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SELF-RELIANT SKILLS IN SCIENCES AND HOME ECONOMICS UNDERGRADUATE PROGRAMMES AND RELEVANCE TO NIGERIA WORLD OF WORK NEEDS

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ABSTRACT

The study investigated self-reliant skills in sciences and home economics undergraduate programmes and relevance to Nigeria world of work needs. The study adopted survey research design. The study population comprised of Science and Home-Econs undergraduates and graduates of tertiary institutions in Lagos State. A total of twenty Science and Home Economics respondents from the tertiary institutions located in Lagos state in three randomly selected tertiary institutions in the state, While samples of forty working graduates from Lagos state were randomly selected from civil service, secondary schools, five stars hotels and self-employed graduates constituted the sample for the study. Two instruments were used to collect data for the study. The first instrument is Undergraduate Questionnaire (UQ) and. The second instrument is Graduate Questionnaire (GQ). The data collected were analysed using t-test and Chi square). The findings indicated that the tc = 2.82 > tt =1.66 at df = 2 significant, Therefore there was no significant relationship i.e. the students preferred applied science courses Hence the hypothesis was rejected. The second hypothesis results indicated that the X^2Cal=17.82> X^2Tab =7.82 at df=3, This revealed that science graduates are not likely to secure government jobs even if they study education while Home Economics graduates utilized the skills acquired to be employer of labour, hence the hypothesis was rejected. Based on the findings it was recommended that tertiary institutions curriculum should be revisited to contain self-reliant contents, so that graduates of tertiary institutions are employable. Finally it was further solicited for adequate training for lecturer both locally and internationally.

Keywords: Employability skills, Vocational and Business Education (VBE), sustainable development, Self-employment, entrepreneurial skills, Self-reliant.

Introduction

Education systems of the twenty-first century are facing numerous challenges deriving from globalization and modernization. The fast social, cultural, economic and technological change has put pressure on the education sector to ensure it provides students with the competencies required to confront and manage the complexity they are faced with effectively. Some of the salient challenges of this complex world are issues of unemployment which The United Nations Sustainable Development Goal (SDGs) aim to create a better world, and a better life for all, by 2030 represent a global response and provide a roadmap to a sustainable future if achieved (UN,2015).

Over the years, it has been observed that both science and home economics students of Lagos state tertiary institutions after graduation majority are unemployable this corroborated by Delphonso &Viatonu (2018) who opined that the contents in the school curriculum are not relevant to Nigeria world of work needs. The pure science courses in our higher institutions lack self-reliant contents that will assist the students to be aware of their potentialities that can propel them to be self- reliant and employer of labour. On the other hand the home economics graduates were not exposed to rigorous practical experiences at school due to lack of adequate and relevant laboratory equipment and consumables for experimentation. PUNCH (2018) amplified assertion of the then Minister of Labour and Employment, Dr. Chris Ngige says education that is not directed towards job creation is useless. Ngige, therefore, said there was a need for schools to revise their current curricular to reflect modern challenges and development. Delphonso & Idowu (2022), stressed that majority of the science students in the tertiary institutions preferred applied science courses like agricultural science, nursing, medicine, clinical biochemistry, mechanical and electrical engineer, computer science. The students in pure science courses claimed that they are not comfortable with their courses because they were not fortunate to secure preferred courses; therefore they opted for available courses in pure sciences such as physics, chemistry, biology, botany, biochemistry, mathematics.

Self-employment is the act of starting and running a successful business or social enterprise as individual without any form of government of public involvement. Delphonso & Idowu (2022), further opined that increase in rate of self-employment plays an important role in forming and sustaining healthy competition in the economy of any nation. Okonjo-Iweala (2012) lamented that the Nigerian education system has deteriorated to a point where students cannot acquire the necessary skills needed for becoming employable and innovative in the competitive global world after graduating from school. Higher institutions, according to her, are plagued with inadequate science and technical facilities and materials for practical skills development.

Delphonso (2011) informs that the unemployment rate of graduates from tertiary institutions may be around 25% and their prospects are worsening, this situation is not only a waste of human resources, but also a potential social time bomb. He further reiterated that there is the problem of mismatch between the skills with which the students' graduates from tertiary institutions and those required for the healthy development of the economy. The reason for this situation is not farfetched, simply because the pure science course contents are basically fashioned to cope with the prevailing classroom situations, unmindful of skilful competencies that the beneficiaries can utilized after graduation as a means of creating wealth and to alleviate poverty. Agu .& Kaduhur (2016) who opined that outcomes to economy, education as a process is expected to produce persons who are not only literate but who can participate actively in transforming the economies of nations From this position. A knowledge-based economy requires a highly skilled work force and a society which readily incorporates new technologies.

As long as some of the salient challenges of this complex world are issues of unemployment, living below poverty line and an unpredictable environment. It is reasonable therefore; self-reliant skills in sciences and home economics courses are highly needed in order to meet up with Nigeria world of work needs.

Literature Review

This study reviewed related studies; firstly, looking at the general definition of competency as explained by different authors as cited by Idowu (2023) who defined competency as a concept that can be interpreted as a combination of skills, personal attributes, and knowledge reflected in job behaviour, which can be observed, measured and evaluated. Competency is the ability to perform a task and role in accordance to the combination of knowledge, skills, attitudes, personal values, and the ability to develop knowledge, skills, and learning experiences (Agarwal, & Banerjee, 2012), McLean & Braden, 2006).

Competency in question is a concept that can be interpreted as a combination of skills, personal attributes, and knowledge reflected in job behaviour, which can be observed, measured and evaluated (Salmina, Yu Ding & Markus Yu), 2021).

Competency is also defined as observable performance dimensions including personal knowledge, skills, qualities, and behaviours such as collaborative team-work, process, and organizational feasibility that are associated with high performance and provide a competitive advantage to the organization (Bahar & Köroğlu, 2020).

One of the important aspects of this study is the review of literature on skill: Skill therefore, is the habit of doing something well especially skill gained through training or experience. The Business Dictionary.com defines skill as an ability and capacity acquired through deliberate, systematic, and sustained effort to smoothly and adaptively carry out complex activities or job functions involving ideas (cognitive skills) things (technical skills), the skill is a level of proficiency achieved on a specific task or group of tasks through practice. Some examples of these tasks include trouble-shooting and repairing a malfunction on a car, flying an air craft, operating a lathe machine, playing football, or granting an interview to a guest on a television or a radio program (Agu & Kaduhur 2016).

Literature reviewed was elaborately cited in this study where Okorie and Ezeji (1988) classified skills into technical and human skills; that technical skills are those skills that call for proficiency in specific activities, particularly those involving methods, processes, procedures or techniques for their effective performance.. To this extent, education and economy are inseparable. Indeed, as the education barometer of a country so it would appear to be its economy and vice-versa. The emphasis all over the world, therefore, is for nations to grow productive economies rather than remaining as consumer economics. This is against the backdrop of the saying that a growing economy is a productive society while on the other hand; a productive society is a skill-oriented society. Consequently, a skill-oriented society requires a huge investment on human capacity development. Employability skills, therefore, are considered as a strong catalyst that keeps the economy of any nation growing (Agu, 2011).

Skills and knowledge are the driving forces of economic growth and social development of any nation ; hence the National policy on education explicitly spelt out that science education should be the vehicle for technological development in order to live .However pure science courses are such of luxury which produce "realistic " tertiary institution graduates wit aspirations that made them unfit for teaching and other job opportunities. Odia and Odia (2013) observed that entrepreneurial skills equip an individual to transform the challenges of life into business opportunities. Employability skills are, however, the focus of the present discourse.

Hence, it is timely to champion the course of improved self-employment orientation among Nigerian graduates considering the present high rate of employment and devastating economic recession. It is worthy of note that the National Education rolling plans from 1960 to present age did not unfold or show case enough concern on the subject matter. Nigerians have not highlighted their attention from theoretical courses to skill entrepreneurial. The half-baked system of training with obsolete infrastructures in our school's system compounded the problem. (Kayode Isola, Adegorite, Muraina, John,2013).

This study further reviewed reports and results of different studies indicated by Delphonso & Viatonu (2018) that the contents in the school curriculum are not relevant to Nigeria world of work needs. Hence, skills in the context of this study are the ability of graduates of Sciences to be able to put into practice the required knowledge and skills for self-employment. Udo (2015) opined that most graduates of Vocational and Business Education (VBE) in Nigeria are without gainful employment. Worst still, these graduates too are unable to establish their entrepreneurial skills ventures because they would not be able to put into practice what they studied in their tertiary institution since such skills were poorly acquired.

Statement Of The Problem

In recent years, many countries have adopted Science, Technology, Engineering, Mathematics and Education (STEME) (Kelley and Klowles 2016) as a result of this (STEME) education becomes progressively recognized as a critical driver opportunity to keep students with (STEME) knowledge and skills to face the challenges of the faulty industrial revolution. (STEME) education is based on educating students in five specific disciplines that is Science, Technology, Engineering, Mathematics and Education. Into a coercive learning paradrgn based on real – world applications Summuntino (2017). Over the years, it has been observed that the unemployment rate of graduates from tertiary institutions is alarming, FBN (2024) officially released the unemployment rate as 4.4% in the second quarter of 2024 and their prospects are worsening, this situation is not only a waste of human resources, but also a potential social time bomb. He further reiterated that there is the problem of mismatch between the skills with which the students' graduates from tertiary institutions and those required for the healthy development of the economy. The reason for this situation is not farfetched, simply because the pure science course contents are basically fashioned to cope with the prevailing classroom situations, unmindful of skilful competencies that the beneficiaries can utilized after graduation as a means of creating wealth and to alleviate poverty. It is against this background that this paper is written to explore techniques for improving skills acquisition in Sciences /Home Economics and how that could affect sustainable development in Nigeria and to recommend ways of reducing such impediments.

As long as some of the salient challenges of this complex world are issues of unemployment, living below poverty line and an unpredictable environment. It is reasonable therefore those self-reliant skills in sciences and home economics programmes are highly needed in order to meet up with Nigeria world of work needs.

Aim and Objectives of the Study

The aim of this study is to investigate self-reliant skills in sciences and home economics courses and relevance to Nigeria world of work needs. Therefore, the specific objectives of the research are to:

(i) assess course satisfaction of the Sciences and Home Economics students in their choice courses.

(ii) investigate the nature of job opportunities the graduates of sciences and Home

Economics of Lagos state tertiary institutions and their relevance to Nigeria world of work needs.

Research Hypotheses

In the context of the above objectives the following research hypotheses were tested at P < 0.05 level of significance.

(i) There is no significant difference in the course satisfaction of Sciences and Home Economics students and their choice courses

(ii) There is no significant difference in the nature of job opportunities the graduates of science and Home Economics from Lagos state tertiary institutions regarding there relevance to Nigeria world of work needs.

Methodology

The study employed a survey research design to provide structured data collection from individuals to gain deeper insights into their course of study experiences in the tertiary institutions in Lagos State. This design was chosen because it is an accessible and efficient way for respondents to share their perspectives. This selection was based on their programmes and course satisfaction. While samples of forty working graduates from Lagos state were randomly selected from civil service, secondary schools, five stars hotels and self-employed graduate.

Structured questionnaire was used to collect data from the respondents accordingly. The questionnaire was divided into parts: Section A and Section B. Section A was on the personal data of the respondents. Section was structured to obtain information on course satisfaction of both sciences and home economics students. The instruments were pilot-tested on a sample of 25 students selected from a college of education in Ogun state using test-retest method. The scores on two administrations of the questionnaire (i.e. test re-test method) were subjected to correlation analysis using Pearson Product Moment Correlation Analysis (PPMCA). The reliability of the questionnaire was determined by Spearman Brown formula (Split- half method). The reliability coefficient was 0.78 which was considered reliable for the study.

Data Collection and Analysis

Permission was sought from the Head of Departments and Lecturers of the sample tertiary institutions. Lecturers and students were subjected to enlightenment regarding the instrument - the process, the purpose of the study and the procedural steps involved in the study were discussed with them.

The procedure for collection of data was done accordingly:

The first week

Twenty Science and Home Economics respondents from three out of the seven tertiary institutions respectively owned by Lagos State and Federal Government in Lagos state were given Undergraduates Questionnaire **(**UGQ) for their responses. And later after, 30minutes it was returned and collated for further processes.

The second week

Forty working graduates from Lagos state were randomly selected from civil service, secondary schools, five stars hotels and self-employed graduates were given Graduates Questionnaire **(**GQ) individually in their different location and establishment to respond to the questions in the questionnaire. And later after, 30minutes it was returned and collated for further processes.

The data collected was analysed using t-test, chi square and the hypotheses were tested at P < 0.05 level of significance

Results

Hypothesis one

There is no significant difference in the course satisfaction of Science and Home Economics students and their choice courses.

Table1: t-test on mean Course Satisfaction of Sciences and Home Economics Undergraduates

Group	N	X̄	SD	df	tc	tt
Science students	50	12.00	3.60			
Home Economics students	50	14.00	2.30	**68**	**2.82**	**1.66**

Significant at 0.05 level

The findings in this study indicated that the tc = 2.82 > tt =1.66 at df = 2 significant, since tc >tt the results is not significant. Therefore there was no significant relationship on the mean . Hence the hypothesis was rejected.

Hypothesis Two

There is no significant relationship between job opportunities for graduates of Sciences /Home Economics and there relevance to Nigeria world of work needs.

GROUP	RESP0NSES					d/f	X^2Cal	X^2Tab	Remark
	Teaching	**Govt. office**	**Hotels**	**Self Employed**	**Total**				
Science Graduates	14(9.5)	1(1.5)	1(3.5)	4(5.5)	20	**3**	**17.82**	**7.82**	**Sig**
Home Econs Graduates	5(9.5)	2(1.5)	6(3.5)	7(5.5)	20				
Total	**19(47.50)**	**3(7.50)**	**7(17.50)**	**11(27.50)**	**40(100)**				

Significant at 0.05 level.

Table 2 indicates that the X^2Cal=17.82> X^2Tab=7.82 at df=3 significant. Since X^2c > X^2t the results is significant. Therefore there was a significant relationship between job opportunities for graduates of Sciences /Home Economics and there relevance to Nigeria world of work needs.

Discussion

The results revealed that all the students in these three tertiary institutions preferred applied science courses like agricultural science, nursing, medicine, clinical biochemistry, mechanical and electrical engineer, computer science. The students in pure science courses claimed that they are not comfortable with their courses because they were not fortunate to secure preferred courses; therefore they opted for available courses in pure science such as physics, chemistry, biology, botany, biochemistry, mathematics. The results of this study is in consonant with Delphonso & Adeuji (2006) who stressed that unemployment situation in the country has been blamed on persistent lack of systematic and appropriate man power planning and the educational systems incapacity to impact in its products, the appropriate skills and competencies needed for employment reality in the country. Okonjo-Iweala (2012) lamented that the Nigerian education system has deteriorated to a point where students cannot acquire the necessary skills needed for becoming employable and innovative in the competitive global world after graduating from school. Higher institutions, according to her, are plagued with inadequate

science and technical facilities and materials for practical skills development. There are clear links between science and technological progress and economic growth. This results is also in concordance with the study of Agu .& Kaduhur (2016) who opined that outcomes to economy, education as a process is expected to produce persons who are not only literate but who can participate actively in transforming the economies of nations From this position. A knowledge-based economy requires a highly skilled work force and a society which readily incorporates new technologies. It creates and exploits scientific knowledge and technology through entrepreneurship and innovation.

The results further revealed that science graduates are not likely to secure government jobs even if they study education. The results of this study are in agreement with the assertion of the Minister of Labour and Employment, Dr. Chris Ngige says education that is not directed towards job creation is useless. Ngige, therefore, said there was a need for schools to revise their current curricular to reflect modern challenges and development, according to a statement by the Director of Press at the Ministry of Labour, Samuel Olowookere. The minister said this in Abuja on Tuesday while addressing a breakfast session at the National Economic Summit (#24) in Abuja with the theme, 'Multi-Sectorial Roundtable on Job Creation and Skills Development in Nigeria'. The minister emphasized the need for a paradigm shift in approach to job creation as the current efforts might not be sufficient to create the jobs needed to gainfully engage over 80 million people.(PUNCH, October 24, 2018). The reality is that the contents in the school curriculum are not relevant to Nigeria world of work needs. The pure science courses in our higher institutions lack self -reliant contents that will assist the students to be aware of their potentialities that can propel them to be self- reliant and employer of labour.

Conclusion

In view of the results from this study, it was implied that majority of the students were not satisfied with their course of studies they preferred applied science courses like agricultural science, nursing, medicine, clinical biochemistry, mechanical and electrical engineer, computer science, this indicated that Nigerian education system has deteriorated to a point where students cannot acquire the necessary skills needed for becoming employable and innovative in the competitive global world after graduating from school. Hence, adequate science and technical facilities and materials for practical skills should be available for quality teaching and learning process. The study also indicated that, there was high rate of unemployment among Nigerian graduates, the unemployment situation in the country has been blamed on persistent lack of systematic and appropriate man power planning and the educational systems incapacity to impact in its products, the appropriate skills and competencies needed for employment reality in the country. Even the lecturers are not well exposed to relevant and adequate training both at home and abroad. The escalating unemployment rate among Nigerian youths has resulted in increase in drugs abuse and other criminal activities which is disheartening and unfavourable to Nigerian search for peace, poverty alleviation and economic growth. Although Nigeria has technically come out of a recession, the macroeconomic environment in Nigeria still continues to remain challenging.

In his remarks, the Executive Secretary of the National Universities Commission, Prof. Abubakar Rasheed, expressed the readiness of the commission to partner with organisations and groups to transit Nigeria into a knowledge-based society, thereby facilitating a knowledgeable economy. He further stressed that It is the wish of National Universities Commission that the Benchmark Minimum Academic Standards (BMAS) document will serve as a guide to the universities in the design of curricula for their programmes in terms of the minimum acceptable

standards of input, process as well as measurable benchmark of knowledge, skills and competences expected to be acquired by an average graduate of each of the academic programmes (NUC 2018).

Recommendation

Based on the results, findings of this study, the following recommendations are made:

(1) Tertiary institutions curriculum should be revisited to contain self-reliant contents, so that graduates of tertiary institutions are self-reliant and employable.

(2) The admission quota for vocational and technical programmes should accommodate appreciable number of prospective candidates.

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