

## **MANAGING THE CHALLENGES OF SIWES ON TECHNICAL COLLEGE STUDENTS PERFORMANCE IN DEVELOPING WORKFORCE IN RIVERS STATE**

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### **Abstract**

*The global economic pressure to compete on cost, service and quality has resulted in the agenda of the Government to re-focus the economic development processes to increase and nurture technological skills for the development of industrial workforce in Nigeria. This study was designed to assess the Challenges of SIWES on Technical College Students Performance in Developing Workforce in Rivers State. The study's sample contained 98 technical teachers and 328 technical college students, for a total sample of 428 respondents. A questionnaire based on five point likert- scale was used as the data collection instrument. Mean and standard deviation were used to analyze research results while t-test was used to analyze the two hypotheses. The findings of the study revealed that low level and quality of training students received in school and industries; inability of ITF and industries to provide welfare services; Jack of accurate data about students and industries that will accept them for placement and supervisors low level of research skills in adaptation of new ideas for training and training given in school is deficient in scope and depth are the major challenges of SIWES on Technical College Students Performance in Developing Workforce in Rivers Ste. The study recommended the following: Federal government should ensure that the policy statement regarding the establishment of students' industrial work - experience scheme (SIWES) is effectively implemented and make available the necessary facilities and equipment for technical colleges to equip their students as workforce and Technical teachers should be encouraged to vigorously empower their students with skills by providing facilities and equipment they need to impact in the students the necessary work force skills in industries.*

*Keywords: Management, Challenges, SIWES, Technical College, Performance and Developing Workforce.*

## **Introduction**

Technical and vocational education (WE) needs to be responsive to rapidly changing students and workforce needs in the industries. Hence, the implication of the recent privatization and investment in the various sectors of Nigeria's economy is that there will be a rising demand for skilled personnel in the industries. Also with the industrial development of Nigeria and to achieve Nigeria's vision 20: 2020, there is need for the acquisition of new skills and adaptation of these skills to industrial structure. However, this vision can be achieved through vocational technical education.

Technical, vocational education relates to a specific trade in which the learner participates, in order to acquire skills for workforce development. Technical Vocational Education is defined by the National Teachers' Institute (NTI, 2008) as the type of education that involves the use of the right instructional devices, methods, techniques and knowledge in developing skills for workforce development. Similarly, the National Policy on Education defined technical education as that aspect of education that leads to the acquisition of practical and applied skills as well as basic scientific knowledge for the development of workforce skills (Federal Republic of Nigeria, 2004). Technical vocational education is a comparatively new phase of vocational education which is designed to meet the complex technological needs of modern industry. The aim of vocational technical education according to Federal Government of Nigeria (2004) is to provide the technical knowledge and vocational skills necessary for agricultural, industrial, commercial and economic development for workforce development. This specialized education offered in technical institutions is saddled with training of middle level manpower, including Technical Colleges.

Technical Colleges in Nigeria are established to produce craftsmen at the craft level and master craftsmen at the advance craft level in extension, the courses offered at the technical college leads to the award of National Technical Certificate (NTC) and Advance National Technical Certificate (ANTC). However, for technical education to be meaningful, functional and relevant to the demands of the present-day industrial sectors, technical institutions need to give their students a system of education which should be job-oriented, achieved through the combined effort of student's industrial work experience scheme (SIWES) and educational institutions. Students industrial work experience scheme (SIWES) is a skill training programme designed to expose and prepare students in technical institutions for industrial work situations they are likely to meet after graduation (Okorie, 2001). The objectives of the SIWES program among others are to: expose students to new scientific and technological equipment and how to manipulate them; enable students reinforce theoretical instruction through the use of applied learning facilities; enable students interact and share experiences and ideas with those in industry on issues relating to safety precautions, industrial health, environmental pollution and culture of work in industry; enable students acquire new practical skills and sharpen old ones by trying their hands on machines and equipment related to their courses of study; enable students

know of the problems and contributions of industry to national development; and enable the department to identify problems associated with its curriculum and review it to meet current and future workplace requirements.

SIWES is a co-operative arrangement between the school and industries for all students in technical colleges undergoing courses that call for exposure in industrial activities during their training in schools. SIWES is financed by the Federal Government of Nigeria and it is operated through the Industrial Training Fund (ITF) in collaboration with National Board for Technical Education (NBTE), National Commission for Colleges of Education (NCCE) and industries (ITF, 1990). Federal Government of Nigeria (FGN) under decree 47 of 1971 established the Industrial Training Fund (ITF) charging it with the responsibility of promoting the acquisition of skills in industries and commerce with the view of generating a pool of trained indigenous manpower sufficient to meet the needs of the economy (Federal Republic of Nigeria, FRN, 2004). This is in line with Ahmed (1999) who explained that SIWES is an integral part of the course structure in all technical institutions in Nigeria designed to help students acquire necessary practical/ industrial experience to complement the theoretical aspect of their studies and prepare them professionally to perform effectively in their chosen field of endeavor. However, Dokubo, (2009) noted that if the students are not adequately exposed to SIWES, they will not acquire that practical preparatory employment requirements that are needed in industries for work situations they are likely to face after graduation. Secondly, they may not have the opportunity to relate academic program and career goals to professional work experience and thus not having an insight into their chosen careers. Hence, Onwuji, (2004) in Abraham-Ibe (2014) stated that since it has been ascertained that SIWES is a skill acquisition program that helps students to blend theory with practice in the industrial and commercial activities of our economy, it should be encouraged and promoted by all and sundry.

Therefore, for industrial work experience to give the students the opportunity to utilize some of his/her academic knowledge and skills in a real-life industrial job environment, some aspects of industries routine operations management should be related to his/her academic discipline. Management in the view of Olaitan, Igbo, Nwachukwu, Onyemachi and Ekong (1999) is a process of planning, organizing, directing, implementing and evaluating input resources for the purpose of producing outputs in the form of goods and services needed for workforce development. Resources in organizational management are both human and material. This implies that management involves effective allocation of material inputs and the directing of human resources to production through proper planning and control for the purpose of producing the desired results (UNESCO, 1994). Those who focus specifically on human resource aspect according to Okoye (2002) often view management as guiding and directing people towards the achievement of organizational objectives. Therefore, in the nation's technological development, the workforce is a key human resource that requires effective and sustainable management for achieving the required results. This effective and sustainable management

of industrial work experience for achieving the desired results is not without some challenges.

Pearson (2009) viewed challenges as difficulties in a job or undertaking that is stimulating for one engaged in it. Something that, by its nature or character, serves as a call to battle, a tasking activity or a special effort is a challenge. Challenges in industrial work experience cannot completely be avoided, but can be managed; and if well handled, for the effective functioning of industrial work experience, there will be qualified workers for industrial usage. It is imperative that special training be given to technical college students to equip them with various skills required for societal needs. It is these students with appropriate skills, referred to as workforce, that the society look up to execute work and render services. Okorie (2000) defines workforce as people who work in factories and industries and are generally considered as a body. Okorie further stressed that the workforce of a nation subsumes all the industrial and factory workers as well as any person or group of persons in that nation whose productive work or services satisfy some aspects of human needs. The degree of the satisfaction of any nation's needs determines the development of that nation. Workforce development is an approach that attempts to enhance the economic stability and prosperity of a nation by focusing on people rather than businesses. It is essentially a human resources strategy. Workforce development evolved from a problem-focused approach, addressing issues such as low-skilled workers or the need for more competent employees in a particular industry or organization. Today workforce development often is seen as a solution to issues of social equity. Workforce development is historically found in two forms: place-based strategies that attempt to address the needs of people living in a particular neighborhood, or sector-based strategies that focus on matching workers' skills to needs in an industry already present in the region, such as healthcare or manufacturing. Some contemporary workforce development programs attempt to combine elements of both approaches, linking employment training with other government programs and community resources to provide twist services. Economic developers use workforce development as a way to increase equity among the population of a state. Rural residents may not have access to equal education opportunities, and workforce development programs can increase their skill level so they can compete with their mates for high-paying jobs. Workforce development has also expanded beyond the notion of employment or vocational training.

The Nigerian technical college students, given all the benefits of doubt, would want to become self-supporting and independent through his labour. The Nigerian technical college students wants to work and wants his work to be something more than the means of earning a bare subsistence. The period from eleven to eighteen years of age is one in which the student is finding himself in the society and setting up standard which will largely determine his future conduct and career. It is important to continue his training both for general civic intelligence and for vocational preparation. For if he is allowed to drift during this period, or if placed in an unwholesome or degrading

environment, he may become a dependent or an injurious member of the society. (Osuala, 1999) students go to school with the belief that education will enable them to participate in the society. It has been observed from the Nigerians experience that most of our schools and colleges have remained too academic, with major emphasis upon pure knowledge and western cultural values and less stress on technical and vocational training and practical skills. The Nigerian students needs not only theoretical knowledge but also how to apply that knowledge sufficiently to the solution of the problems of everyday life. Indeed, most skill development present great challenges to the students on the integration of the practical work and theoretical fields, common sense, a good power of observation and courage (Okorie, 2000).

### **Statement of the Problem**

The objectives of students' industrial work experience scheme are to provide an avenue for students in higher institutions of learning to acquire industrial skills and experience in their course of study, prepare student for the industrial work situation they will meet after graduation, expose students to work methods and techniques in handling equipment and machinery that may not be available in their institutions, make the transition from school to the world of work easier and enhance student's contacts for job placement, provide students with an opportunity to apply the knowledge in real work situation to their training thereby bridging the gap between theory and practice and enlist and strengthen employer's involvement in the entire education process and prepare student for employment in industry and commerce SIWES (2002).

However, the following are the state of the act as identified from the students and the coordinators of SIWES according to Mofesola (2012): inadequate monitoring of students on industrial training, lack of cooperation and support from companies and organizations, delay in release of funds for supervision and student's industrial training allowances, and it was also observed in the course of this study that student's project reports were not corrected. Irregularity and non-punctuality to work by the students undergoing SIWES programme, lack of respect for constitutional authorities in the industries by the students and restriction of students from operating some equipment and machinery by the industry. Therefore, this research sought to explore the challenges of SIWES on technical and vocational education students' performance in development of workforce in Rivers State. Hence, the problem of this study is: what are the challenges of SIWES on technical college students' performance in development of workforce in Rivers State?

### **Purpose of the Study**

The general purpose of the study is to explore the Challenges of SIWES on Technical College Students Performance in Developing Workforce in Rivers State. Specifically, the study sought to explore:

1. The challenges of the industrial work experience scheme (SIWES) in the development of the workforce among technical college students' performance in Rivers State.

2. The components of the challenges of industrial work experience scheme (SIWES) for developing workforce among technical college students' performance in Rivers State.

### **Research Questions**

Three research questions were formulated to guide the study:

1. What are the challenges of the industrial work experience scheme (SIWES) 1 the development of the workforce among technical college students' performance in Rivers State?
2. What are the components of the challenges of industrial work experience scheme (SIWES) for developing workforce among technical college students' performance in Rivers State?

### **Hypotheses**

Two hypotheses were formulated to guide the study and were tested at 0.05% level of significance:

**Ho<sub>1</sub>** There is no significant difference in the mean ratings of technical college teachers and students on the challenges of the industrial work experience scheme (SIWES) in the development of the workforce among technical college students' performance in Rivers State.

**Ho<sub>2</sub>** There is no significant difference in the mean ratings of technical college teachers and students on the components of the challenges of industrial work experience scheme (SIWES) for developing workforce among technical college students' performance in Rivers State.

### **Methodology**

Survey research design was utilized for this study. The population consisted of 451 subjects: 98 technical teachers and 353 prospective technical college students. 25 technical college students failed to return their questionnaire to the researcher, bringing the population to 426 subjects (i.e. 98 technical college teachers and 328 technical college students). As a result of the small strength of the population, all the 426 subjects were used for the study, meaning that sample was purposively chosen. The instrument used for data collection was the questionnaire which comprised of three sections with twenty-five (25) items. The instrument was structured along five point likert-scale ranging from strongly agree, agree, undecided, strongly disagree and disagree. Section A elicit personal data of the respondents. Section B deals with the Challenges of the Industrial Work Experience Scheme (SIWES) in the Development of the Workforce. Section C is concerned with the Components of the Challenges of Industrial Work Experience Scheme (SIWES) for Developing Workforce. Three experts one from the department of technical and science education, University of science and technology Rivers State, Port-Harcourt and two from Vocational/Technology Education, Ignatius Ajuru University of Education, Rivers State, constituted the panel that validated the instrument and it was certified that it has sufficient face and content validity. The instrument has a reliability coefficient of 0.85 indicating that the instrument

was reliable. The data was analyzed using mean and standard deviation for the research questions.

### Decision Rule

Any item that had a mean response of 3.50 and above was accepted as agree while a mean of 3.49 and below signified that the respondents disagree with the item.

### Result

The results of the study are summarized in the tables and sub-headings below.

#### Research Question 1

What are the challenges of the industrial work experience scheme (SIWES) in the development of the workforce among technical college students' performance in Rivers State?

**Table 1**

**Mean and t-test analysis of the responses of technical teachers in technical colleges and their students regarding the challenges of industrial work experience scheme (SIWES) in development of workforce among technical college students' performance in Rivers State. N=428**

S/N	Challenges of the Industrial Work Experience Scheme (SIWES) in the Development of the Workforce	$\bar{X}_1$	$\bar{X}_2$	X G	RMK	t-cal	sig(2-tailed)
1.	Disparities between the curriculum contents and experience expose to during work experience scheme.	3.79	0.41	3.70	Agree	-0.10	0.91
2.	Disparities between the curriculum contents and experience exposed to during work experience scheme.	3.86	0.82	3.70	Agree	-0.10	0.91
3.	Disruption in school academic calendar make industries to reject students	3.58	0.50	3.60	Agree	-0.17	0.86
4.	Time students spent in industrial work experience scheme are not adequate to acquire necessary skills.	3.86	0.81	3.78	Agree	0.80	0.42
5.	Feeling of insecurity by students in place of placement.	3.97	0.71	3.88	Agree	0.94	0.34
6.	Available equipment, tools and materials are not relevant to students needs.	4.04	0.71	4.04	Agree	0.31	0.75
7.	Lack of incentives (monetary) for both staff and their students during work experience.	3.99	0.77	3.61	Agree	0.31	0.75
8.	Lack of adequate information on						

	companies that will accept students for work experience.	4.00	0.68	4.00	Agree	0.00	1.00
9.	Students fail to fill and submit their form in time for proper placement and assessment.	3.83	0.78	3.83	Agree	0.08	0.93
10.	Inadequate supervision of students by both teachers and supervisor during work experience scheme.	3.70	0.47	3.69	Agree	0.13	0.89
11.	Students are not properly placed for skill acquiring programme in the place of placement.	3.77	0.99	3.78	Agree	0.30	0.75
12.	Industries rejecting students for placement.	3.86	0.72	3.81	Agree	0.62	0.53
13	Students' inability to perform tasks given satisfactorily.	4.01	0.68	3.97	Agree	0.13	0.89

Table 1 revealed that respondents agreed to all the items listed on the challenges of industrial work experience scheme (SIWES) in developing a workforce among the technical college students in River State: that there are disparities between the curriculum contents and experience exposed to in industries, students not having opportunities to operate modern tools and equipment; disruption in school academic calendar make industries to reject students; time students spent in industrial work experience scheme is not adequate to acquire necessary skills; feeling of insecurity by students in place of placement; lack of adequate information on companies that will accept student for work experience; inadequate supervision of students by both teachers and supervisors during work experience; industries rejecting students for placement and students' inability to perform tasks given satisfactorily. The result in table 1 shows that all the items had their calculated significant (2-tailed) values greater than 0.05. This implies that there was no significant difference in the mean ratings of technical college teachers and students regarding the challenges of industrial work experience scheme in development of workforce among technical college students' performance in Rivers State.

### **Research Question 2:**

What are the components of the challenges of industrial work experience scheme (SIWES) for developing workforce among technical college students' performance in Rivers State?

### **Table 2**



**Mean and t-test Analysis of the responses of technical teachers in technical colleges and their students regarding the components of challenges of industrial work experience scheme (SIWES) in development of workforce among technical college students' performance in Rivers State.**

**N=428**

S/N	Components of the Challenges of industrial Work Experience Scheme (SIWES) for Developing Workforce	$\bar{X}_1$	$\bar{X}_2$	X G	RMK	t-cal sig(2-tailed)	
1.	Lack of insurance scheme for students and their supervisors.	4.02	0.68	3.97	Agree	0.13	0.89
2.	Low level and quality of training students received in school and industries.	3.76	0.43	3.78	Agree	-0.10	0.91
3.	Level of professional training of supervisors.	3.56	0.47	3.56	Agree	-0.17	0.86
4.	Inability of ITF and industries to provide welfare services.	3.82	0.83	3.78	Agree	0.80	0.42
5.	Structure and training of students for industrial work experience scheme.	3.96	0.72	3.87	Agree	0.94	0.34
6.	Students level of maturity and experience.	4.02	0.77	4.04	Agree	0.32	0.75
7.	Unavailability of modern tools and equipment.	3.91	0.68	3.97	Agree	0.31	0.75
8.	Lack of accurate data about students and industries that will accept them for placement.	4.02	0.66	4.01	Agree	0.00	1.00
9.	Reluctant cultural practices, mores and taboo toward technical education.	3.84	0.78	3.83	Agree	0.08	0.93
10.	Low level of appropriate training facilities and equipment	3.67	0.48	3.69	Agree	0.13	0.89
11.	Supervisors low level of research skill in adaptation of new ideas for training.	3.84	0.37	3.78	Agree	0.30	0.75
12.	Training given in school is deficient in scope and depth.	3.88	0.71	3.84	Agree	0.62	0.53

The results, in Table 2 above, revealed that the mean responses of technical college teachers in technical institutions and their students listed on the components of the challenges of industrial work experience scheme (SIWES) for development of workforce among technical college students in Rivers State as: lack of insurance scheme for students and their supervisors; low level and quality of training students received in school and industries; inability of ITF and industries to provide welfare services; lack of accurate data about students and industries that will accept them for placement; supervisors low level of research skills in adaptation of new ideas for training and training given in school is deficient in scope and depth. The result in Table 2 also shows that all the items had their calculated significant (2-tailed) values greater than 0.05. This implies that there was no significant mean difference between the responses of technical college teachers technical institutions and their students regarding the components of the challenges of industrial work experience scheme (SIWES) in development of workforce among technical colleges students' performance in Rivers State.

### **Findings of the Study**

1. The respondents agreed that all the items listed are the challenges of industrial work experience scheme (SIWES) in developing a workforce among the technical college students in Rivers State. These include: disparities between the curriculum contents and experience exposed to in industries, students not having opportunities to operate modern tools and equipment; disruption in school academic calendar make industries to reject students; time students spent in industrial work experience scheme is not adequate to acquire necessary skills; feeling of insecurity by students in place of placement; lack of adequate information on companies that will accept student for work experience; inadequate supervision of students by both teachers and supervisors during work experience and industries rejecting students for placement and students' inability to perform tasks given satisfactorily.
2. There is no significant difference in the mean ratings of technical college teachers and students regarding the challenges of industrial work experience scheme in development of workforce among technical college students' performance in Rivers State.
3. The respondents agreed that the list on the components of the challenges of industrial work experience scheme (SIWES) for development of workforce among technical college students in Rivers State include: lack of insurance scheme for students and their supervisors; low level and quality of training students received in school and industries; inability of ITF and industries to provide welfare services; lack of accurate data about students and industries that will accept them for placement and supervisors low level of research skills in adaptation of new ideas for training and training given in school is deficient in scope and depth.
4. There is no significant difference in the mean ratings of technical college teachers and students regarding the components of the challenges of

industrial work experience scheme (SIWES) in development of workforce among technical colleges students' performance in Rivers State.

### **Major Findings**

Table 1 revealed that respondents agreed to all the items listed on the challenges of industrial work experience scheme (SIWES) in developing a workforce among the technical college students in Rivers State: that there are disparities between the curriculum contents and experience exposed to in industries, students not having opportunities to operate modern tools and equipment; disruption in school academic calendar make industries to reject students; time students spent in industrial work experience scheme is not adequate to acquire necessary skills; feeling of insecurity by students in place of placement; lack of adequate information on companies that will accept student for work experience; inadequate supervision of students by both teachers and supervisors during work experience; industries rejecting students for placement and students' inability to perform tasks given satisfactorily. The result in Table 1 shows that all the items had their calculated significant (2-tailed) values greater than 0.05. This implies that there was no significant difference in the mean ratings of technical college teachers and students regarding the challenges of industrial work experience scheme in development of workforce among technical college students' performance in Rivers State. This findings is in agreement with Igbinoba, (2002) who also noted that the production of competent technical manpower depends on the inclusion and successful implementation of a sound technical curriculum, which includes sustainable practical work experience in the industry for workforce development.

The findings in Table 2 above, revealed that the mean responses of technical college teachers in technical institutions and their students listed on the components of the challenges of industrial work experience scheme (SIWES) for development of workforce among technical college students in Rivers State as: lack of insurance scheme for students and their supervisors; low level and quality of training students received in school and industries; inability of ITF and industries to provide welfare services; lack of accurate data about students and industries that will accept them for placement; supervisors low level of research skills in adaptation of new ideas for training and training given in school is deficient in scope and depth. The result in Table 2 also shows that all the items had their calculated significant (2-tailed) values greater than 0.05. This implies that there was no significant mean difference between the responses of technical college teachers technical institutions and their students regarding the components of the challenges of industrial work experience scheme (SIWES) in development of workforce among technical colleges students' performance in Rivers State. This findings is in line with Oladiran, Benjamin and Aiyelabowo (2012) who explained that component of Challenges in industrial work experience cannot completely be avoided, but can be managed; and if well handled, for the effective functioning of industrial work experience, there will be qualified workers for industries.

### **Recommendation**

The following recommendation were made based on the findings of the study:

1. Federal government should ensure that the policy statement regarding the establishment of students' industrial work experience scheme (SIWES) is effectively implemented and make available the necessary facilities and equipment for technical colleges to equip their students as workforce.
2. Technical teachers should be encouraged to vigorously empower their students with skills by providing facilities and equipment they need to impact in the students the necessary work force skills in industries.
3. ITF should sanction corporate industries that refuse to accept and fund industrial work experience scheme in the country.
4. Visiting of students during the SIWES program should be ensured by the Industrial Training Fund officials and college coordinators in order to ensure that students get necessary exposure and to boost their morale.
5. Companies/Organizations should be sensitized through organization of workshops/seminars in order to acquaint them with their expected roles towards students on industrial training.
6. Federal government should endeavor to make fund available to the institutions as at when due in order to facilitate proper monitoring of students on IT.
7. Students should be paid their IT allowance no time so that they can be motivated.
8. Also the federal government should make it mandatory for companies/organizations to supplement funding of the scheme by paying students stipends and providing enabling condition for them.
9. Students should be taught how to write reports and their reports should be read through and corrected.
10. Selection of placement should not be left completely to students. The college should device a means of allocating students to related companies/organizations.

### **Conclusion**

Given the different views understanding by technical teachers in technical colleges and their students who had SIWES experience on the managing the Challenges of SIWES on Technical College Students Performance in Developing Workforce in Rivers State. It is worthwhile to note that there is no skill-acquiring project that is without challenges, it is imperative that government through ITF and technical institutions in Nigeria should consider a proper implementation of students' industrial work experience scheme programme to reduce these challenges and also improve the workforce for national development and equip the students in Rivers State with appropriate skills.

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