Factors Militating the Effective Production of Construction Crafts Skills by Vocational/Technical Schools

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Abstract: - Skills have been one of the most important issues in the construction industry, and since the recent decline in the interest of the youth in construction craft skills, there is pressing need to explore other means of construction craft skill production. This research work assessed factors militating the effective production of construction crafts skills by vocational/technical schools using South-East, Nigeria as a case study. The research was pursued using a structured questionnaire administered to the registered to the one hundred and ninety (190) teaching staff in the Vocational schools with one hundred and forty (140) returned adequately filled giving a percentage responds of 73.7%. Data from the respondents were analyzed using SPSS version 19.0. and presented using mean and Relative Importance Index (RII) to establish the order of severity. The result revealed among others that; poor funding of vocational/technical schools as the major factors militating against effective production and supply of competent skills in the study area. Other major factors arranged in their order of severity are as follows: Lack of workable/effective training framework; 'Lack of training facilities and 'Shortage of qualified TVET teachers'. Therefore, it is recommended that Government should empower vocational training institutes, provide adequate funding, and provide sufficient facilities in the vocational school so as to ensure adequate production of construction craft skills.

Key Words: — ***Construction, craft Skill, Militating Factors.***

I. INTRODUCTION

Construction, as in other production processes, (Oyegoke, McDermott, Aouad and Cleary, 2009) involves a process of transforming inputs into outputs by using necessary resources. These resources are accumulated stocks of means of production and overall productivity performance. Thus, the effectiveness of the construction industry depends on among other factors, the quality and condition of its workforce (Abdullahi, Anum, Adole and Williams 2015).

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Overtime, the stock of competent skilled construction labour had dwindled and industry which is expected to be the highest employer of labour after agriculture is populated with largely unskilled, inefficient and dissatisfied workers (Bilau et al., 2015). Empirical investigations by Agbola (2005); Onibokun (2002) all confirmed the inadequate supply of skill crafts for building industry in Nigeria. Onibokun (2002); Agbola (2005) observed that there has been a decline in the rate of supply of building artisans as the avenue for training the artisans are few and with fewer number of artisans in the labour market, the wages of the available ones are demanding are increasingly high.

Nigeria as a developing country with a growing population and commensurate housing needs requires the services of skilled workforce on construction sites and a productive, competent, and flexible workforce to further her economic growth. The age-old method of locally organised apprenticeship scheme is becoming obsolete (Awe et al., 2009). The aged and retiring site operatives are not wishing that their children take to their

trades; rather, their goals are for their children and wards to become architects, engineers, doctors, and accountants (Dennis, 2004; Ireland, 2007).

Most analysts agree that employers of labour today demand more skills than they did in the past (Yang, 2008). Oranu (2010) also observed that there are many factors that have contributed to the ever-rising demand for skills in the labour market which include the following; technological and organizational change, trade, deregulation of key industries and the decline of unions.

Emphasis on skill acquisition in technical colleges and vocational training centres has become secondary, due to poor funding and a misplaced emphasis and misdirected focus. Most of the Nigerian technical school students see themselves as being trained to perform supervisory roles on completion of their training; the Polytechnics and Universities producing middle level and high-level manpower respectively (Awe *et al.,* 2009).

Oyegoke *et al*. (2009) identified a number of factors that are attributed to the skills shortages in the construction industry, the foremost being the impact of demand and supply interaction through construction demand and supply side capacity constraints, the effect of new technologies, demographic issues and lack of interest by young people, issues related to training resources, and the effects of market cycles, namely the cyclical nature of the industry market. Therefore, this study seeks to investigate the factors limiting the production of construction craft skills by vocational/technical schools in South-East, Nigeria.

II. Literature Review

2.1 Technical and vocational education in Nigeria

Technical and vocational education is used as a comprehensive term in the educational process involving, in addition to general education, the study of technologies and related sciences and acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life (FGN, 2004). Okoro (cited in Agapu and Andural, 2007) defined vocational education as a form of education whose primary purpose is to prepare persons for employment in recognized occupation. He further defines technical education as a post-secondary vocational training programme which the major purpose is the production of technicians.

The terms technical education and vocational education are often used interchangeably but, they are separate and distinct terms (Okoye and Arimonu, 2016). Vocational education refers to skill-based programmes which are designed for skill acquisition at lower level of education. Vocational education programmes focus on specific vocations for entry into defined workplace. Technical education, in the other hand is not designed for any particular vocation but provides general technical knowledge. The Federal Government of Nigeria (FGN) (2004) in her National Policy on Education states the goals of Vocational and Technology education as:

- To provide trained manpower in applied sciences, particularly at craft, advanced level;
- To provide the technical knowledge and Vocational Skills necessary for Agricultural, commercial and economic development;
- To give an introduction to professional studies in engineering and technologists;
- To train people who can apply scientific knowledge to the improvement and solution to environmental problems for the convenience of man; and
- To enable our young men and women have intellectual understanding of the increasing complexity of technology.
- To give training and impart the necessary skills to individual who shall be self-reliant economically.

2.2 Factors militating against Technical and Vocational Education in Nigeria.

In Nigeria today too much emphasis is placed on university qualifications not minding whether the holder possesses the required knowledge and skill. But in advanced societies those with technical degrees are highly regarded. In fact, the value system in those countries depends on the person's skills and knowledge, and not on the stack of academic degrees one has. In the public service, graduates of technical education are often discriminated against and their career prospect limited. For this reason, secondary school leavers and parents prefer University education to technical education (Nworlu-Elechi,2013).

Study by Awe (2012) outline the following factors:

- Poor funding
- Absence of workable /effective training framework
- Absence of training facilities
- Obsolete training facilities
- Defective training /instructional methods
- Non-participation of construction industry's private sector

- Government's lack of commitment to TVET
- Abandonment/truncation of TVET policies
- Shortage of qualified TVET teachers
- Unwillingness of trainees to acquire in–depth vocational knowledge
- Absence of practical instructions in TVET curriculum

III. METHODOLOGY

The study is carried out in South-east Nigeria, using a survey method. The Survey method entails the use of the questionnaire administered to the respondents to establish their opinion on the factors militating vocational /technical schools in production of construction craftsmen.

3.1 Method of Data Collection

The primary data for this survey was collected using a structured questionnaire, while secondary data was obtained from relevant books, journals; conference/seminar papers. Questionnaire was used for data collection. The required data were obtained Vocational/technical school teachers using the structured questionnaire.

The population for the study comprises technical/vocational education teaching staff of the selected vocational/technical school in the study area. This category of respondents was selected because, by virtue of their training and work experiences, they can provide information from the structured questionnaires that guarantee a reasonable level of validity to achieve the aim of this research work.

Similarly, the population of the staff are 366. Taro Yamane sample size method was employed to determine the appropriate sample size for the study. Taro's formula is represented as:

$$n= \frac{N}{1+N(e)^2}$$

Where n = sample size
N = population
e^2 = Margin of error (assumed 5%)
1 = unity or constant
Therefore,
$n = 366 / (1 + 366(0.05)^2)$
$n = 366/1.915$
$n = 191$

3.2 Questionnaire administration

Specifically, a structured questionnaire was the data collection instrument. The questionnaire was administered to were technical/vocational teachers from different technical schools located in South Eastern Nigeria (that is, Anambra, Enugu, and Imo States) which include: Government Technical Colleges G.T.C, Onitsha; G.T.C, Enugu; G.T.C,Owerri and Nigerian Science, and Technical College (NSTC) Nnewi (see Table1.0). The questionnaire was administered by hand to the respondents and one hundred and forty (140) were returned and found appropriate for the analysis.

The questionnaire designed for this research work was divided into two sections. The first section of the questionnaire contains questions for capturing the demographic variables of the respondents. The other section is designed to elicit data for answering the questions raised in the introduction (factors limiting the effectiveness of technical/vocational schools from producing construction crafts skills). Respondents were asked to rate a set of pre-identified factors on a Likert scale.

Table.1. The Study Population (Teaching staff)

Name of institution	Description of staff	No. of staff	Total	%
GTC Onitsha	Permanent staff Mentor Teachers Technical support staff	45 10 23	78	21.3
NSTC Nnewi	Permanent staff Contract Staff	31 20	51	13.9
GTC Owerri	Staff	100	100	27.3
GTC Enugu	Teaching staff	137	137	37.4
Total		366	366	100

Source: Researcher's Field Survey (2020)

Where: *GTC Onitsha - Government Technical College Onitsha; NSTC Nnewi - Nigerian Science, and Technical College Nnewi;* GTC Owerri - *Government Technical College (GTC) Owerri and GTC Enugu - Government Technical College Enugu*

3.3 Method of Analysis and Data Presentation

Both descriptive and referential data analyses were adopted for the analysis. Tables, mean, percentages were used to express the statistical results. Suitable statistical tools were adopted in the analysis. The Statistical Package for Social Sciences (SPSS) software was used to analyse the data using descriptive statistics. Relative Importance Index (RII) was also used in the study to assess the results, using the formula:

$$RII = \frac{\sum_{i=1}^{5} W_i X_i}{5 \sum X_i}$$

Were

W_i = the weighting given to each variable by the respondents, ranging from 1- 5

X_i = the percentage of respondents scoring

i = the order number of respondents

3.4 Data Presentation

A total of two hundred and ninety questionnaires were administered to various respondents within the study area. The percentages of responses are presented in Table 1. From the Table, it can be gathered that 140 were returned, correctly filled giving a percentage response of 74%.

Table.2. Questionnaire Distribution of the Respondents

Questionnaire	**Frequency**	**Percentage**
Number of questionnaires not returned	50	26
Number of questionnaires returned	140	74
Total	190	100

Source: Researcher's Field Survey, (2020)

3.5 Factors Militating Technical/Vocational Education and Training

Table.3. presents the respondents ranking of the factors militating the effective production of construction crafts skills by vocational/technical schools in producing and supply of the needed competent skilled crafts for construction industry in South east Nigeria.

From the result of the analysis, Poor Funding (RII=0.94) was ranked the highest militating factor. This was closely followed by 'Lack of workable/effective training framework' (RII= 0.91); 'Lack of training facilities (RII=0.90) and 'Shortage of qualified TVET teachers' (RII= 0.88) which ranked second, third and fourth respectively. Also, from the result of the mean value reveal that the value of all the factors is closer to 4.0 an indication that the respondents agree that the factors identified are viable factors militating against the effective production and supply of the needed competent skilled craft in the craft for construction industry. Details of the ranking of factors are as presented in the Table.

Table.3. Respondents' opinions on the Factors militating Technical/Vocational Education and Training (TVET)

S/N	**Factor militating Technical/Vocational Education**	**Frequency**					**∑F**	**∑Fx**	**Mean**	**RII**	**Rank**
		SD (%) [1]	**D (%) [2]**	**UD (%) [3]**	**A (%) [4]**	**SA (%) [5]**					
1	Poor funding	3	1	1	22	113	140	661	4.72	0.94	1st
2	Lack of workable /effective training framework	2	0	4	48	86	140	636	4.54	0.91	2nd
3	Lack of training facilities	3	4	1	40	92	140	634	4.52	0.90	3rd
4	Obsolete training facilities	4	6	5	59	66	140	597	4.26	0.86	5th
5	Defective training /instructional methods	3	12	10	57	58	140	575	4.11	0.82	9th
6	Absence of practical instructions in TVET curriculum	9	12	8	28	83	140	584	4.17	0.83	8th
7	lack of commitment by the Government to TVET	5	12	7	43	73	140	587	4.19	0.84	7th
8	Abandonment/truncation of TVET policies	6	8	10	40	76	140	592	4.23	0.85	6th
9	Shortage of qualified TVET teachers	3	11	5	29	92	140	616	4.40	0.88	4th
10	Unwillingness of trainees to acquire in–depth vocational knowledge	5	22	8	29	76	140	569	4.06	0.81	10th

Source: Researcher's Field Survey (2020).

Where: SA - Strongly Agreed (5), A-Agreed (4), UD- Undeceive (3), D-Disagreed (2), and SD-Strongly Disagreed (1).

IV. CONCLUSION

4.1 Summary of Findings

The following are the key findings drawn from the result this study:

There is a significant factor militating against the production of competent skills by Vocational / Technical Schools in south-east Nigeria. In line with this, the respondents identified poor funding of vocational/technical schools as the major factors militating against effective production and supply of competent skills in the study area. Other major factors arranged in their order of severity are as follows: Lack of workable/effective training framework; 'Lack of training facilities and 'Shortage of qualified TVET teachers' which ranked second, third and fourth respectively.

4.2 Conclusion

The importance of skills in construction industry especially the competent ones cannot be over emphasized as a necessity for achieving quality products in any building project delivery. Consequently, the research successfully achieved the following can be concluded:

- 'Improved funding of vocational/technical schools will be a major move in ensuring effective production

and supply of competent vocation skills for the construction industry in the study area.

- Similarly, a well-developed framework for effective training in the vocational schools along with provision of adequate facilities and qualified TVET teachers on the technical schools is a major strive to handle the militating factors to construction skilled vocation in the study area.

Recommendations:

From the findings of the research, the following recommendations are:

- Polytechnic/Colleges of Technology and Technical/vocational schools amongst other institutions should be well equipped and upgraded to by the government and private sector to the required standard to be able to produce competent skills crafts for the construction sector.
- The Government and skill training institutes should ensure strict compliance to TVET policies. These policies should be fully implemented and enforced for effective operation, training and supply of competent skilled crafts. Also, vocational/technical schools should be adequately funded and revitalized to enhance training, development and supply of competent and qualified skills.
- National business and technical examination board (NABTEB), Vocational training institutes, and Vocational education examination board should be empowered by the government to see to the examination and certification of graduating construction industry's skills/craftsmen.
- Government should empower vocational training institutes, National board for technical education and Construction industry professional bodies such as the Nigerian Institute of Building (NIOB) to see to the Quality assurance and benchmarking of construction industry skills/craftsmen training.

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