

# Improving Electrical/Electronics Education Students' Industrial Work Experience Scheme in Ebonyi State University, Abakaliki, Nigeria

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## Abstract

The research identified some strategies for the improvement of students' industrial work experience scheme (SIWES) in Ebonyi State University, Faculty of Education, Technology and Vocational Education Department-Electrical/Electronics section. The students of 3 and 400 levels who had participated in industrial work experience program after 100 levels of their academic sessions were the respondents. A reliability coefficient of 0.83 was established when the instrument was subjected to split-half method of Cronbach Alpha statistic analysis. Findings of the study showed that (a) organizing orientation course before students start the SIWES posting would improve the efficiency of the programme (b) the period of posting should be extended (c) students that completed their posting should be promptly paid by the institution responsible. (d) There was no significant difference between the opinions of male and female students on the strategies for improving SIWES delivery.

Keywords: Improving, electrical, electronics, SIWES, University, Abakaliki

## 1. Introduction

Students' industrial work experience scheme is one of the means in Nigerian Education system that ensures that students of tertiary institutions engaged in practical oriented courses to acquire necessary skills that would make them employable on graduation. Ikoji (2012) explained that SIWES is a program which is a planned and supervised training based on stated and specific learning career objectives and it is geared towards the achievement of occupational competencies of the participants. Industrial work scheme is therefore designed to be taken by students pursuing such courses as engineering, technical and vocational education, business and applied sciences and agriculture. The Federal Republic of Nigeria (2013) in the New National Policy on Education noted that educational systems are designed to function as an instrument par excellence for effective development of youths in skills acquisition. SIWES is therefore planned and supervised training intervention programme based on stated objectives geared towards achieving occupational competencies of the students.

The graduates of Electrical and Electronics are hardly well prepared with saleable skills to fruitfully enter and progress in the world of work. Comfort (2013) reported that there are skill gaps among fresh graduates of vocational education who find it difficult to adapt to their new places of work due to lack of adequate preparation of the graduates of higher institutions to acquire occupational skills prior to entering into work place. This is the result of existing skill gaps among trained students in their primary assignment.

The aim of including Electrical/Electronics students in the list of Industrial work experience scheme is to establish the industrial work experience and provide valuable skills acquisition as they participate in the programme. Electrical/Electronics students attested that the students industrial work experience is beneficial to them. Despite all the benefits of SIWES to participants, the programme still possesses certain constraints. Okoro (2011) identified some of these constraints to include short duration of the programme which makes it impossible to acquire the needed practical skills; students were sometimes given other assignments other than their primary objectives; conflicts some times arise between what is taught to students and what obtains in the industries; sometimes some students do not receive training throughout the period due to inadequacy of facilities for training of the attaches.

The purpose of SIWES in Electrical/Electronics education is to complement the theoretical training workshop practices and demonstrations given to students in the school with more practical periods and exposure in the

actual field of Electrical/Electronics. The identified constraints in the SIWES programme could contribute to Electrical/Electronics graduates inadequate preparation to enter and progress in their work-places. There arises the need to seek for strategies to address the weakness as perceived by respondents in this research.

## 2. Purpose of the Study

The main purpose of the research was to identify the strategies for improving work experience programme delivery as perceived by Electrical/Electronics students of Ebonyi State University, Abakaliki. Specifically, the study aimed to identify the strategies for improving SIWES programme in Ebonyi State University, Abakaliki.

## 3. Hypothesis

The study tested one hypothesis as follow:

There is no significant difference in the mean responses between male and female students on the strategies for improving SIWES delivery in Ebonyi State University, Abakaliki.

## 4. Methodology

The research adopted the survey design. The study population consisted of all 3<sup>rd</sup> year (300level ) and ( 400 level) final year students of the faculty of education; Technology and vocational Education, Electrical and Electronics option who participated in the SIWES programme of 2013/14 and 14/15 academic sessions numbering 45. The 45 students participated in the study. A structured questionnaire on the strategies for improving SIWES was utilized to elicit responses from respondents. The questionnaire was validated by three experts in the Department of Technology and Vocational Education. The instrument was also subjected to reliability validation. A coefficient of 0.83 was obtained by using half split technique.

The instrument was in two sections; section A sought demographic information, while B sought information on students' perception of strategies for improving SIWES delivery in Ebonyi State University, faculty of Education; Department of Technology and Vocational Education, Electrical/Electronics option. The response modes were of five (5) point Likert scale of Strongly Agree (SA) = 5, Agree (A) = 4, Undecided (UD) = 3, Disagreed (D) = 2, and Strongly Disagree (SD) = 1. A cutoff point of 3.0 was satisfactory for accepting a pass mark. Any opinion lower than 3.0 was rejected by respondents.

All the 45 copies of the questionnaire was administered and collected back. Thus 100% return was recorded. The data was analysed using mean ( $\bar{x}$ ), standard Deviation (SD) and the t-test statistic.

## 5. Results

Table 1: Strategies for improving SIWES programme in Ebonyi State University, Faculty of Education Technology and Vocational Education

S/N	Item	$\bar{x}$	SD	Remark
1	Organize orientation for participants before embarking on the programme	4.70	0.67	Agreed
2	Stipends of students should be increased.	4.73	0.58	Agreed
3	Allowances for participating in the programme should be increased	4.80	0.60	Agreed
4	There should be early supervision of students by institutions	3.80	1.30	Agreed
5	The period of the SIWES training programme should be increased	3.90	1.30	Agreed
6	Number of students posted to one establishment should be reduced to avoid redundancy	3.85	1.25	Agreed
7	participants should be provided accommodation by institutions being served	4.0	0.9	Agreed
8	The school of participants should assist on placement drive	4.2	0.70	Agreed
9	participants' contact address should be included in placement addresses	4.1	0.81	Agreed
10	Participants should be given the opportunity to move round all aspects of work done in his place of posting	4.2	1.20	Agreed
11	ITF officials should carry out effective monitoring on participants	4.2	0.93	Agreed
12	Students areas of interest should be respected for placement	4.2	0.8	Agreed
13	The institution based supervisor should supervise the students more than once.	4.10	1.20	Agreed
14	Students should be properly educated on how to fill their SIWES forms	4.0	1.10	Agreed
15	Students should be promptly paid their stipends immediately they complete the SIWES posting	4.01	1.10	Agreed
16	Students should present their written report to panel of judges on return to campus.	2.50	0.45	Disagreed

Table 1 above shows the mean responses of participants on the strategies for improving of the SIWES programmes. The students accepted 15 of the items as good strategies while they rejected item 16 which scored lower than 3.0.

Table 2: Summary of t-test on strategies for improving SIWES DELIVERY in Ebonyi State University

Variables	N	Mean	SD	df	t-cal value	t-table value	Decision
Male	30	3.59	1.00	43	0.04	1.69	NS
Female	15	3.42	0.78				

NS = Not significant

Table 2 above shows that the t-test for strategies for improving of SIWES by both male and female Electrical/Electronics students,  $t_{cal} = 0.04$  and  $t_{critical}$  is 1.69. The null hypotheses was accepted which denoted no significant difference in students' responses towards the strategies for improving of SIWES delivery among them.

## 6. Discussion

Results in Table 1 above showed the strategies as responded to by students on how to improve the effectiveness of SIWES delivery. The respondents accepted that 15 out of the 16 strategies were important to be adopted for the improvement of SIWES delivery. The students therefore pointed that the period of the training should be extended. Also students' allowances should be paid immediately after the internship instead of the present condition where allowances are delayed unduly. Students further asserted that they should be visited more often while in the SIWES posting to ensure that students were actually participating in the programme by participants as being necessary for adoption to improve SIWES delivery in Ebonyi State University.

The strategy that students should be made to present their practical experience in form of written seminar before the panel of judges, item 16 was rejected by the students. The students thought they would be victimized while undertaking this exercise. It might be that some students do not actually take seriously the participation in the exercise. It is unfortunate that this item was not favourably rated by students.

Results in Table 2 indicated that there was no significant difference in the mean responses of female and male students on the strategies for improving SIWES delivery in the University. The problem was not therefore gender sensitive.

## 7. Summary of Findings

The major findings of the study include the following:

1. Strategies for improving the industrial work experience scheme as perceived by students included: (a) organizing orientation for Electrical/Electronics students prior to the actual participation in the programme, (b) the period for the actual SIWES posting should be extended to enable participants gain more experience, (c) students should be paid immediately they end the their posting and institutional supervisors should visit their supervisees more frequently and (d) The method of presenting students' written reports before panel of judges should not be encouraged.
2. The strategies identified for improving SIWES programme were not gender specific implying that there was no significant difference between the mean responses of male and female participants on the strategies for the improvement of SIWES programme in the university.

## 8. Conclusion

In spite of the gains of SIWES programme to the skills development of Electrical/Electronics students, more strategies are still needed to foster smoother administration of the programme. The strategies as perceived by participants will be helpful in bridging the skills gap associated with the industrial training programme organizers of the SIWES programme should make more efforts to train and retrain Electrical/Electronics students to enable them imbibe the skills that would make them self-reliant or be easily employable in recognized Electrical/Electronics institutions in the world of work.

## 9. Recommendations

Based on the major findings in the study, the following recommendations have been made:

1. The industrial training institutions should endeavour to organize orientation for students prior to actual posting for their primary assignments
2. Students should be duty exposed to all practical aspects of their study during the SIWES participation
3. The length of time for SIWES participation should be extended to enable students gain more relevant skills during the period.
4. Payment of students after the exercise of SIWES posting should be immediately done by the institutions concerned.
5. Students should present their written summary of experiences during the SIWES posting to panel of examiners to ensure that students actually participated in the programme.

## References

- Comfort, C.O. (2012). Students' entrepreneurial skills acquisition through SIWES in Nigeria: An analytical approach. *International Journal of Independent Research Studies*, 4(2), 45-59.
- Federal Republic of Nigeria (2013). *National Policy on Education*. Lagos; NERDC.
- Ikoji N.C. (2012). Utilizing agriculture in Nigerian secondary school and colleges. *Journal of Vocational and Adult Education*, 1(20), 160-165.
- Okoro, M.O. (2011). The role of SIWES in human resource development. *Nigerian Vocational Journal*, 6, 1-4.