Benefits of Students Industrial Work Experience: Evidence From Rivers State University Farm

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ABSTRACT

The study focused on the benefits of industrial work experience of students in Rivers State University. The objective of the study was to: describe the demographic characteristics of student during SIWES in the Rivers State University farm; examine the equipment and tools available in the university farm for the students; identify the benefits derived by the students from the university farm during SIWES; identify factors influencing the attitude of students during their SIWES at the university farm and determine the constrains student face during the period of SIWES at the university farm. The population of the study was students carrying out the IT at the university farm. Purposive sampling procedure was used to select the student bringing to a total of 58 respondents. Data were analyzed using simple regression analysis. A well-structured questionnaire was used to elicit data from the respondents. The result revealed that 51.72% of the respondents were male while 48.28% of the respondents were female. 96.55% of the respondents were single; the mean age was 28 years. 20.69% of the respondents carried out their SIWES at level 300 while 79.31% carried out their SIWES at level 400 in a 5years course. The benefits of SIWES on the students at the university farm were lifelong skill acquisition (mean = 3.13), blend theoretical knowledge with practical knowledge (mean = 3.01)), student's exploration, initiative and creativity (mean = 3.00), job creation (mean= 2.98). The study concludes that students benefit to a large extent in industrial work experience in Rivers State University farm. It therefore recommends reformed policies to enhance operational efficiency of the scheme.

Keywords: Students, Industrial Work Experience, Rivers State University, Farm

1. INTRODUCTION

The Students Industrial Work Experience Scheme (SIWES) is a skill development programme which was designed to expose and prepare students for the industrial work situation to achieve technical and vocational skill through various firms, industries and factories and in any commercial establishment. Inyiagu (2012) posited that SIWES is an effort to bridge the gap between theory and practice of engineering, technology, science agriculture, medicine and other industrial related professional educational programme in Nigerian tertiary institutions (Anyaeneh & Ochuba, 2019). SIWES enables students to acquire technical skill and experience for professional development in their study. Before the inception of the scheme there was a growing concern among Nigerian industrialists that graduates of institutions of higher learning lacked adequate practical background experience necessary for

employment. So, employers believed the theoretical education provided by the higher institution does not meet or satisfy the needs of the economy.

It was against this background that the scheme during its formative years, introduced SIWES to provide students with the opportunity of exposure to enable them to acquire prerequisite practical knowledge and skills (Ikukanda, 2013). This work experience program gives students the opportunity to be part of an actual work situation outside the classroom. The impact of SIWES has thus, been a cause of concern to education and economic planners, particularly with respect to graduate employment. Anyaeneh and there are also mixed concerns about how much of it that is helpful to student's academic performance and job readiness after graduation. While some institutions and programs permit SIWES for only three months, others go for up to one year.

In Nigeria, the students' industrial work experience scheme (SIWES) was established in Nigeria in the year 1973 by the industrial training fund. As the name implies, it is a training scheme designed to provide industrial job and occupational skills to students in vocational and technical field of study in institutions of higher learning throughout Nigeria, before graduating to complement their training in the school. The aim is to help the students to achieve their set goals and become specialists in their various fields of studies (Anyaeneh & Ochuba, 2019). There is no doubt that SIWES is a laudable skills development programme, geared towards bridging the gap between theories learnt in the class and the actual practice.

However, evidence has shown that the scheme is characterized with different problems and challenges. Okoh (2010) observed that there is lack of practical skills among graduates of Nigerian institutions of higher learning. This situation has given rise to complaints, among parents and industries, that graduates of tertiary institutions are half-groomed, lack manipulative skills and not employable. The situation also gave rise to the question as to whether the SIWES is an effective platform for equipping business education students with the competencies and skills they so much require (Anyaeneh & Ochuba, 2019). From the above, this study examined the benefits of Industrial Work Experience Scheme to students in Rivers State University farm.

2. REVIEW OF RELATED LITERATURE

2.1 Nature and Scope of Students Industrial Work Experience Scheme (SIWES)

No society can achieve meaningful progress without encouraging its youth to acquire necessary practical skills. Such skills enable them to harness available resources to meet the needs of society. Practical knowledge relates to doing. Learning without which mastery of an area of knowledge may be too difficult

to achieve. Practical knowledge involves developing skills using tools or equipment to perform tasks that are related to a field of study. SIWES is a skill development program designed to prepare students at universities, polytechnics/mono-technics, and colleges of education. The Student Industrial Work-Experience Scheme (SIWES) is a planned and supervised training intervention based on stated and specific learning and career objectives and geared towards developing the occupational competencies of the participants. It is a programme required to be undertaken by all students of tertiary institutions in Nigeria pursuing courses in "specialized engineering, technical, business, applied sciences and applied arts" (Ojokuku et al., 2015).

This requirement must be met by all students in business education department before graduation. It is also compulsory at National Diploma (ND) level and is scheduled in the NBTE curriculum. The government has recognized the importance of SIWES (Abraham-Ibe, 2015). The ITF was established in 1971 and was charged with human resources development and training. Following the establishment of ITF, SIWES commenced in 1974 with the aim of making education more relevant and to bridge the yawning gap between the theory and practice of vocational, engineering

Brief history of SIWES

The Students' Industrial Work Experience Scheme (SIWES) is a skill training programme designed to expose and prepare students at universities, polytechnics and Colleges of Education for the industrial work situation they are likely to meet after graduation. The scheme also affords students the opportunity of familiarizing and exposing themselves to the needed experience in handling equipment and machinery that are usually not available in their institutions. Before establishment of the scheme, there was a growing concern among our industrialists that graduates of institutions of higher (Ijeoma et al., 2017) learning lacked adequate practical background studies preparatory for employment industries. Thus, the employers believed the theoretical education going on in higher institutions was not responsive to the needs of the employers of labour.

Student Industrial Work Experience Scheme (SIWES) was introduced in 1973 by the Federal Military Government under the auspices and direct supervision of Industrial Training Fund (ITF). The scheme is presently 45 years old, and it is meant for technocrats. The ITF solely funded the scheme during its formative years. But as the financial involvement became unbearable to the fund, it withdrew from the scheme in 1978 (Ikukanda, 2013). The federal government handed over the scheme in 1979 to both the National Universities Commission (NUC) and the National Board for Technical Education (NBTE).

The scheme aimed at exposing students pursuing professional courses in institutions of Higher learning under real office situation, work ethnics and methods. Today it has covered many disciples and has become a necessary pre-requiring for the award of Higher National Diploma and Degree Certificates in specific disciplines in Institutions of Higher Learning in the country. Industrial training could be considered as the opportunity given to students in Higher Institutions to acquire experience around his or her career interest in industries (Oladimeji et al., 2017).

Benefits of Students Industrial Work Experience Scheme

The Students Industrial Work Experience Scheme (SIWES) is a cooperative link between the industries and tertiary institutions including Colleges of Education (Technical) and part of the training plan for students of technical institutions. SIWES is a programme where technical tertiary institutions and industries cooperate to prepare students for the world of work. SIWES is a skills Training Programme designed to expose and prepare students at Universities, Polytechnics, Colleges of Technology, Colleges of Agriculture and Colleges of Education for the Industrial Work situation they are likely to meet after graduation. SIWES also affords students the opportunity to familiarize and expose themselves to the needed experience in handling equipment and machinery that are usually not available in their institutions. In projection, through the SIWES programme, technology students and student teachers alike are exposed to actual work experience to handle materials and machines which would not have been possible for them within the school environment.

Courses/Discipline in which students undertaking course of study are allowed to partake in industrial training, as provided in the ITF operational guidelines, includes, the courses in the universities, polytechnics, and colleges of technology (Ogbu, 2015). Disciplines which industrial attachment will be funded under the scheme are restricted to engineering and technology including environmental studies. Courses of NCE Vocational and Technical Education in Colleges of Education and polytechnics Institutions are also included. Students' eligible and duration of their SIWES attachment to be University students of relevant courses are entitled to six-month industrial attachment at a stretch end of part III and IV of their courses depending on the duration of the degree programme. Polytechnics and colleges of technology students on National Diploma Programme in the relevant courses are entitled to four-month industrial attachment after completing their National Diploma. NCE Vocational Education Students are entitled to four-month industrial attachment each at the end of their second year of the three-year NCE programme. The major benefits accruing to students who participate conscientiously in SIWES are the skills and competencies they acquire. These relevant production skills remain a part of the recipients of industrial training as life-long assets which cannot be taken away from them. Combine theoretical

knowledge acquire in classroom with practical hands-on application of knowledge. Good work method and gain experience in handling equipment and machinery which may not be available in our institution. Develop and enhance personal attributes such as critical thinking, creativity, initiative, leadership, time management, presentation skills and interpersonal skills. Students contacts with potential employers while on training.

Close space between the knowledge acquired in institutions and the relevant production skills required in work organizations.

The role of professions in their various fields as the creators of change and wealth and indispensable contributors to growing the economy and national development. The connection between their courses of study and other related disciplines in the production of goods and services.

Other benefits of SIWES programme. These include the following: Opportunity for students to blend theoretical knowledge acquired in the classroom with practical hands-on application of knowledge required to perform work in industry; Students realization to the environment in which they will eventually work, thereby enabling them to see how their future professions are organized in practice; and the experience by students, particularly those from a non-technological background, pursuing courses in vocational, engineering science, and technology regarding different equipment, processes, tools etc. available in industry.

The objectives of SIWES

Avenue for students in institutions of higher learning to acquire industrial skills and experience in their course of study, which are restricted to Engineering and Technology including Environmental Studies and other courses that may be approved. Courses like NCE (Technical), NCE Agriculture, NCE (Business), NCE (Fine and Applied Arts) and NCE (Home Economics) in Colleges of Education are also included. Educate students for industrial work situation they are to meet after graduation. Students to know work methods and techniques in handling equipment and machinery that may not be available in the institutions. Transition from school to the world of work easier and enhance student's contacts for later job placement. Give students opportunity to apply their knowledge in real work situation thereby bridging the gap between theory and practice; and Enable employers, involvement in the entire educational process and prepare students for employment in industry and commerce. Providing avenue for students of Higher Institutions in Engineering and allied field to acquire industrial skills and experience.

Preparing students for situations they are to meet after graduation.

Exposing students to work methods and techniques in handling equipment and machinery that may not be available in educational institutions; Providing students with the opportunity to apply knowledge in real work situation thereby, bridging the gap between college work and actual practice; Enlisting and strengthening employer's involvement in the educational process of preparing students for employment in industry; notable in the objectives of SIWES is that it fortifies classroom theoretical contents by exposing the students to practical aspects of their training. The two programmes objectives if critically assessed connote integration and maintenance of individual to be relevant as much as possible to the nation's industrial development and educational pursuit. Therefore, the achievement of these stated objectives will greatly be dependent on cooperation or inter-relationship between institutions of higher learning and industrial institutions. This also implies that a business student before he/she is legally certificated should be exposed to the realities of the world of work to be a productive citizen.

Exposure of students to SIWES afford their institutions the opportunity to relate training to the needs of industry as well as enhancing the development of the nation and improving the occupational competencies of the participating students by equipping them with relevant skills and knowledge needed to be self-reliant. Okhawere (1996), Adeyemi (2002) and Mafe (2010) believed that the training of vocational business students is incomplete without work experience, because on the job experience is not acquired in the classroom teaching/learning environment but reproduced outside the real work situation. Kazaure in Wapmunk (2011) explained that work experience will serve as factory where needed career personnel are produced and that such vocational students can become self-reliant and help transform the nation from been consumer nation to a producer nation so desired for development.

Functions of the SIWES unit

By the directive of National Universities Commission (NUC) and Industrial Training Fund (ITF), the Unit is mandated to carry out the following functions. Seeking of industrial placement for undergraduate students enrolled in disciplines scheduled for participation in SIWES. Supervision of the students undergoing their Industrial training in the various places of SIWES. Processing of students' logbooks, ITF forms and industrial attachment reports upon which is based on the Federal Government funding of supervision and students' allowances. Fostering of close links between the university and industries participating in SIWES programme. Provision of advisory guidance to participating students on career employment opportunity. Monitoring of compliance with the requirements of SIWES on the part of students in eligible disciplines as a condition for graduation. Facilitation of the disbursement of the students' allowance to deserving students through e-payment.

2.2 Empirical Review

Ojokuku et al., (2015) examined the influence of Students Industrial Work Experience Scheme on Professional Development of Library and Information Science Students in South-West, Nigeria. Descriptive 2 research design was adopted for the study and total enumeration sampling technique was used to select 277 respondents covering three institutions: Adeleke University, Ede Osun state, University of Ibadan, Ibadan and Tai Solarin University of Education, Ijebu Ode, Ogun state. The respondents are students who have gone through student industrial experience scheme. Questionnaire was the instrument used for data collection. Data collected was analyzed using descriptive statistics and simple percentages. Findings revealed that majority of LIS students understudied had their trainings in the libraries. The facilities available at the places of training included: computer laboratories, internet services, e-libraries and audio-visuals. Computer laboratory and internet facilities had the greatest frequencies 207(93.7%) each These accounted for the students' perceptions that SIWES influences professional development positively with response rate of 216 (97.7%) agreement, and that SIWES exposed them to new work methods also with response rate of 216 (97.7%) agreement. It was also discovered that SIWES provides avenue for technical skill development with response rate of 208(94.1%) in agreement.

Noticeable challenges facing SIWES include finance, students' placements because of non-acceptance of students by some employers into their establishments, inadequate supervision of trainees as well as irregularity in academic calendar of institutions, among others. It was recommended that institutions and other stakeholders should look keenly into the modalities and operations of the scheme to allow the scheme to achieve its stated objectives.

Adeleke, Afolabi and Foloninoho (2018) combined the impact of SIWES on Academic performance of business education students. The final year students of Business Education of UNILAG and LASU were used for the study. One hundred and twenty-four (124) business education students were sampled through simple random sampling technique. Item questionnaire was designed, and validation of the instrument was assessed by experts. The data collected were analyzed using percentage, mean score, and standard deviation. Waayii (2017) revealed the need for good attitudes towards technology in business is necessary in business education programmes in Nigeria and other developing countries as one of the ways of ensuring efficient resource allocation.

This objective can only be realized with the instrument of the various professionals in the world of tech. It is in realization of this fact that led to the study of students' attitude towards technology in business education programmes. Consequently, the design of the study was a quasi-experimental design. A factional analysis was conducted on the pre-test data.

3. RESEARCH METHODOLOGY

3.1 Area of the Study

Rivers State University (RVSU or RSU), formerly Rivers State University of Science and Technology (UST or RSUST), is a university located in the Diobu (Mile III) area of Port Harcourt, Rivers State, Nigeria. The Rivers State University of Science and Technology was established in 1972 as the College of Science and Technology. It was granted independent university status in 1980 and was renamed from College of Science and Technology to Rivers State University of Science and Technology. It is the only university in Nigeria that is accredited to offer degree programs in marine engineering. The school has about 10 faculties which included Faculty of Sciences, Faculty of Engineering, Faculty of Law, Faculty of Management Sciences, Faculty of Environmental Sciences, Faculty of Agriculture, Faculty of Education, Faculty of Humanities, College of Social Sciences, and College of Medical Sciences

3.2 Population of the Study

The population of the study was limited to departments whose student carry out their SIWES at the Rivers State University Farm, which include Agricultural Extension, Agricultural Economics, Animal Science, Forestry, Crop/Soil Science, Agricultural Education, Agricultural engineering, Chemistry and Biochemistry, total number of 68 students.

3.3 Sampling Procedure and Sample Size

During this study, purposive sampling procedure was used. Students were purposively selected bringing to a total number of 58 students. A total number of 58 respondents were used.

3.4 Method of Data Collection

Data was collected using structured questionnaire. The questionnaire was structured into sections to obtain information to the stated objectives. Section A covered the demographic characteristics of the students while other sections were questions related to the stated objectives.

Method of Data Analysis

The statistical tools used in the presentation and analysis of the data collected include frequency table, percentages and mean which were used to present objective 1. Objectives 2, 3, 4 and 5 were analyzed using four-point rating scale with options: Strongly Agree (SA) = 4, Agree (3), Disagree (2), Strongly Disagree (SD) = 1. The values were added to give 10 and further divided by 4 to get 2.50. This served as a decision rule. Any variable above and equal to 2.50 was accepted and regarded as effective while any

variable below 2.50 was seen as less effective. Simple regression analysis was used to test the stated hypotheses.

4. RESULT AND DISCUSSION

Demographic Characteristics of Students

Table 1: Percentage Distribution of Students according to Demographic Characteristics

Characteristics	Frequencies (n= 40)	Percentage %	Mean
Age			
18-22	12	20.69	
23-27	44	75.86	27.5 years
28-32	2	3.45	
Sex			
Male	30	51.72	
Female	28	48.28	
Marital Status			
Single	56	96.55	
Married	2	3.45	
Level			
300	12	20.69	
400	46	79.31	
Department			
Agricultural Extension	10	17.24	
Agricultural Economics	6	10.35	
Agricultural Education	5	8.62	
Agricultural Engineering	4	6.90	
Animal Science	6	10.35	
Forestry	4	6.90	
Crop/Soil Science	15	25.86	
Chemistry	4	6.90	
Biochemistry	4	6.90	

Source: Field Survey, 2023.

Age: The result in Table 1, 12 respondents representing 20.69% of the respondents are within age group of 18-22 years, 44 respondents representing 75.86% of the respondents are within the age group of 23-27 years while the remaining 2 respondents representing 3.45% of the total respondents are within the age group of 28-32 years. None was in the bracket 33-3 years. The mean age of the respondents was 28 years. This indicates that the students were still very vibrant and active male and female who could carry out SIWES activities more efficient as it is believed that it could be seen as a season of accountability.

Sex: The result also reviewed that 51.72% of the respondents were males while 48.28% were females which implies that the academic field in Rivers State university farm were gender equality compliant as there was only 5% difference between male and female students.

Marital status: From table 1, it was revealed that majority (96.55%) of the respondents were single while (3.45%) were married. None was recorded to be divorced and widow implying that the students are dependent on their family and friends to provide their basic needs and support them which may affect attitude positively because no pressing responsibility.

Level: It was revealed that, 12 respondents representing 20.69% of the total respondents did their SIWES at 300 level, while the remaining 46 respondents representing 79.31% of the total respondents did their SIWES at their 400 level. None was in 500 level. This result negates the findings of Oyedele (1990) according to Nigerian Universities Commission (NUC) who disclosed that the training is undertaken in the 3rd year of a fourth-year degree programme and in the 4th year of a fifth year.

Department: It was revealed that, 10 respondents representing 17.24% of the total respondents are of the Agricultural extension department, 6 respondents representing 10.35% of the respondents are of the Agricultural economics; 6 respondents representing 10.35% of the respondents are of the Animal Science; 4 respondents representing 6.90% of the respondents are of the Forestry; 15 respondents representing 25.86% of the respondents are of the Crop/Soil Science; 5 respondents representing 8.62% of the respondents are of the Agricultural Education Department; 4 respondents representing 6.90% of the respondents are of the Agricultural Engineering Department; 4 respondents representing 6.90% of the respondents are of Chemistry Department while the remaining. 4 respondents representing 6.90% of the respondents are of Biochemistry Department. The result negates the findings of Ahmed (2011) who agreed that the idea of introducing SIWES was to fill the gap between theory and practice for students of Allied Course.

Table 2: Mean Distribution of Students according to the Benefits derived from SIWES in the farm

Equipment and Tools available in the school farm	Strongly Agree	Agree	Dis-agree	Strongly Disagree	Total Mean Score	Mean	Remark
Learning outside classroom	9	22	19	8	148	2.55	Beneficial
Practical knowledge of	5	28	22	3	151	2.60	Beneficial

agriculture							
Lifelong skill acquisition	13	41	3	1	182	3.13	Beneficial
Application of knowledge	15	23	20	0	169	2.91	Beneficial
Enterprise and economic development	7	33	17	1	162	2.79	Beneficial
Job creation	10	40	7	1	175	3.01	Beneficial
Blend theoretical knowledge with practical knowledge	2	53	4	0	173	2.98	Beneficial
Students exploration, initiation and creativity	18	24	14	2	174	3.00	Beneficial
Enhance literacy and language skills	5	39	13	1	164	2.82	Beneficial
Encourages a healthy lifestyle	8	41	9	0	173	2.98	Beneficial
Foster environment stewardship	3	38	156	2	158	2.72	Beneficial
Promotes scientific discovery	9	22	19	8	148	2.55	Beneficial
Grand Mean						**2.83**	**Beneficial**

Source: Field Survey, 2023 **Non-beneficial > 2.50; Beneficial ≤ 2.50**

Benefits derived from SIWES in the Farm

From table 2, the result reveals mean distribution of the benefits derived by the students from SIWES in Rivers State University farm. Using the decision mean of 2.50 was indicating that the students acknowledged that SIWES is very beneficial in helping them get practical knowledge. The results variables which were beneficial were: lifelong skill acquisition (= 3.14) had the highest followed by lob creation (= 3.02) others are student exploration (= 3.00), encourages healthy lifestyle (= 2.98), Blend theoretical knowledge with practical knowledge (= 2.98), application of knowledge (= 2.91), enhance literacy and language skill (= 2.82), enterprise and economic development (= 2.80), foster environment steward (= 2.72),practical knowledge of agriculture (= 2.60), learning outside classroom (= 2.55), promotes scientific discovery (= 2.55). The grand mean for benefit derived by the students from SIWES was 2.83. Implying that SIWES is beneficial to institutions as it relates training student with relevant skill. This result is in line with the observation of Emetarom (2011) that the exposure of students to SIWES affords their institution the opportunity to relate training to the needs of industry as well as enhancing the development of the nation and improving the occupational competences of the participated students.

5. CONCLUSION

The evidence from the findings in table 2 of this study shows that the benefits of SIWES to students includes developing in students the necessary work ethnics and habits needed in any occupation, aiding

students to develop abilities and skills necessary for proficiency in their profession, exposing student to the intricacies in office automations, among others. Considering the grand mean of 2.83 implies that students benefit from SIWES. This finding is in line with the views of Agwunan (2012) that SIWES is a training programme that provides students with the opportunity to apply their knowledge to real life work situation thereby bridging the gap between theory and practice.

6. RECOMMENDATIONS

1. The study recommends policy reforms in the management and conducts of student industrial work experience in the university and other universities to enhance students experience in the job.
2. Rivers State University should ensure students in the university farm engage in proper industrial work experience scheme.
3. The period of student industrial work experience scheme (SIWES) should be increased and there should be serious monitoring of both supervisors and students.

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