDD courses, while it was absent in EPA. While 'Manipulation' recorded 2 incidences each for BSM and SDD, it was absent in BCT and EPA. 'Imitation' was not mentioned in BCT, SDD and EPA, but was recorded twice in BSM.

Affective Content: ‘Characterization’ is the most complex level in this realm and has not appear anywhere in the 4 courses analyzed. ‘Organization’ is the second most complex level and had 5 and 2 incidences in BCT and SDD, with no occurrences in BSM and EPA. ‘Valuing’ was missing in BCT, BSM and SDD, but was recorded once in EPA. ‘Responding’ is the second least complex level and was recorded 4 times in BCT, twice each for BSM and SDD, and not mentioned in EPA. ‘Receiving’ is the least complex level in affective realm and was recorded twice each for BCT, BSM and SDD, while it was absent in EPA.

Findings

The results of the analysis showed that although some of the levels of cognitive realm were not adequately captured in the curriculum, the cognitive competency content dominate the entire curriculum when compared with the other 2 domains, i.e., the psychomotor and affective domains. Competences in the realm of Knowledge were recorded up to 286 times representing 83.87% of the entire occupational competencies in the curriculum, while Skills and Attitudes domains were slightly represented with 9.68% and 6.45% respectively.

References

- Akeel, U. U., Bell, S. J., & Mitchell, J. E. (2019). Assessing the sustainability content of the Nigerian engineering curriculum. *International Journal of Sustainability in Higher Education*, 000-000.
- Atsumbe, B.N. (2006). School-Industry Partnership. A Veritable Tool for Quality Technology Education. *Journal of Research in Curriculum Teaching*, 1(1), 39-47.
- Awere, E., Edu-Buandoh, K., Dadzie, D., & Aboagye, J. (2016). Performance of Higher National Diploma of Building Technology Graduates in the Construction Industry: A Tracer Study in Kumasi Metropolis, Ghana. *Journal of Education and Practice*, 7(13), 124-128.
- Bloom, M. (1956). *Texonomy of Educational Objectives: The Classification of Educational Book Goals* by a Committee of College and University Examiners. New York: Longman Publishers.
- Mukhtar, N. (2014). Occupational skills required by electrical engineering graduates of universities for effecting performance in industries of Kano and Kaduna states, Nigeria.

Asia Proceedings of Social Sciences (APSS)

www.readersinsight.net/APSS

Unpublished M.Tech Thesis submitted to Department of Industrial Technology Education, Federal University of Technology Minna, Nigeria.

Onwuka, E.N. (2009). Reshaping Engineering Education Curriculum to Accommodate the Current Needs of Nigeria. *Educational Research and Review*. 4 (7), 334-339

Author's Biography

Musa Ali Jogana received the PhD degree in Curriculum Studies from Bayero University, Kano, Nigeria. He is currently senior lecturer with Federal College of Education (Technical), Bichi, Kano state. His interest area of research is curriculum development and improvement in technical and vocational education.

Talatu Musa Garba is a Professor of Education and has more than 30 years teaching and research experience with the Department of Education, Bayero University, Kano, Nigeria. She is a member of several academic associations in Nigeria and abroad.

Nasiru Mukhtar received the Ph.D. degree from the Department of Technical and Engineering Education, Faculty of Social Sciences and Humanities, Universiti Teknologi Malaysia. He is currently with the Department of Science and Technology Education, Bayero University, Kano, Kano state, Nigeria. His interest areas of research include Education for Sustainability (EfS), Programme Evaluation, and Occupational Analysis. He has authored and co-authored several publications in these areas.