

IMPACT OF EMPLOYERS ACTIVITIES ON VOCATIONAL AND TECHNICAL EDUCATION STUDENTS' SKILL ACQUISITION DURING INDUSTRIAL WORK EXPERIENCE SCHEME IN EKITI STATE

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Abstract

The study investigated the impact of industrial work experience scheme (siwes) on vocational and technical education undergraduates' skill acquisition. In order to elicit information required for this study, three research questions were raised and answered while a null hypothesis was formulated and tested at 0.05 level of significance. A 38 item structured questionnaire titled Impact of Students Industrial work experience Scheme (SIWES) was developed for data collection. Survey research design was adopted for the study. The sample for the study was 102 respondents made up of 42 male and 60 female vocational and technical educational undergraduate students in two institutions running vocational education programs in Ekiti state. Face and content validity were carried out on the structured questionnaire by two experts in vocational and one test and measurement expert. The Cronba chalpha method was used to compute the reliability of the questionnaire to obtain efficient of 0.81. Mean and standard deviation were used to analyse the research question while Analysis of Variance (ANOVA) statistics was used to test the hypothesis. Based on the analysis data collected, it was observed that SIWES programme positively impact on both the professional and entrepreneurship skills development of students. Challenges faced by students during Industrial training (IT) programme were also highlighted. There was also no significant difference observed in the responses of respondents based on course of study as to the impact of SIWES programme on their skill acquisition and challenges facing IT students in work place, among other findings. Recommendations were there after made on ways to improve on SIWES programme in order to achieve its stated objectives.

Keywords: Employers, SIWES, Undergraduate Students, Vocational & Technical Education, professional skill, entrepreneurship skill.

Introduction

Vocational and Technical Education (VTE) is a type of education geared toward skill acquisition for gainful employment. It is an education system meant to produce semi-skilled, skilled and technical manpower necessary to restore, revitalize, energize, operate and sustain the national economy and substantially reduce unemployment (Federal Government of Nigeria, 2000). It is further described by FGN (2004) as a form of education involving, in addition to general education, the study of technologies and related sciences and the acquisition of practical skills attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life. It is a type of education offered in technical colleges, Polytechnics, Colleges of Education and faculties of education in Universities. Some VTE programmes offered at the undergraduate level in Nigerian universities, most especially by institutions in Ekiti State (Ekiti State University and University of Nigeria, Ikere Ekiti Campus) includes Agricultural education, business education and technical education. The objectives of VTE courses at university is the production of teachers to teach in some of the other levels, in addition to acquiring practical and other requisite skills needed in the world of work.

The practice of using only a few available and in most cases, obsolete equipment in schools to impart practical knowledge has not been effective. Many universities and other institutions of higher learning lack the wherewithal to update or incorporate all the latest technological advances in their programmes, most especially vocational/technical education departments to expose their students to the proper manipulation of these equipment. Teachers so produced become impeccable on theory but impossible on practical. Against this background, it becomes imperative to expose vocational/technical students to industrial experiences where they have access to facilities and equipment.

The vocational-technical teachers in post-primary institutions who are expected to teach both the theoretical and practical aspects of the vocational and technical education had in a survey carried out for this paper agreed that they have not been adequately exposed to the operations of some of the equipment in their institutions. the need to make technology education practical and also to make the much-needed technology advancement craved, realizable as opposed to the ability to read and write only system inherited from the British colonial master led to the establishment of the Industrial Work Experience Scheme (SIWES) by the Federal Government in 1971

The students industrial work experience scheme (SIWES), otherwise called industrial Training (IT) programme is a skill Training scheme developed to expose and prepare students in engineering, technology, business and vocational and Technical Education (VTE) in Nigeria tertiary institutions to industrial situations and work environments they are likely to face after course of study.

Both the industry and the school have different roles to play in vocational-technical teacher education. According to Kwami and Ubale (2012), the school should provide suitable classroom facilities and instructional materials; in-school instruction and a qualified teacher co-ordinator. The industry, on the other hand, should accept the students that are sent to them, provide them with a step by step training plan and systematically expose them to the latest technological advances in the industry. Thus, section 5 subsection 82j of the NPE (2013) stipulate that students of tertiary institutions should compulsorily participate in Students industrial work experience scheme (SIWES) that is structured, coordinated and supervised. The responsibility of the employers/industry according to SIWES in National Open University of Nigeria (NOUN) (2019) include the following

1. Accept students and assign them to relevant on-the-job training;
2. Provide tailor-made training programmes for the students;
3. Control and discipline students like permanent staff;
4. Attach experienced staff to students for effective training and supervision on a ratio of 1:10 (staff : students);
5. Provide medical care for students within the limit of employers conditions of service;
6. Grade students in the assessment Form and the ITF Form.
7. Permit representatives of ITF and Institutions' based supervisors to visit the students on attachment and

Both the industry and school are therefore expected to provide adequate on-the-job supervision.

SIWES was introduced to equip the participating students with needed professional skills which according to Wodi and Dokubo (2009) are indicated by; availability of modern equipment, constant and regular practical/hands-on-activities, unrestricted access practical materials, availability of social amenities, effective students' supervision, inculcation of problem-solving skill, qualified practical personnel, conducive environment etc. Equally important is Entrepreneurship skills which can be regarded as a purposeful intervention in the life of the learner to impart entrepreneurial qualities and skills to ensure that the learner can survive in the business world (Ogundola, 2017)

On this same note, Ukwueze (2011) identified some entrepreneurship skill indicators expected to be imparted on SIWES participating students to include innovative skill, administrative skill, creative thinking skill, risk-taking skill, thinking skill, management skill among other identified indicators. The scheme is thus aimed at equipping the students with such experiences that will aid their job creation ability as well as aid them fit into the job vacancies in offices and industrial settings. Institutions involved in the SIWES programme in Nigeria include Universities, Polytechnics, colleges of education, colleges of technologies and colleges of Agriculture.

The scheme affords students the opportunity of familiarization and exposure to the needed experience in handling equipment and machinery that are usually not available in institutions of learning. The objectives of student industrial work experience scheme according to the Industrial Training Fund (ITF) (2004) are

- 1 provision of avenue in the Nigeria Universities to gain industrial skills and experience in their course of study
- 2 enlisting and strengthening employers involvement in the entire educational process of preparing university graduates for employment
- 3 Making of transition from the university to the world of work easier, and thus enhance students contacts for later job placement.
- 4 Exposure of students to work methods and techniques in handling equipment and machinery that may not be available in the universities

- 5 Provision of students with an opportunity to apply their theoretical knowledge in real work situation, thereby bridging the gap between university work and actual practice
 - 6 preparation of students for the work situation they are likely to meet after graduation
- contrary to achieving the stated objectives, most graduates involved in SIWES have been completing their studies without acquiring the requisite work place skills, because little attention is paid to the training value of the scheme.

Okolocha and Ibik (2014) opined that the major problems of SIWES in Nigeria are lack of proper implementation and lack of commitment by tertiary institutions, industries, government, and coordinating agencies. In all, SIWES has failed in meeting the practical production skills, and competencies required to make Nigerian technological, engineering, business and in particular vocational education graduates to be readily employable or be self-employed. The adverse effect of this failure is the geometrical increase in the unemployment rate of graduates produced yearly by the institutions concerned without the requisite job competencies required in the world of work. Thus a change is desired. It was on this basis that this study impact of SIWES on skill acquisition of Vocational and Technical Education students in Ekiti State

Purpose of the Study

The study sought to ascertain:

1. whether students on IT are adequately exposed to relevant professional skills during attachment programme
2. whether students on IT are adequately exposed to relevant entrepreneurship skills during attachment programme
3. the challenges faced by VTE students on Industrial Training programme

Research questions

The following research questions were formulated to guide the study:

1. What are the impacts of SIWES programme on professional skill development of VTE students?
2. What are the impacts of SIWES programme on entrepreneurship skills of VTE students?
3. What are the challenges faced by VTE students during Industrial Training programme?

Hypothesis

HO There is no significant difference in the mean perception of agriculture education, Business education, and Technical Education VTE students as to the challenges and impact of SIWES on their skill acquisition

Methodology

The research design for this study was a descriptive Survey design. The study was carried out on 400 level VTE (agriculture education, Business education and Technical Education) students in two tertiary institutions in Ekiti State. The institutions are Ekiti State University, Ado Ekiti and University of Nigeria (Ikere Ekiti campus). The population consists of all 252 VTE students (Agricultural Education (47), Business Education (170) and Technical Education (36)) in 400 level that have participated in SIWES program. The samples consist of 120 VTE students proportionately drawn from the population in the above mentioned institutions. The instrument used for data collection was a 36-item structured questionnaire tagged Impact of Student Industrial Work Experience Scheme (ISIWES). The ISIWES was a 4-point rating scale of Strongly Agree (SA); Agree (A); Disagree (D) and Strongly Disagree (SD) developed by the researchers. The questionnaire was divided into two sections, A and B. Section A sought information on personal data of respondents while Section B sought information on Impact of SIWES on professional skill acquisition, entrepreneurship skills development and Challenges faced students during industrial attachment. The questionnaire was validated by two vocational educators and one test and measurement expert from Ekiti State University, Ado Ekiti and College of Education, Ikere Ekiti. The comments and suggestions of the experts were incorporated in building up the final draft of the instrument.

The instrument was trial-tested on 20 vocational and technical Education students drawn from population that was not part of the study. The result was used to determine the reliability of the instrument using Cronbach Alpha techniques. A reliability index of 0.82 was estimated. The questionnaires were administered to the respondents with the help of two research assistants in each of the institutions. The research questions were answered using mean and standard deviation. Thus, any item that attained a response mean score of 2.50 and above on the four-point scale was

accepted. This indicated that the respondents agreed with the item otherwise it was rejected. The null hypothesis was tested using ANOVA statistics at $p < 0.05$.

Results

The result of the research questions and null hypothesis that guided the study are presented as follows

Research Question 1: What are the impacts of SIWES programme on professional skill development of VTE students?

Table 1: Mean response of respondents on impacts of SIWES programme on professional skill development of VTE students

S/N	Item	$\bar{X}$	SD	Decision
1	Availability of modern and relevant equipment and facilities in establishment	2.86	0.61	Agree
2	Establishment engages in regular practical activities	2.99	0.91	Agree
3	Trainees encouraged to operate machines and equipment under supervision without discrimination	3.44	0.89	Agree
4	Giving responsibility to IT students under strict supervision at work place	2.87	0.91	Agree
5	Discouragement of idleness during work hours at work place during IT programme	2.99	0.73	Agree
6	It students are taught safety at work place during industrial attachment	3.01	0.79	Agree
7	availability of social amenities i.e. good access road, constant electricity supply and conducive environment in establishment	2.53	0.93	Agree
8	Acquisition of problem solving/diagnosing skills at work place during IT	1.83	0.64	Agree
9	Exposure of IT students to new work methods	3.31	0.48	Agree
10	Adequate preparation of students for work after graduation	3.71	0.90	Agree
11	IT students are Provide medical care within the limit of employers conditions of service	2.51	1.01	Agree
12	Provision of avenue for technical skill development, experience and professional development of student trainees	3.11	0.87	Agree
13	Employers/industries control and discipline students like permanent staff whenever they commit work related offence	2.93	0.99	Agree
	Cluster Mean	2.93		

Table 1 indicates that, all the thirteen presumed professional skill development of VTE students when exposed to SIWES programme, received mean ratings of 2.50 and above. This infers that these skills were perceived to be cultivated in the students during their industrial training attachment.

Research Question 11: What are the impacts of SIWES programme on development of VTE students?

Table 1: Mean response of respondents on impacts of SIWES programme on entrepreneurship skill development of VTE students

S/N	Item	$\bar{X}$	SD	Decision
1	SIWES instill administrative skill into IT trainees	2.54	1.22	Agree
2	SIWES programme encourages trainee to develop innovative skill	3.10	0.61	Agree
3	Participation in IT programme instil self-motivation skill in participant	2.68	0.78	Agree
4	Creative thinking skills are inculcated in students that participated in IT	3.01	0.92	Agree
5	Participation in Industrial attachment programme inculcate the risk taking skills in trainees	2.79	1.31	Agree

6	Sales and marketing skills are vital skills learnt by students that participated in SIWES	3.05	0.89	Agree
7	Participation in SIWES stimulate Planning skills in individual participant	2.88	1.11	Agree
8	Financial management skills are part of the numerous skills, cautiously and incautiously learnt during IT	2.74	0.73	Agree
9	Participation in SIWES increases one thinking skills	3.03	0.91	Agree
10	Involving in SIWES enhances practical skills of IT trainees	3.64	0.83	Agree
11	Participation in IT programme stimulate Accountability skills in trainee	2.53	1.57	Agree
12	Effective Communication skills are part of the training received during participation in IT programme	2.91	0.95	Agree
13	Personnel management skills are awakened in students, that participated in SIWES	2.51	0.97	Agree
	Cluster mean	2.88		

Data presented on table 2 above also illustrates that all thirteen items relating to development of entrepreneurship skills during industrial attachment programme are agreed by VTE students to be developed during their industrial attachment period. Thus, all items received mean ratings of 2.50 and above. Using the cut – off point of 2.50 as a benchmark, the data suggest that the eleven items were perceived as been developed in the students as a result of their participation in SIWES programme.

Research question 111: What are the challenges faced by VTE students during Industrial Training programme?

Table 11: Mean response of respondents on challenges faced by VTE students during Industrial Training programme

S/NO	Item	$\bar{X}$	SD	Decision
1	The unwillingness of employers of labour to absorb students for SIWES training	3.25	0.82	Agree
2	Preference of establishments for other category of students other than VTE students for IT	2.55	0.61	Agree
3	Requesting for gratifications by personnel responsible for accepting student for IT in establishments	2.10	0.89	Agree
4	Unwillingness of industrial base supervisor to impact requisite training on trainee	1.79	1.77	Disagree
5	Truancy by the students during industrial attachment	2.61	0.58	Agree
6	The inadequacy of modern office automations in some organizations	2.92	0.94	Agree
7	Placement of IT students in establishment and or department not relevant to students' discipline	3.32	0.89	Agree
8	non supervision of students on SIWES programme	2.87	0.53	Disagree
9	Lack of motivation like allowances/stipends for VTE students on IT programme by employers	3.53	0.69	Agree
10	Inability to secure conducive accommodation at	2.93	0.84	Agree

	work place by VTE student trainee during industrial attachment.			
11	Experiencing of sexual harassment at work place	2.21	1.52	Disagree
12	Poor exposure of VTE students on IT to practical work	2.44	1.63	Disagree
	Cluster mean	2.71		

Table 3 indicates the response of the respondents on challenges faced by VTE students during Industrial Training programme. A look at the table indicates that eighth of the twelve items were rated 2.50 and above with the exception of item 4, 11 and 12 that were rated 1.79, 2.21 and 2.44. The mean of the items thus fall below the cutoff point of 2.50 and therefore were not considered by respondents as challenges faced by VTE students during IT programme

Hypothesis

HO¹There is no significant difference in the mean perception of agricultural education, Business education, and Technical Education VTE students as to the challenges and impact of SIWES on their professional and entrepreneurship skills' acquisition

Table iv: *Analysis of Variance (ANOVA) on mean response of Agricultural Education, Business Education and Technical Education students as to their perception on the challenges and impact of SIWES on professional and entrepreneurship skills' acquisition.*

Sources of Variance	Sum of Squares	DF	Mean Square	F	Sig of F
Between Groups	83.214	2	41.607	.251	.779
Within Groups	16431.882	99	165.979		
Total	16515.096	101			

Computed using alpha = .05

The result above indicates that the computed F (0.251) is lower than F critical (2.910) at 0.05 level of significance. The significant level for the calculated F (0.779) is also higher than the F- critical 0.05. Thus the null hypothesis is accepted. This implies that there were no differences in the response of Agricultural Education, Business Education and Technical Education students as to their perception on the challenges and impact of SIWES on professional and entrepreneurship skills' acquisition.

Discussion

The findings of the study in table 1 revealed that VTE students perceived SIWES programme to have positive impact on their professional skill. Majority of the students posited that SIWES programme contribute to their professional development. Thus all items such as availability of equipment, encouragement of trainee to operate equipment, being taught safety at work place, ability to diagnose fault effectively etc. were rated higher than the 2.50 cut off point by the students. This result is inline with the study of Ukwueze (2011) who Discovered that greater level of employability skills is achievable through fruitful participation in SIWES program. Accordingly, Osoka (2018) postulated that the major benefits accruing to students who participate conscientiously in industrial training are the skills and competencies they acquire. He further observed that the relevant production skills (RPSs) remain a part of the recipients of industrial training as life-long assets which in his opinion cannot be taken away from them. This is because, according to Mafe (2009) the knowledge and skills acquired through training are internalised and become relevant when required to perform jobs or functions.

Table two shows that all thirteen identified entrepreneurial skills such as administrative skill, innovative skill, creative thinking skill, risk taking skill, self-motivation skill etc. were identified as entrepreneurship skill developed during SIWES programme by VTE students. They are therefore of the opinion that participation in SIWES programme indeed assisted in the development of their entrepreneurship skill. This will indeed help VTE students to achieve self-reliance and be self-employed after graduation. This assertion is in agreement with the findings of Okolocha and Okolocha (2012) that observed that Students rated SIWES as having positive impact on their entrepreneurship skill acquisition. It also corroborated the opinion of Usman and Tasmin (2015) who

stressed that the idea of SIWES was to support practical acquisition of life skills by students, and also to provide foundation for entrepreneurship development. The finding is also in agreement with that of Daluba & Odiba (2013) who maintained that the acquisition of management skills, financial skills, decision making skills and ability to monitor the business environment has the likelihood or potentials for attainment of self-reliance that contributes to sustainable development.

The findings from the analysis of research question three highlight challenges inhibiting the effective implementation of SIWES programme. The identified challenges such as rejection of prospective VTE IT students, truancy, inadequate modern equipment at work place, inadequate supervision of IT students etc. This findings corroborated earlier studies by Wodi and Dokubo (2009) who observed that lack of supervision, difficulty in getting placement are among the numerous problem faced by IT students. Lack of supervision of student on training gives room for poor attendance which invariably leads to poor performance and also has a negative impact on the achievement of the objective of the scheme. On this same vein, study by Agbonghale & Iserameiya (2017) observed that poor motivation and inadequate funding among others, are the factors affecting SIWES effective implementation. These challenges may hinder the realization of the goals and objectives of the SIWES, it therefore needs to be given attention by all concerned stakeholders. Furthermore, Ojokuku, Emeahara, Aboyede and Chris-Isreal (2015) identify challenges facing IT students to be inadequate accommodation, inadequate finance and inability to secure places of training. Accommodation challenges has also earlier been recognize by ITF (2006) and Mafe (2009) in separate articles as a major challenge.

Recommendations

Based on the findings of the study, the following recommendations are hereby made

- 1 Industries and establishment accepting students for SIWES should endeavor to assign them to relevant jobs
- 2 Students learning progress at the place of primary assignment should be closely monitored and supervised by institution and industrial based supervisor
- 3 Government should formulate and enforce policy that will mandate industries and establishment to accept vocational and technical education students for IT programme.
- 4 Students should be deployed to industries and establishment that relate to their field of study.
- 5 Organized private sectors, government establishments and other related organizations should been courage to accept VTE student for industrial training in their establishments.
- 6 Employers should also been courage to provide accommodation for students trainees in order to reduce accommodation problem
- 7 Workshop and seminars should be organized for establishments and industries accepting students for industrial attachment on their responsibility towards accepted IT students

Conclusion

Student industrial work scheme is a trainee programme that will not only improve the professional skill of VTE students but will also sharpened their entrepreneurship skill which is most relevant at a period when unemployment rate is very high. The problems hindering the effective implementation of SIWES programme need to be addressed in order to make the lofty objectives of the scheme achievable.

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