



Challenges of Unemployment among Technology Graduates of Polytechnic Education in Nigeria

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Abstract The study examined the challenges of unemployment among technologists in Nigeria. The population of the study consisted of both technology educators and managers of industry operating in Rivers State. A total of 560 respondents (360 technology educators and 200 managers of industries) was the sample of the study selected through purposive sampling technique. One research question was posed and one hypothesis formulated for this study. A structured questionnaire validated and with reliability coefficient of 0.78 was the instrument used for data collection. Data collected were analyzed using statistical mean to answer the research question while z-test was used to test the null hypothesis at 5% level of significance. The result showed that unemployment among technologists is as a result of factors such as lack of technical skill and creativity, engagement or recruitment of expatriates, lack of support, over dependence on white collar jobs than blue collar jobs and discrimination between technologists and their engineers' counterparts in Nigeria. It was therefore recommended that supports, aids and grants should be given to Nigerian technologists for self-reliance; Nigerian polytechnics should endeavour to properly implement the polytechnic curricula; Government and society should patronize Nigerian technological products and services; Private sectors should enter into partnership with technologists and its association for the training, research and development purposes among others.

Keywords Technology education, Technologists, unemployment, polytechnics

Introduction

Unemployment is a global trend, but it occurs mostly in developing countries of the world, with attendant social, economic, political, and psychological consequences [1]. According to Awogbenle and Iwuamadi (2010), unemployment refers to a situation in which people who are willing to work at the prevailing wage rate are unable to find job [2]. Similarly, the International Labour Organization (ILO) views the unemployed as numbers of the economically active population who are without work but available for and seeking work, including people who have lost their jobs and those who have voluntarily left work (World Bank, 1998). Simply put, unemployment describes the condition of people who are without jobs [1]. Unemployment can also be described as a percentage or number of labour force that are not engaged or working but are willing and capable of working at the current wage and working condition. It is the difference between the amount of labour employed and the amount of labour not hired at these conditions and level [3-4]. Unemployment is one of the greatest challenge facing Nigeria and other developing countries mostly Africa [5-7].

Notably, every year graduates from the universities, polytechnics, colleges of education, young secondary school leavers and dropouts and primary schools dropouts are turned out into the society but end up not being engaged or having meaningful employment. Research revealed that unemployment rate in Nigeria has continued to ratchet upward and is very high. The rate was 6.2% in the 1970's; 9.8% in 1980's; 11.5% in 1990's; 19.7% in



2009; 21.1% in 2010 and 23.9% in 2011 and has not decreased since then [6, 8]. In the same vein, Udo (2016) noted that Nigeria's employment crisis worsened in the first quarter of 2016, with unemployment rate rising to 12.1 per cent. He went further to note that the latest unemployment watch report of National Bureau of Statistics (NBS) reported that the rate of unemployment rate of Nigerians between December 2015 and March 2016 has increased by 518,000 to over 1.45 million [9]. The implication here is that unemployment brings about low productivity, weakens the economy and tightened labour market thereby affecting the nation and her economy negatively in the area of high rate of criminal activities, youth restiveness, and low standard of living among others [5, 10].

Among the unemployed in the society, those of technologists who are graduates of polytechnics are most worrisome. This is because these technologists who are graduates of polytechnic education are supposed to be technically oriented personnel who are to be initiators, facilitators and implementers of technological development of a nation. Oluka, Onwualu, & Eneh, (1999) view technologists as technical staff who possess both artisan's skills and some level of analytical skills of the engineers. They function partly as operatives and partly as managers in the industry [11]. In other words, technologists are referred to as engineering technologists. Engineering technologists are specialists devoted to the development and implementation of existing technology within a field of engineering. They also apply basic engineering principles and technical and practical skills in product improvement, manufacturing, construction and engineering operational functions and produce technical drawings or engineering drawings [12]. Engineering technologists solve technical problems, build or set up equipment, conduct experiments, collect data, calculate results, make models of new equipment and work in quality control (where they check products, do tests, and collect data). In manufacturing, technologists help to design, develop products and find ways to produce things efficiently [13].

Polytechnics provide technology education at tertiary level in Nigeria. The Federal Republic of Nigeria (2013:30) in its national policy on education stated clearly among other goals that polytechnics shall provide the technical knowledge and skills necessary for agricultural, industrial, commercial and economic development of Nigeria; and to give training that impart the necessary skills for the production of technicians, technologists, and other skilled personnel who shall be enterprising and self-reliant. It is pertinent therefore to note that the aims and objectives of producing technologist in the polytechnics has not been realized since technologists remain unemployed after graduation and this has remained challenging for the massive unemployment in Nigeria.

Statement of the Problem

The problem of chronic youth unemployment is very evident in Nigeria. Every year thousands of graduates are turn out for whom there are no jobs. Nigerian streets are littered with youth hawkers who ordinarily would have found gainful employment in some enterprise [1]. This situation is disturbing and quite confusing because graduates especially technologists complain of high levels of unemployment whereas, on the other hand, employers complain that the graduates especially technologists are poorly prepared and therefore not suitable for the work environment. They believe that the standards of polytechnic education in Nigeria have considerably dropped over the past decades and the technology degree is no longer a sure guarantee of effective practical technical competence [9].

To balance the insufficient academic preparations as detected above, it is observed that most employers organize trainings and remedial courses for new employees [10]. These steps ultimately increase the company's operating cost and reduce their profitability margin and market competitive ability. Where companies cannot afford to take the risk of training new employees because of high operating cost and the fear of losing a trained employee, they simply source for always available and suitable candidates overseas [14]. The irrationality remains that Nigerians still reel in poverty as unemployment rate keep rising on daily basis at alarming rate. It is therefore, the concern of this study to examine the challenges of unemployment faced by technologists in Nigeria.

Research question

One research question guided the study:

What are the challenges of unemployment among technologist in Nigeria?



Hypothesis

Also, one null hypothesis was tested at 0.05 level of significance:

There is no significant difference in the mean responses of technology teachers and industry managers on the challenges of unemployment among technologists in Nigeria.

Methodology

The study employed descriptive survey design. A sample of five hundred and sixty (560) copies of structured questionnaires with sixteen (16) items were administered to three hundred and sixty (360) technology teachers in the three polytechnics in Rivers State and two hundred (200) of managers of companies that operate within the State.

The instrument used for the collection of data was a structured questionnaire tagged 'Challenges of Unemployment among Technology Graduates of Polytechnic Education in Nigeria (CUTGPEN)' with 13 items on a 4-point scale of Strongly Agree (SA) =4, Agreed (A) = 3, Disagree (D) = 2, and Strongly Disagree (SD) = 1. The instrument 'TCUM' was validated by three experts. The reliability of the instrument was ascertained using the Cronbach Alpha Reliability on the data collected through a pilot test on 20 respondents selected from polytechnics and industries in Rivers state who were not part of the sample of the study. The coefficient of reliability obtained was 0.78. This was adjudged high enough for the instrument to be used for the main study.

The researchers personally went to the schools and companies to administer the 560 copies of the questionnaire. All were properly completed and retrieved on the spot. The statistical mean was used to answer the research question. An item with a calculated mean value equal or greater than 2.50 (2.50 – 4.00) was regarded as agreed, while the calculated mean of an item less than or equal to 2.49 (0 - 2.49) was regarded as disagreed. An inferential statistics of z-test was used to test the only null hypothesis at 0.05 level of confidence. It was decided that where z-calculated value was equal or greater than table z-value, it indicates significance difference, so reject the null hypothesis but otherwise, accept the null hypothesis.

Results

The results of the analysis of the study are presented in Tables 1 and 2

Table 1: Respondents' Mean Score and Standard Deviation on the Challenges of Unemployment among Technology Graduates of Polytechnic Education in Nigeria

S/N	Items	\bar{X}_1	SD_1	Rmks	\bar{X}_2	SD_2	Rmks
1.	Lack of technical skills required for self-employment	3.40	0.62	A	1.75	0.90	D
2.	Technologists' lack creativity.	3.30	1.95	A	2.03	1.04	D
3.	Recruitment of expatriates in preference to Nigerians.	1.98	0.91	D	3.39	0.73	A
4.	Lack of self confidence in technologists in engaging themselves in meaningful and productive ventures.	4.00	1.88	A	3.39	0.62	A
5.	Over-dependence on white collar jobs by polytechnic graduates.	2.40	1.07	D	1.78	0.85	D
6.	Unfavourable environment for the exhibition of talents and skills by Nigerian technologists.	2.70	1.10	D	3.25	0.72	A
7.	Lack of support, grants and aid for polytechnic graduates for the establishment of small scale or medium industry/business on completion of programmed by government, non-governmental organization, individuals, banks, etc	3.35	0.66	A	3.44	0.60	A
8.	Non private sector partnership with Nigerian technologists in the advancement of technology in the country.	3.30	0.78	A	3.42	0.60	A
9.	Discrimination between technologists and their engineers' counterparts in Nigeria.	3.30	0.72	A	3.39	0.62	A
10.	Poor attitude of Nigerian technologists.	3.45	0.74	A	2.14	1.03	D
11.	Lack of facilities and equipment in the polytechnics they attended	3.85	0.48	A	3.50	0.55	A
12.	Poor industrialization and closure of operating firms to stiff economic condition.	3.13	0.90	A	3.03	0.72	A



13.	Disparity between University and Polytechnic Certificates is not a Problem for technologists' unemployment.	3.85	0.48	A	3.46	0.61	A
14.	Unfavourable government policies	3.80	0.72	A	3.79	0.62	A
15.	Poor implementation of the polytechnic curricula	3.40	0.66	A	3.56	0.52	A
16.	Poor learning attitude on the part of the technologists	3.20	0.90	A	3.25	0.75	A

Keys: *No. of Managers of Companies, $N_1 = 200$, No. of Technology teachers, $N_2 = 360$, $\bar{X}_1 =$ mean of Managers of Companies, $\bar{X}_2 =$ mean of Technology Teachers, Rmks = Remarks, $SD_1 =$ Standard Deviation for managers of companies, $SD_2 =$ Standard Deviation for Technology Teachers; A = Agreed; D = Disagree.*

Table 1 revealed that managers of Industries disagreed with items 3, 5 and 6 with mean values of the items below 2.50 and agreed with the rest of the items with mean values above 2.50. On the other hand, technology teachers disagreed with items 1, 2, 3 and 10, with mean values of the items below 2.50; however, they agreed with the rest of the items with mean values above 2.50.

Table 2: z-test of respondents' on the Challenges of Unemployment among Technology Graduates of Polytechnic Education in Nigeria

Respondent	N	\bar{X}	SD	z-cal	z-crit	P	Df	Remarks
Managers of Industries	200	3.23	0.95	4.08	1.96	0.05	588	*
Technology Teachers	360	2.92	0.67					

Key: * = significant

From Table 2, since the calculated value of z-ratio (4.08) was greater than the critical value of z-ratio (1.96); the null hypothesis was rejected indicating that there is significant difference in the perception of respondents on the challenges of technologists and unemployment in Nigeria.

Discussion

The study revealed that technologists lack the skill required for handling engineering projects, which arises from lack of facilities and equipment in the schools they attended, poor implementation of the polytechnic curricula, and poor learning attitude on the part of the technologists. The result is in conformity with the findings of Doreo (2013), Akatah, (2012) and Olajide (2015) who emphasized that there are wide disconnection between institution and industry, degree of relevance of foreign – generated economic models, faulty policy and institutional frameworks, industrial dispute leading to incessant long closure of Institution, irrelevant and obsolete curricula, policy somersaults arising from instability of political environment, inadequate regulatory and monitoring activities, dichotomy between Polytechnic and University education, production of unemployable graduates, poor funding, absence of a National Qualification framework and a host of others [15-17].

The study also revealed that government does not create enabling environment for the unemployed Nigerians to create job or small scale business for themselves. This result has strong congruence with the findings of Asaju, Arome and Anyio (2014) who observed that trade policies which allow all kinds of imported goods to flood the country have created high unemployment rate in the country [14].

Conclusion

The implications of high rate of unemployment in Nigeria among technologists cannot be overemphasized. The paper therefore concludes that there are still terrible problem of unemployment and an even alarming challenge of employability among teeming Nigerian technological graduates due to deficiency in practical skill training. The paper therefore recommends the followings and it is believed that if implemented accordingly will go a long way in reducing the challenges of unemployment among technologists in Nigeria;

1. Nigerian polytechnics should endeavour to properly implement the polytechnic curricula and guidelines.

2. Graduates of polytechnics (technologists) should not depend more on white collar jobs rather they should be self-reliant.
3. Government and society should patronize Nigerian technological products and services.
4. Private sectors should partnership with technologists and its association for the training and research development of technologists.
5. Discrimination and Disparity between university and polytechnic certificates should be discontinued.
6. Government should provide supports; aids and grants to Nigerian technologists to establish Small Scale or medium industry or business on completion of programme.

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