

SKILLS DEMAND BY INDUSTRIES IN THE CONTEMPORARY SOCIETY

BY

Awonuga Olukayode

National Open University of Nigeria, Abuja,

Email: oawonuga@noun.edu.ng,

Abstract

This study focused on skills demand by industries in the contemporary society. A research question bordering on non-technical skills demand by industries in the contemporary society guided the study. A self-developed questionnaire entitled “Skills Demand Questionnaire” (SDQ) was used to collect data from 261 respondents. The SDQ was validated by three experts and a reliability coefficient of 0.79 was obtained using Cronbach Alpha Coefficient method. The data collected were analyzed using descriptive statistics to answer the research question raised and inferential statistics of t-test to test the null hypothesis formulated. The study revealed that all the identified non-technical skills are needed by industries in the contemporary society. The study further recommended that technical teachers should align themselves with skills in demand by industries and train students as appropriate.

Keywords: Skills; TVET; Craftsmen; Technical College

Introduction

Nigeria requires an efficient and a capable skilled workforce to manage her industries. The workforce comprises the engineers, technicians and the craftsmen from Nigerian universities, polytechnics and technical colleges. The importance of the skilled workforce cannot be overemphasized as it contributes immensely to the social and economic development of the country. The continuous growth and expansion of industries in Nigeria have led to exponential growth in positions that require certain technical skills. However, finding workers with the requisite skills remains a major challenge for employers in Nigeria. Employers have expressed concerns about the lack of adequately trained technical college graduates and feel that educational institutions under Technical and Vocational Education and Training (TVET) are not producing graduates with skills that match the needs of industry (Awonuga, 2019). Therefore, Oketch (2007), Jayaram and Engmann (2017), emphasized that employers have complained about the training and instruction acquired by the technical college graduates. The duo noted, that such instructions and training are grossly insufficient to meet the demand of today’s construction industry. Subsequently, Jayaram and Engmann (2017), highlighted the fact that neither the secondary education nor the vocational training schools is equipping the school leavers with the key instructions and abilities needed for work. Hence, the need for TVET institutions to rise to their responsibilities.

Technical Vocational Education and Training (TVET) have been identified as an instrument that can help resolve the skill technicalities within the Nigerian construction industry. The Technical colleges as an offshoot of the TVET institutions in Nigeria are saddled with the responsibility of training skilled craftsmen for three-year in different disciplines. Students thereafter, graduate with a Federal Craft Training Certificate (FCTC) which qualifies its graduates for opportunities in various workplaces. Olakotan (2015) describes Technical Colleges as institutions where students are trained to acquire relevant knowledge and applied skills in different occupations for self-reliance, and employment in the world of work. In line with the aforementioned, Jayaram and Engmann (2017) reiterated, that skills could be learnt either in a formal or informal setting and the duo laid emphasis on TVET as an aspect of training institution that inculcates skills development, knowledge, and attitudes which cover the affective, psychomotor and cognitive domains. The essence of acquiring all-round skills according to Awe Griffith and Stephenson (2010) ; Olaitan et al., (2000) are that the students produced will be employable into the industry as a result of the training and

skill acquired. Evidences abound in literatures that inadequacies in TVET are responsible for the skills gap at the craft level (Oni, 2007).

Furthermore, Olakotan and Lemo (2019) noted that mismatch exist between the skills acquired by craftsmen and the skills required for employment in the industry due to the fact that the school environment does not reflect the conditions of the industry where the students subsequently find themselves upon graduation. This is what economist refers to as a variation between supply of and demand for human capital. Majority believed, that the problem of skills gap will continue to escalate as the jobs available in the construction industry become more technical; and the rate at which this is changing is quite alarming. Consequently, it is required that employees acquire adequate skills training that will make them employable in the workplace (Smith, 2003; De Grip & Van Loo 2002; Awe, 2010). A search for ways to ensure that graduates gain the appropriate skills to meet employers needs in the construction industry may not only improve workplace performance but can also lead to more responsive and sustainable technical education policies that can address individual and national needs. For instance, Ofori (2004) and Lewin (2006), among others highlighted that, improving quality and raising skills levels and standards for training may not only lead to higher wages and higher returns but may impact individuals, employers, and the entire nation. The employers in the industry are looking for the skilled workforce with the right skills (Crowson *et al.*, 2000; Jayaram & Engmann, 2017) and qualities to contribute to the development and success of the industry. Skills identified by the industry to be of importance include, academic or cognitive skills, generic skills, technical or vocational skills and work-related attitudes or soft skills (Stasz, 2001). More so, there have been various accusations, about the qualities of graduates produced in most technical training institutions in Nigeria. It has been observed that most graduates of technical institutions in Nigeria are not skilled enough for employment in industry and commerce. In practice, demands for adequately trained technical graduates with appropriate skills to meet workplace challenges indicate that the availability of those graduates is extremely important to employers. Despite high demand for skilled artisans, the public have noted that graduates of technical colleges are greatly unemployed because of inability to acquire the required skills and training required for employment. Hence, this study attempts skills demand by industries in the contemporary society.

Literature Review

Industries in Nigeria found out that students of technical colleges are found deficient in some skills (Odusami, 2002; Awe, 2010). The major skill gaps previously found in industry in Africa, most especially Nigeria are cognitive especially numeracy and critical thinking, non-cognitive especially communication, leadership, and decision-making and technical skills among the craft workers (Jayaram & Engmann, 2017; Lututala, 2012; Odusami, 2002; Awe, 2007). Overwhelmingly, employers believe that the theoretical knowledge acquired in the classroom is the tip of the iceberg and that, it is insufficient by itself (Jayaram & Engmann, 2017; Lututala, 2012; Odusami, 2002; Awe, 2010). It seems employers look for a varying mix of non-cognitive or technical skills. Interestingly, employers felt that institutions should deliver the fundamental skills for employability to technical college students, so that employers can then conduct on the job training that is specific to their needs (Jayaram & Engmann, 2017). In a similar vein, Ndoye and Walther, (2012) conducted a research which highlighted similar skills gap found in craft workers in Africa. These skills which are needed include communication skills, literacy, numeracy and cognitive skills. Besides these skills, technical college graduates must possess three fundamental characteristics skills (Love *et al.*, 2001; Ogwo and Oranu, 2006; Jayaram & Engmann, 2017).

Firstly, possession of practical experience is needed in order to intimate themselves with the working procedure and complexity of the industry. Secondly, they should recognize tools and equipment's used in construction industry, and then imbibe the spirit of collaboration in carrying out their jobs as expected of them in order to boost productivity and encourage good relationship among the co-workers. However, lack of collaboration in the industry has been observed

to lead to wasted time and poor performance. It is mandatory for construction skills workers to possess various mixture of skills required for work in the industry. These include business, personal, technical and employability skills meant to assist in daily routine at the workplace (Oranu & Ogwo 2006; Stasz, 2001; Jayaram & Musau, 2017). Currently there is a call for new skills demand in industry, this was due to technological development and the introduction of information technology in industry, which is required in operating tools and equipment's by the labour pool for work (Mackenzie et al., 2000; Cordery, 1989). Ogundola and Olakotan (2018) averred that every meaningful citizenry must ensure adequate training and retraining tailored towards making them relevant in the contemporary society occasioned by technological advancement. Also, Olakotan and Hamzat (2020) noted that there is high rate of unemployment among craftsmen in Nigeria because it appears that they do not possess the current knowledge and skills that will enable them take up the available jobs in the contemporary society occasioned by technological advancement. Introduction of new technologies to the construction industry have redefined and called for new skills in other to improve performance and productivity (Wells & Walls, 2003; Agapiou et al., 1995). Introduction of new technology has greatly affected the performance of the craftsmen due to the out-of-date training they had previously acquired coupled with lack of various types of skills and showing lack of expertise as previously mentioned.

Purpose

This study determined skills demand by the industries in the contemporary society. Specifically, the study identified:

1. Non-technical skills demand by industries in the contemporary society

Research Question

The following research question guided the study:

1. What are the non-technical skills demand by industries in the contemporary society?

Hypothesis

The null hypothesis was tested at 0.05 level of significance:

H₀₁: There is no significant difference between the mean responses of technical teachers and electrical contractors on the non-technical skills demand by industries in the contemporary society

Methodology

This study adopted a descriptive survey research design. According to Gall, Gall and Borg (2007) a survey is a method of data collection using questionnaire or interviews to collect data from a sample that has been selected to represent a population to which the findings of the data analysis can be generalized. The study was carried out in Southwest Nigeria. The population for this study consisted of 261 respondents which are made up of 217 electrical contractors and 44 technical teachers (Electrical biased). The study made use of no sampling technique due to the manageable size of the population. Skills Demand Questionnaire (SDQ) was developed and used for the study. The SDQ contained 12 items guided by the raised research question. The scaling responses for the instrument was based on adapted Likert Scale ratings viz: Highly Required (HR) – 5, Required (R) – 4, Undecided – 3, Slightly Required (SR) – 2 and Not Required (NR)-1. The instrument was validated by three experts tested for reliability yielding a coefficient of 0.79 using Cronbach Alpha. The instrument was administered on the respondents by the researchers and 5 research assistants and the whole 267 copies distributed were duly recovered. The data collected were statistically analyzed using descriptive statistics of mean to answer the research question and inferential statistics of t-test to test the null hypothesis formulated at 0.05 level of significance. A mean of 3.50 and above was considered required while a mean rating of less than 3.50 was regarded as not required.

Results

Research Question 1:

What are the non-technical skills demand by industries in the contemporary society?

Table 1:

Data for answering research question one are presented

S/N	Item Statement	\bar{X}	S.D	Remarks
1	Thinking ability	4.31	0.53	Required
2	Comprehension ability	3.81	0.44	Required
3	Reading skills	4.45	0.56	Required
4	Written communication skills	3.96	0.64	Required
5	Speaking and listening skills	3.68	0.76	Required
6	Leadership skills	3.69	0.52	Required
7	Negotiation skills	3.84	0.68	Required
8	Time management skills	4.36	0.92	Required
9	Problem solving ability	4.76	0.62	Required
10	Interpersonal skills	4.14	0.59	Required
11	Core skills for learning	3.96	0.91	Required
12	Job readiness skills	4.58	0.71	Required

The result presented in Table 1 revealed that all the 12 items (items1- 12) had a mean ranged from 3.68 to 4.76. This indicated that the respondents agreed on all the 12 items as non-technical skills demand by industries in the contemporary society because their means were above the cut-off point of 3.50. The standard deviation of the items also ranged from 0.44 to 0.92. This showed that the respondents were close to one another in their responses.

Hypothesis

The null hypothesis was tested at 0.05 level of significance:

H₀₁: There is no significant difference between the mean responses of technical teachers and electrical contractors on the non-technical skills demand by industries in the contemporary society

Table 2:

Responses of technical teachers and electrical contractors on the non-technical skills demand by industries

STATUS	N	Mean	Std. Deviation	Std. Error Mean	df	t	Sig
Technical Teachers	44	3.2286	1.03144	.17434	259	.512	.391
Electrical Contractors	217	3.1081	.96563	.15875			

P < 0.05

The data presented in Table 2 revealed that the p-value of .391 is greater than 0.05 at 259 degree of freedom. This indicated that there is no significant difference in the in the mean ratings of technical teachers and electrical contractors on the non-technical skills demand by industries. With this result, the null hypothesis (H_{01}) of no significant difference was upheld.

Discussion

Technical institutions all over, have been recognized for imparting the necessary skills required needed for employment for all her recipients. The data presented in Table 1 provided answers to research question 1. The findings as presented in Table 1 revealed that 12 non-technical skills are needed by the industry from technical college graduates for smooth entry into the world of work. The findings of the study is corroborated by the submissions of Jayaram and Musau (2017) who noted that the contemporary skills in demand by industries to assist in daily routine at the workplace include business, personal, technical and employability skills. Also the findings of the study was supported by Ndoye and Walther, (2012) who highlighted communication skills, literacy, numeracy and cognitive skills as skills in top demand by industries in the contemporary society. Similarly, Stasz (2001) buttressed the findings of this study as he posited that skills identified by the industry to be of importance include, academic or cognitive skills, generic skills, technical or vocational skills and work-related attitudes or soft skills. A t-test of significance was used to test the formulated hypothesis. Table 2 revealed that there is no significant difference between the mean responses of technical teachers and electrical contractors on the non-technical skills demand by the industry. Therefore the null hypothesis is not rejected. Hence, the result is an indication that craftsmen are in dire need of the identified skills in the contemporary society.

Conclusion and Recommendations

There has been emphasis on technical and vocational education and training as an aspect of education that deals with the teaching of skills, knowledge and attitudes to cover the affective, psychomotor and cognitive domains, such that the students will be able to fit into the world of work. Failure to satisfy the demand of the industry in area of skills performance resulted into skills gap faced by the industries, this stands as an evidence that the school is lacking in providing the skills necessary for work. Hence, there is need for technical colleges to collaborate with industries so as to ensure that students acquire necessary skills needed for employment upon graduation. Based on the findings of this study, the following recommendations were made:

1. Technical teachers should align themselves with skills in demand by industries and train students as appropriate.
2. Relevant stakeholders in TVET settings should harness improvements occasioned by technological advancement and reflect same in the nation's technical colleges.

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