

Work-Based Training Techniques for Integration into Nigerian Certificate in Education Minimum Standard of Technical Education for Enhancing Job Creation in Nigeria

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Abstract:- The paper identified work-based training techniques for integration into Nigerian Certificate in Education (NCE) minimum standard of technical education for enhancing job creation in Nigeria. Two research questions were raised to guide the study and two hypotheses were formulated and tested at .5 level of significant. Descriptive survey research design was used for this study. The study was carried out in North-Central, Nigeria. The population of the study consisted of 172 respondents comprising of 116 colleges of education lecturers and 56 university lecturers teaching technical education. Total population sampling technique was used to select the population for the study. The instrument used for data collection was a structured questionnaire. Cronbach Alpha statistical technique was used to determine the reliability of the instrument and yielded .88 and .89 coefficients. The study employed the use of mean to answer the research questions and Z-test to test the null hypotheses. Findings revealed apprenticeship, job shadowing, cooperative education among others were work-based training techniques for integration. The paper recommended that, Nigerian Council for Colleges of Education (NCCE) should facilitate the integration of work-based training techniques into the NCE minimum standard of technical education for enhancing job creation in Nigeria.

Key Words: Technical Education, Nigerian Certificate in Education, Minimum Standard and Work-Based Training

I. INTRODUCTION

Technical education is a field of study that covers the human ability to shape and change the physical world to meet human needs by manipulating materials and tools with techniques. Marc *et al.* (2016) revealed that, the aim of technical education is to provide the required trained manpower particularly at craft, advanced and technical levels needed for industrial development. Ekpenyong (2005) noted that, this type of education is designed to prepare individual to acquire practical skill, basic and scientific knowledge and attitude required as craftsmen, technicians, technologists and sub-professional level in automobile, building, electrical, metal and wood technology trades among others. Technical education is offered at different level of educational that include Doctor of Philosophy, Masters and Bachelor degrees as well as Nigerian Certificate in Education.

Nigerian Certificate in Education (NCE) is an academic programme in Nigeria with the sole aim of producing teachers to teach at primary and post-primary school levels. Mohammed and Ismail (2014) described NCE technical as the programme designed to trained individuals to obtain the minimum qualification of teaching in field of technical education. Oresanya *et al.* (2019) revealed high rate of unemployment among NCE technical graduates. The NCE technical graduates at entry level of employment are not equipped with the employability skills needed by both schools and industries (Oresanya *et al.*, 2014). This implies that, NCE technical graduates lack the requisite knowledge and skills needed for employment and therefore, they are not ready to enter into labor force. Robinson, and Garton, (2017) attributed the lack of skills among NCE technical to the minimum standard used for their training.

Minimum standard is the combination of all instructional practices and learning experiences designed to bring out and evaluate the target learning outcomes of a particular course. Gatawa (2009) defined minimum standard as a framework that sets expectations for student learning and serves as a guide for lecturers that establishes standards for student performance. Minimum standard for NCE technical programme could be seen as a structured series of intended learning outcomes that prescribes the results of instruction in training individuals to be teachers or technicians. Nonetheless, Mathew and Ede (2013) disclosed that, the current minimum standard for NCE technical programme cannot guarantee the production of teachers or technicians capable of addressing the shortage of skill manpower. Ndawi and Maravanyika (2011) postulated that, in order to improve skills of NCE technical students, there is a need for paradigm shift on the minimum standard used for training them to integrate techniques such as work-based training.

Work-based training is the planned and supervised connection of classroom experiences with the expectations and realities of work. In technical education, it is the type of training that occurs in real work environments through students' participation in authentic work activities and interactions.

Chapman (2016) described work-based training as a central tenet of technical education, because it emphasizes on learning through practice in the workplace. Choy (2019) revealed that, work-based training needs to be incorporated into the curriculum of technical education to help students develop social, academic, and personal skills needed to live as productive members of society; explore and participate in actual work experiences; develop sound and realistic work habits; and develop entry-level skills in an occupation. Chapman and Howkins (2013) also disclosed that, work-based training experiences provide students with the opportunity to develop and apply knowledge, skills, and employability attitudes and behaviors leading to job creation.

Job creation is simply the process of providing opportunities for paid employment for those who are unemployed. It is the process by which the number of jobs in an economy increases. According to Farnen (2009), lack of sufficient technical skills required for gainful employment among NCE technical graduates is among the major factor responsible for the recorded limited job creation in Nigeria. Chapman (2016) stated that, creating a reasonable number of jobs for graduates especially NCE technical graduates requires the integration of work-based training techniques into the minimum standard used for training them. Hence, there is a need to identify the work-based training techniques for integration into NCE minimum standard of technical education for enhancing job creation in Nigeria.

Statement of Research Problem

Technical education graduates of NCE programme are trained to function as teachers of technology at post primary school level or as technicians in the industries. Unfortunately, high unemployment rate among NCE graduates prevailed due to lack of requisite skills for employment. According to Idris and Rajuddin (2019), the unemployment rate among technical education NCE graduates in 2019 is recorded as 52.2%. The main reason for the recorded high unemployment rate among technical education NCE graduates is lack of techniques in the minimum standard of colleges of education in Nigerian for acquiring employability skills (Oresanya, 2014). Absence of techniques for acquiring employability skills in the minimum standard of colleges of education will continue to negatively affect the quality of technical education NCE graduates produced by limiting number of job creation. Hence, there is a need for the integration of work-based training techniques into NCE minimum standard of technical education for enhancing job creation in Nigeria.

Aim and Objectives of the Study

The study aimed at identifying work-based training techniques for integration into NCE minimum standard of technical education for enhancing job creation in Nigeria. Specifically, the study sought to achieve the following objectives:

1. Identify the benefits of integrating work-based training techniques into NCE minimum standard of

technical education for enhancing job creation in Nigeria

2. Identify the work-based training techniques for integration into NCE minimum standard of technical education for enhancing job creation in Nigeria

Research Questions

The following research questions were raised and answered:

1. What are the benefits of integrating work-based training techniques into NCE minimum standard of technical education for enhancing job creation in Nigeria?
2. What are the work-based training techniques for integration into NCE minimum standard of technical education for enhancing job creation in Nigeria?

Hypotheses

The following null hypotheses were formulated and tested at .5 level of significance:

HO₁: There is no significant difference between the mean responses of college of education and university lecturers on the benefits of integrating work-based training techniques into NCE minimum standard of technical education for enhancing job creation in Nigeria.

HO₂: There is no significant difference between the mean responses of college of education and university lecturers on the work-based training techniques for integration into NCE minimum standard of technical education for enhancing job creation in Nigeria.

II. METHODOLOGY

Descriptive survey research design was used for this study. The study was carried out in North-Central, Nigeria. The population of the study consisted of 172 respondents comprising of all the 116 lecturers in the eight colleges of education and all the 56 lecturers in the three universities offering technical education in North-Central, Nigeria. Total population sampling technique was used to select all the 172 population for the study. The instrument used for data collection was a structured questionnaire developed by the researcher and designed on five-points Likert's scale of Strongly Agree (SA), Agree (A), Disagree (DA), Strongly Disagree (SD) and Undecided (UD) with numerical values of 5, 4, 3, 2, and 1, respectively. The instrument contained two sections, A and B. The Section A comprises of benefits of integrating work-based training techniques into NCE minimum standard of technical education for enhancing job creation in Nigeria while the section B comprises of work-based training techniques for integration into NCE minimum standard of technical education for enhancing job creation in Nigeria. The instrument was content validated by three technical education experts, two from Federal University of Technology, Minna and one from Niger State college of education, Minna. Cronbach Alpha statistical technique was

used to determine the reliability of the instrument and yielded .88 and .89 coefficients. The study employed the use of mean to answer the research questions and Z-test to test the null hypotheses. Decision on research questions was based on real limit of numbers and decision on the hypotheses was based on comparing Z-value with P-value.

III. RESULTS

Research Question 1

What are the benefits of integrating work-based training techniques into NCE minimum standard of technical education for enhancing job creation in Nigeria?

Table 1: Mean Responses of College of education and university lecturers on the Benefits of Integrating Work-Based Training Techniques into NCE Minimum Standard of Technical Education for Enhancing Job Creation in Nigeria

N1=56, N2=116

S/N	Items	\bar{X}_1	\bar{X}_2	\bar{X}_A	Remark
1	Makes academic instruction relevant and applicable to the workplace	3.73	3.62	3.68	Agreed
2	Provides opportunities for occupational exploration	3.72	3.78	3.75	Agreed
3	Offers an organized plan of training on the job under actual business conditions	3.83	3.91	3.87	Agreed
4	Develops interpersonal skills through professional interactions in job settings	3.98	3.85	3.92	Agreed
5	Provides skilled professionals to help students make the transition from school to work	3.91	3.85	3.88	Agreed
6	Contribute to financial resources	3.78	3.85	3.82	Agreed
7	Improves job entry and advancement	3.71	3.59	3.65	Agreed
8	Provides technical education beyond what is available at most schools	3.91	3.95	3.93	Agreed
	Grand Mean	3.82	3.80	3.81	Agreed

N1= number of university lecturers, N2= number of college of education lecturers, \bar{X}_1 =mean of university lecturers, \bar{X}_2 = mean of college of education lecturers, \bar{X}_A = mean average of university and college of education lecturers

Table 1 revealed that all the eight items had average mean value above 3.49 and below 4.50. This indicate that, the respondents were of the opinion that all the eight items are benefits of integrating work-based training techniques into NCE minimum standard of technical education for enhancing job creation in Nigeria.

Research Question 2

What are the work-based training techniques for integration into NCE minimum standard of technical education for enhancing job creation in Nigeria?

Table 2: Mean Responses of College of education and university lecturers on the Work-Based Training Techniques for Integration into NCE Minimum Standard of Technical Education for Enhancing Job Creation in Nigeria

N1=56, N2=116

S/N	Items	\bar{X}_1	\bar{X}_2	\bar{X}_A	Remark
9	<i>Apprenticeship</i> : involves the student working for an employer where he or she is taught	3.78	3.59	3.69	Agreed
10	<i>Job shadowing</i> : introduces the student to a particular career by pairing them with an employee of the workplace	3.64	3.60	3.62	Agreed
11	<i>Industry field trip</i> : offers the students an insight in the latest technical advancements	3.89	3.76	3.83	Agreed
12	<i>Entrepreneurial experience</i> : includes setting up of specific business	3.53	3.57	3.55	Agreed
13	<i>Cooperative education</i> : allows work experience to be planned in conjunction with the technical classroom instruction	3.52	3.65	3.59	Agreed
14	<i>School-based enterprise</i> : It offers students a learning experience by letting them manage the various aspects of a business	3.86	3.84	3.85	Agreed
15	<i>Service learning</i> : This strategy allows students to provide volunteer service to public and non-profit agencies	3.59	3.65	3.62	Agreed
	Grand Mean	3.68	3.66	3.68	Agreed

Table 2 revealed that all the seven items had average mean value above 3.49 and below 4.50. This indicate that, the respondents were of the opinion that all the seven items are work-based training techniques for integration into NCE

minimum standard of technical education for enhancing job creation in Nigeria.

Hypotheses One

There is no significant difference between the mean responses of college of education and university lecturers on the benefits

of integrating work-based training techniques into NCE minimum standard of technical education for enhancing job creation in Nigeria.

Table 3: Z-test Analysis for Test of Significant Difference Between the Mean Responses of College of Education and University Lecturers on the Benefits of Integrating Work-Based Training Techniques into NCE Minimum Standard of Technical Education for Enhancing Job Creation in Nigeria

Respondents	N	\bar{X}	SD	df	z-value	p-value	Remark
University Lecturers	56	3.82	0.82	170	0.06	0.96	Not Significant
College of Education Lecturers	116	3.80	0.78				

Table 3 revealed that the p-value > 0.5, which implies that there is no significant difference between the mean responses of college of education and university lecturers on the benefits of integrating work-based training techniques into NCE minimum standard of technical education for enhancing job creation in Nigeria. Hence, hypothesis one was retained.

Hypotheses 2

There is no significant difference between the mean responses of college of education and university lecturers on the work-based training techniques for integration into NCE minimum standard of technical education for enhancing job creation in Nigeria.

Table 4: Z-test Analysis for Test of Significant Difference Between the Mean Responses of College of Education and University Lecturers on the Work-Based Training Techniques for Integration into NCE Minimum Standard of Technical Education for Enhancing Job Creation in Nigeria

Respondents	N	\bar{X}	SD	Df	z-value	p-value	Remark
University Lecturers	56	3.68	0.87	170	0.07	0.92	Not Significant
College of Education Lecturers	116	3.66	0.75				

Table 4 revealed that the p-value > 0.5, which implies that there is no significant difference between the mean responses of college of education and university lecturers on the work-based training techniques for integration into NCE minimum standard of technical education for enhancing job creation in Nigeria. Hence, hypothesis one was retained.

IV. FINDINGS

1. Makes academic instruction relevant and applicable to the workplace, provides opportunities for occupational exploration, offers an organized plan of training on the job under actual business conditions, develops interpersonal skills through professional interactions in job settings, provides skilled professionals to help students make the transition from school to work, contribute to financial resources, improves job entry and advancement and provides technical education beyond what is available at most schools were found to be the benefits of integrating work-based training techniques into NCE minimum standard of technical education for enhancing job creation in Nigeria.
2. Apprenticeship, job shadowing, business/industry field trip, entrepreneurial experience, cooperative education, school-based enterprise and service learning were found to be the work-based training techniques for integration into NCE minimum

standard of technical education for enhancing job creation in Nigeria.

3. There is no significant difference between the mean responses of college of education and university lecturers on the benefits of integrating work-based training techniques into NCE minimum standard of technical education for enhancing job creation in Nigeria.
4. There is no significant difference between the mean responses of college of education and university lecturers on the work-based training techniques for integration into NCE minimum standard of technical education for enhancing job creation in Nigeria.

V. DISCUSSION OF FINDINGS

Findings on the benefits of integrating work-based training techniques into NCE minimum standard of technical education for enhancing job creation in Nigeria revealed makes academic instruction relevant and applicable to the workplace, provides opportunities for occupational exploration, offers an organized plan of training on the job under actual business conditions, develops interpersonal skills through professional interactions in job settings, provides skilled professionals to help students make the transition from school to work, contribute to financial resources, improves job entry and advancement and provides technical education beyond what is available at most schools. The findings support the postulations of the Department of Labor,

Employment and Training Administration (2017) on the benefits of work-based training. This clearly indicated that, work-based training has the potentials of enhancing job creation among NCE technical graduates if integrated into the minimum standard for training them

Nevertheless, the z-test analysis for the test of significant difference between the mean responses of college of education and university lecturers on the benefits of integrating work-based training techniques into NCE minimum standard of technical education for enhancing job creation in Nigeria revealed no significant. The finding is in line with the responses of teachers and curriculum developers on the benefits of work-based training as stated in work-based learning implementation guide by Tennessee Department of Education (2016). This indicates that, college of education and university lecturers were of the same opinion regarding the benefits of integrating work-based training techniques into NCE minimum standard of technical education for enhancing job creation in Nigeria

Findings on the work-based training techniques for integration into NCE minimum standard of technical education for enhancing job creation in Nigeria revealed apprenticeship, job shadowing, business/industry field trip, entrepreneurial experience, cooperative education, school-based enterprise and service learning. The findings concord with Bottoms (2019) that revealed apprenticeship, job shadowing and cooperative education as work-based training techniques for inclusion into career and technical education curriculum. This implies that, the identified work-based training techniques if integrated into the minimum standard, job creation among NCE technical graduates will be enhanced.

Nevertheless, the z-test analysis for the test of significant difference between the mean responses of college of education and university lecturers on the work-based training techniques for integration into NCE minimum standard of technical education for enhancing job creation in Nigeriarevealed no significant. The finding is similar to the finding of Showalter and Spiker(2016) that revealed no statistical significant difference between the mean responses of curriculum developers and implementers on the work-based learning techniques for adoption into career and technical education programme. This implies, college of education and university lecturers share common opinion on the work-based training techniques for integration into NCE minimum standard of technical education for enhancing job creation in Nigeria.

VI. CONCLUSION

Based on the findings that emerged, the study concluded that work-based training techniques for integration into NCE minimum standard of technical education for enhancing job creation in Nigeria as well as its benefits to students were identified. The identified findings were based on the perception of technical education college of education and university lecturers. The implication of the findings is that, if

work-based training techniques are integrated into NCE minimum standard of technical education job creation will be enhanced among NCE technical graduates of college of education in Nigeria.

VII. RECOMMENDATIONS

Based on the findings emerged from the study, the following recommendations were made:

1. Nigerian Council for Colleges of Education (NCCE) should facilitate the integration of work-based training techniques into the NCE minimum standard of technical education for enhancing job creation in Nigeria.
2. Technical education lecturers in colleges of education should ensure the implementation of work-based training techniques if integrated into the NCE minimum standard of technical education for enhancing job creation in Nigeria

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