

Perceptions of Construction Students on Industrial Training in Nigeria

Adewumi Babalola¹ and Rosemary Obianeri²

^{1&2} Department of Quantity Surveying, Faculty of Environmental Sciences,
University of Lagos, Akoka, Lagos.

ABSTRACT

Purpose: *This study evaluates the perceptions of construction students on industrial training in Nigeria, with a view to suggesting ways of improving the Student Industrial Working Experience Scheme (SIWES).*

Design/methodology/approach: *The study is a descriptive survey research in which 100 copies of a structured questionnaire, based on the objectives of the study, were administered to assess the perceptions of construction students. The questionnaire was fully responded to.*

Findings: *The study found: that the students benefited from their SIWES programme and were exposed to real working environments in their area of studies; that there were improvements in their personal, working and communication skills; that they gained knowledge of the latest technologies as well as other knowledge that would be useful in their working lives.*

Practical implications: *The study encourages students to participate actively in the SIWES programme and pay serious attention to their industrial supervisors. However, employers should do more to equip students technologically, while the government should adequately fund and monitor the programme in order to meet its objectives.*

Originality/value: *The study examined the present state of the SIWES programme in Nigerian universities and advocates its improvement towards enhancing economic development.*

Keywords: Construction industry; Construction students; Nigeria; SIWES: Training

INTRODUCTION

Industrial training is a scheme that prepares a trainee for the world of work by equipping them with the necessary skills for satisfactory performance at the workplace (Rahman, Omar, Kofi, Mat, Osman, & Darus, 2009). In Nigeria, the Students' Industrial Work Experience Scheme (SIWES) is a form of industrial training organized by higher institutions such as Universities, Polytechnics, Colleges of Technology, and Colleges of Agriculture, in partnership with the Industrial Training Fund (ITF), to help students gain practical knowledge in their areas of specialisation. It is a skills acquisition programme that offers hands-on experience to students in the handling of industrial equipment and machinery that is not usually available in their institutions (Oyeniya, 2011). According to Mafe (2009), there is a need for industrial training for students in the higher institutions because theoretical knowledge alone is not enough to prepare an educated person for the world of work.

SIWES enhances student learning while also fostering stronger research and development collaboration between higher education institutions and industry (Meenaloshine, Zaimah, & Linder, 2014). According to Oladiran, Okafor and Aiyelabowo (2012), SIWES has the potential to develop the youth for the workforce, thus contributing immensely to the economic development of a country. For Oladiran et al. (2012), SIWES helps trainees to build confidence and personality while gaining more awareness. Among the objectives of SIWES are to expose students to practical knowledge in their areas of specialisation; to expose students to the responsibilities expected of them as professionals in their various fields; and to develop students' communication skills that include interacting with the working environment and mastery of technical writing.

SIWES is a laudable skills acquisition programme that aims at the sustainable technological development of the nation. However, it cannot be said to have achieved this objective owing to inconsistencies in industrial development policies and the corruption that pervades most sectors of the economy. Mofesola (2012) identified the following factors as affecting the SIWES programme in Nigeria: inadequate monitoring of students on industrial training; lack of cooperation and support from companies and organizations; delay in release of funds for supervision and for paying student's industrial training allowances. Oladiran et al. (2012) attributed the poor performance of SIWES in Nigeria to weak coordination, poor supervision and low – usually monetary – incentives. Nse (2012) noted the following factors as hindering the realization of the SIWES objectives: lack of proper coordination and supervision, refusal to absorb students by industries, and delay in issuing of log books and letters to students. One of the consequences of poor and ineffective management of the SIWES programme is that most students end up being unemployable after graduation (Ayogyam, William, Asaah, & Zakari, 2012). In addition, most employers of labour find it difficult to recruit employees that match their needs, especially because of applicants' lack of experience and poor language/communication skills.

At the same time, firms are experiencing declining markets and tighter margins, leading them to cut back on funds for educating and training staff. Consequent upon government's failure to place education high on its priority scale, institutional mechanisms for supplying properly trained graduates to industry have increasingly come under strain as the educational infrastructure is neglected, overstretched and fails to match societal needs. Without doubt, declining enrolment and falling contributions have left the existing training institutions facing increasing deficits while majority of the industry's workforce is still unable to access such training (Aniekwu & Ozochi, 2010).

Having made the foregoing observations, it is important to state the objectives of this study as follows:

- i. to evaluate students' perceptions on the benefits of the SIWES programme;
- ii. to evaluate students' perceptions on personal attitude, work attitude and communication skills after undergoing industrial training;
- iii. to examine the problems facing the SIWES programme in Nigeria.

LITERATURE REVIEW

Training is a key factor in enhancing the efficiency and expertise of the workforce (Ugwuanyi&Ezenma, 2010). The inherent premise is that, until human resources are developed through education and training, a society cannot develop its potentialities, especially in terms of utilizing the requisite skills in industrial development (Ugwuanyi&Ezenma, 2010). Industrial development is a crucial process that transcends other development processes; among other things, it requires effective management and exploration of skilled human resources, a sound industrial policy, purposeful and a consistent educational system that relates economic realities with education, training and effective human resources planning, which are the hallmarks of sustainable industrial development (Oghenekohwo, 2006).

According to Ogbonnaya (2016), the importance of industrial training in the development of the Nigerian economy led to the enactment of Decree 47 of 1971, which also established the ITF as the first federal agency responsible for the production of highly skilled workers in the country. Following Decree 47 of 1971, the ITF discovered extensive lack of practical skills by indigenous engineers; it also found a huge gap between theoretically and practically inclined courses in the country's higher institutions. Owing to these deficiencies, the ITF initiated the SIWES programme in 1973 (Ogbonnaya, 2016).

As a programme of occupational education to be coordinated by higher education institutions and industry, SIWES involves the alternation of study in school and keeping a job in a specialised field. The programme requires proper planning and supervision by both the schools and their employers so that the objective of the programme, i.e. the attainment of industrial development, can be met (Ojokuku, Emeahara, Aboyade& Chris-Israel, 2015). Mafe (2010) describes SIWES as a planned and supervised training programme based on some specific learning and career objectives, with the aim of developing the occupational competencies of a student in his or her area of specialisation.

According to the ITF's Policy Document No.1 of 1973, the objectives of SIWES are as follows: i.

to provide an avenue for students in the higher institutions to acquire industrial skills and experience during their course of study and prepare them for practical knowledge that will make them employable after their graduation from school;

ii. SIWES will expose the students to work methods and techniques in handling equipment and machinery that may not be available in their institutions;

iii. to make transition from school to the world of work easier, thereby giving them opportunities to apply their educational knowledge in real work situations, and bridging the gap between theory and practice;

iv. to strengthen employer's involvement and contributions in the educational system through SIWES (ITF, 2002).

According to Omar, Kofli and Mat (2008), the objectives of the industrial training are:

- i. to expose the students to practical knowledge which is specific to their course areas and to the nature of industry selected;
- ii. to expose the students to their responsibility concerning their profession;

- iii. and to develop the students' communication skills that include interaction within the working environment and technical writing.

The above objectives were supported by a study carried out by Mofesola (2012).

As an industrial development scheme, however, SIWES faces a number of problems. For instance, despite the existence of guidelines stipulating the roles and responsibilities of the various stakeholders under the scheme, the organisational structure has continued to feature operational dysfunctions, avoidable administrative delays and bottlenecks as well as avoidable overheads in the implementation of the programme. The negative effects of the organisational structure on the implementation of SIWES are numerous, one of them being the process of payment of student allowances that have run into a backlog of about five years (Mafe, 2010). The basic problems of SIWES include improper compilation of students master and placement lists, improper, inadequate and inefficient supervision, lack of accommodation for trainees, the unfriendly attitude of other workers, inadequate orientation of students, and the attitude of students towards industrial training (Ogbonnaya, 2016).

According to Meenaloshini, Boosroh and Yusoff (2005), among the major problems faced by the SIWES programme in Nigeria are scheduling between university and workplace, mismatch between work and student interest, lack of cooperation from employers and issue of monitoring or supervision of students' progress, especially in their place of assignment, as well as keeping track of attendance of training. SIWES is now a competitive endeavour for students because very few of them are now being accepted for placement by employers of labour, a situation that is complicated by the requirement by some organisations that students must have high grade point averages to be engaged (Pillai&Yusoff, 2007). Ukwueze (2011) found problems confronting the SIWES programme to include lack of adequate supervision, non-signing of necessary materials like ITF Form 8 and students' logbooks at their workplace, difficulties of students in getting placement, as well as unnecessary delay in the payment of students' and supervisor's allowances.

RESEARCH METHODOLOGY

The population of the study was made up of all final-year students in the Department of Building – comprised by those specialising in building or quantity surveying – who had undergone industrial training. The population was chosen because of accessibility to these students and the limited time available for the study. For this study we administered 100 copies of our questionnaire to the said students at the University of Lagos. All of the 100 copies were filled and retrieved. The questionnaire gave a fair representation of the study and the inferences drawn from the samples were used to arrive at conclusions on the perceptions of construction students on industrial training in Nigeria.

The research instrument was structured in two sections. Section A was based on the respondent's profile and Section B on questions relating to the research objectives. The instrument was so designed that respondents would take no more than between 5 and 10 minutes to fill. Although structured simply, the questionnaire enabled respondents to express their opinions by merely stating the extent to which they agreed or disagreed with the propositions.

The rating-based format is used when respondents are instructed to rate their opinion for a specific fact on a five-point Likert scale involving Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree. A four-point Likert scale is also used, involving Low, Moderate, High and Standard.

Data extracted from the returned questionnaire were converted into numerical form and analysed using the Statistical Package for Social Science (SPSS) software. Therefore, the data were analysed using the descriptive statistical analysis and inferential statistical analysis.

DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

Table1 shows the summary of the demographic and company characteristics of the respondents.

Table1 General information on respondents

Sex	Frequency	%
Male	62	63.9
Female	35	36.1
Department		
Building	45	46.4
Quantity surveying	41	42.3
Others	11	11.3
Type of firm students attached		
Consultant	21	21.6
Construction	57	58.8
Government agencies	19	19.6
Designation of student during IT		
Quantity surveyor	37	38.5
Site operatives	15	15.6
Project supervisor	36	37.5
None	8	8.3

Table1 shows that 63.9% of the respondents were males and 36.1% females. A total of 46.4% were from the Building Department, 42.3% from Quantity Surveying Department and respondents from other Departments were 11.3%. On the nature of firms the students were attached to during their SIWES programme, 21.6% were attached to Consultancy firms, 58.8% were attached to Construction firms, while 19.6 were attached to Government agencies.

Table 2 shows the ranking of the benefits derived by the respondents from industrial training. A total of 66% were of the opinion that industrial training enabled them to appreciate work methods and experience in handling equipment, 61.9% indicated that SIWES enhanced their contacts with potential employers. 55.7% stated that SIWES gave them a good opportunity to relate their theoretical knowledge to practice, while 46.4% said that it enabled them to acquire the benefits and satisfaction for job prospects.

Table3 is on the valuation of student's personal and work attitude and communication skills before and after training. On personal attitude, self-appearance before training was 0.564 but increased to 0.776 after training. Similarly, punctuality, curiosity, self-confidence and time management all increased after training.

Table: 2 Ranking of benefits derived from industrial training

	SD	D	N	A	SA	MIS
It enabled me to appreciate work methods and experiences in handling equipment		1(1.0)	2(2.1)	30(30.9)	64 (66)	0.924
It enhanced student contacts with potential employers		2(2.1)	-	35(36.1)	60(61.9)	0.915
It gave me a good opportunity of relating my theoretical knowledge to practice	2(2.1)	-	1(1.0)	40(41.2)	54(55.7)	0.897
It enabled me to acquire the benefits and satisfaction for job prospects, qualification and job guidance	1(1.0)	1(1.0)	5(5.2)	45(46.4)	45(46.4)	0.872
It made students to appreciate the role of their professions as indispensable contributors to the growth of the economy and national development		3(3.1)	7(7.3)	43(44.8)	43(44.8)	0.863
It enhanced my ability to tackle technical problems.	1(1.0)	1(1.0)	7(7.3)	57(59.4)	30(31.3)	0.838
The time I spent in the industry was especially valuable for learning how a firm works		2(2.1)	9(9.3)	55(56.7)	31(32.0)	0.837
I learned about the latest developments in my course through SIWES		1(1.0)	17(17.7)	51(53.1)	27(28.1)	0.817
The equipment trained with in school was a replica of that found in industry	3(3.1)	20(20.6)	40(41.2)	21(21.6)	13(13.4)	0.643

Table: 3, Evaluation of students' personal and work attitudes and communication skills before and after training

	Mean item score				T-test	
	BEFORE	Rank	AFTER	Rank	t	p-value
Personal Attitude						
Self-appearance	0.564	1	0.776	2	-9.197	0.000
Punctuality	0.562	2	0.781	1	-9.469	0.000
Curiosity	0.559	3	0.721	4	-8.851	0.000
Self-confidence	0.558	4	0.753	3	-11.056	0.000
Good self and time management	0.500	5	0.704	5	-9.096	0.000
Good self-esteem	0.469	6	0.701	6	-11.512	0.000
Communication skills						
Written communications	0.562	1	0.760	1	-9.164	0.000
Discussion skills	0.554	2	0.755	2	-10.585	0.000
Oral presentation skills	0.544	3	0.753	3	-10.764	0.000
Work Attitude						
Adaptable with environment	0.552	1	0.709	5	-8.364	0.000
Problem-solving skills	0.549	2	0.740	2	-8.254	0.000
Subject knowledge	0.546	3	0.765	1	-10.216	0.000
Ability to work independently	0.521	4	0.727	3	-8.683	0.000
Teamwork	0.513	5	0.701	6	-8.008	0.000
Leadership	0.510	6	0.721	4	-8.863	0.000
Ability to work under pressure	0.436	7	0.691	7	-11.775	0.000

Table 4 shows the ranking of the problems relating to work and training during the SIWES programme. The table shows that 41.7% agreed that poor supervision affects skills acquisition during SIWES, 32.3% agreed that complaints and interpersonal relationship of the company supervisors affect students' benefits during SIWES, 40.6% disagreed that time frame for SIWES is inadequate.

Table 4: Ranking of problems relating to work and training during SIWES

	SD	D	N	A	SA	MIS
Poor quality of supervision by the supervising agency and the employers affects the level of skills acquired by students on industrial training	4(4.2)	24(25.)	19(19.8)	40(41.7)	9(9.4)	0.654
Complaints and interpersonal relationship of the company supervisor, employers of labour affect students' benefits on attachment	9(9.4)	22(22.9)	24(25.0)	31(32.3)	10(10.4)	0.623
Time frame for industrial training by supervising agency is inadequate.	5(5.2)	39(40.6)	33(34.4)	11(11.5)	8(8.3)	0.554
Poor access to most of the equipments, facilities and machinery	18(18.6)	51(52.6)	10(10.3)	12(12.4)	6(6.2)	0.470
I forgot a great deal of what I learnt in school because the services offered by the organisation were different from my course of discipline	19(19.8)	60(62.5)	9(9.4)	3(3.1)	5(5.2)	0.423
I found it difficult to assimilate because the level and quality of work exposed to, was too high	30(31.3)	48(50.0)	8(8.3)	6(6.3)	4(4.2)	0.404
The time I spent in industry could have been more usefully spent doing academic work	32(33.0)	46(47.4)	7(7.2)	11(11.3)	1(1.0)	0.400
I did not learn much about my course because I was not assigned to the work relating to my course	39(41.1)	40(42.1)	3(3.2)	4(4.2)	9(9.5)	0.398

DISCUSSION OF THE FINDINGS

The results from the study showed that most of the students were satisfied with their industrial training experience and believed it would help in shaping their prospects. The industrial experience also helped to improve their personal and work attitudes. This was the result of their ability to adapt to the working environment, leading to enhanced self-confidence as well as professional growth. Ultimately such trainees would be able to impact the economy as practitioners in their various fields (Oladiran et al. 2012).

Still on the benefits of the programme, most of the students reported significant improvements in their verbal and written communication skills. This followed their constant interactions with superiors and colleagues at all levels during the course of work. This suggests that the training meets the SIWES objectives of exposing students to practical knowledge in their area of specialisation and developing their communication and writing skills (Omar et al.2008). However, this study also reveals that poor supervision by the supervising agency and the employers, as well as poor interpersonal relations with students, tends to detract from the success of the programme. Previous works on the SIWES programme such as Oladiran et al. (2012) and Nse (2012) have already noted this problem.

CONCLUSION

This study identified some of the benefits enjoyed by students on the SIWES programme, such as ability to appreciate work methods and experiences in handling complicated equipment in their areas of specialisation, making contacts with potential employers, and getting the opportunity to put their theoretical knowledge into practice. The SIWES programme also exposed the students to real working environments, while helping to improve their work attitude and communication skills.

The study also established that SIWES has played an important role in the level of exposure, standard and quality of skills acquired by students, thus providing employers with graduates who are both theoretically and practically trained, through exposure to the latest technologies for solving contemporary problems.

Yet there are a few challenges facing the SIWES programme. These are poor supervision of trainees, inadequate time frame for the training, and inability of some students to cope with the disparity between actual work requirements and the theoretical knowledge acquired at school.

Consequently, the study suggests more strategic cooperation between academia and industry so that the SIWES programme may be better implemented. It can thus be concluded that, in spite of apparent economic difficulties, the SIWES programme in Nigerian higher education institutions is managing to attain its major objectives. Indeed, acquiring practical industrial experience is imperative for students since such knowledge is not available in the classroom.

RECOMMENDATIONS

The study therefore recommends as follows:

1. Students must be encouraged to participate actively in the SIWES programme to enhance their relevant production skills so that they would be employable after graduation.
2. Employers should give trainees more access to modern equipment in order to brighten their prospects.
3. Students are implored to take the SIWES programme very seriously since it contributes to improvements in their attitude to work as well as their personal and communication skills.

4. Qualified full-time coordinators with good public relations skills should be employed by both the institutions and the employers to supervise the programme so that better results may be achieved.

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