THE ROLE OF STUDENTS' INDUSTRIAL WORK EXPERIENCE SCHEME (SIWES) IN VOCATIONAL AND TECHNICAL EDUCATION PARTNERSHIP WITH INDUSTRY

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Abstract

The paper discussed the roles, objectives and duration for SIWES participating institutions. Challenges of Students Industrial Experience Scheme in Vocational and Technical Education partnership with industry have also been discussed. Provision of adequate industries, establishment of industrial centers, better funding of supervision exercise are among the possible solutions identified. The paper concluded by recommending to the government and it's allied to implement the real objectives of SIWES as stipulated by Industrial Training Fund Document for the benefit of the nation and the students meant for the scheme.

Introduction

Education in its broadest sense encompasses all the process individuals go through in life to develop and optionally utilize their potentials through the acquisition of knowledge, skills, abilities and attitudes that are necessary for effective living in society (Asele, 2011). In projection, it is a process that starts from birth and ends with death which means that education is a long life process. Vocational and Technical Education (VTE) on the other hand, is an aspect of education that is designed to impart necessary skills and competencies leading to the production of craftsmen, technicians and technologists who will be enterprising and self-reliant. The main purpose of VTE according to Federal Government of Nigeria (FGN) (2004) is to provide skilled manpower in applied science, engineering, technology and commerce to operate, maintain and sustain the nation's economic activities for rapid socio economic development. Therefore VTE has the greatest potentials to generate employment, reduce poverty and eliminate the syndrome of unemployed youths.

However, the above stated objectives have not been properly realized due to long period of systemic neglect on the part of government (Umar and Abdulwahab, 2011). As a matter of fact, no society can achieve any meaningful progress without encouraging its youths to acquire necessary technical and vocational skills. Furthermore, acquisition of these technical and vocational skills will enable Nigerian youths to face the challenges of harnessing available resources to meet the need of their societies and also improve on other areas of production. In support of this personal opinion Industrial Training Fund [ITF] (2011) stated that the level of industrial development in any society is directly linked to the quality of skilled manpower available to drive the production and service delivery processes. It is in realization of the close relationship between human resources' and economic development that the government through ITF introduced the Student Industrial Work Experience Scheme (SIWES) in 1973. This scheme was specifically designed to provide students of technical colleges and other tertiary institutions, in specific courses with the opportunity of acquiring practical skills and experiences on the job before graduation.

The Roles of Students Industrial Work Experience Scheme in Vocational and Technical Education

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. According to ITF (2002) SIWES is a skills Training Programme designed to expose and prepare students of Universities, Polytechnics, Colleges of Technology, Colleges of Agriculture and Colleges of Education for the Industrial Work situation they are likely to meat 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, Adebayo (2005) and NCCE (2008) observed that, 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. The scheme also exposes the students to work methods and prepare them in

safeguarding the work area and other workers in the industry.

The central focus of the scheme according Nwoji (2003) is to enlist and strengthen employers' involvement in the educational processes of preparing students for work, as they exit in to the world of work (industry). The aim of the scheme is therefore to promote the much desired technological know-how for the advancement of our country in addition to developing a well skilled and articulated human resource needed for self –reliant economy. Before the establishment of the scheme, there was a growing concern among Nigerian industrialist that graduates of our institutions of higher learning lacked adequate practical background studies preparatory for employment in industries (I.T.F, 2002 & Osimen and Nwoji, 2010). Thus, the employers were of the opinion that theoretical education going on in higher institutions was not responsive to the needs of the employers of labour. According to Ahmed (2011) the idea of introducing SIWES is to fill the gap between theory and practice for our students of engineering and allied courses. The scheme is of paramount importance to make our educational development complete.

In essence, the SIWES was introduced by the Federal Government of Nigeria and funded through the Industrial Training Fund (ITF). Initially, the programme was limited only to students of technology but later extended to other disciplines and used as a pre-condition for the award of certificates in Nigeria Certificate in Education (NCE), National Diploma (ND) and Degree certificates in specific disciplines.

The Specific objectives of SIWES according to ITF (2002) are to:

1. Provide an 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.
2. Prepare students for industrial work situation they are to meet after graduation.
3. Expose students to work methods and techniques in handling equipment and machinery that may not be available in the institutions.
4. Make the transition from school to the world of work easier, and enhance student's contacts for later job placement.
5. Provide students with an opportunity to apply their knowledge in real work situation thereby bridging the gap between theory and practice; and;
6. Enlist and strengthen employers, involvement in the entire educational process and prepare students for employment in industry and commerce.

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. 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 (ITF, 2002). Students' eligible and duration of their SIWES attachment according to Osinem & Nwoji (2010) are:

1. University students of relevant courses are entitled to six months industrial attachment at a stretch end of part III and IV of their courses depending on the duration of the degree programme.
2. Polytechnics and colleges of technology students on National Diploma Programme in the relevant courses are entitled to four months industrial attachment after completing their National Diploma1.
3. NCE Vocational Education Students are entitled to four months industrial attachment each at the end of their second year of the three year NCE programme (P.73).

The Challenges of SIWES in Vocational and Technical Education Partnership with Industry

According Oranu (1992), Okorie (2000), and Okorie (2001) the challenges of school-industry partnership in Nigeria can be categorized under the following subheadings:

1. **Limited Number of Well-Equipped Industries**: The number of well-equipped industries to take in students of technical education programme is indeed very limited. And the number of students for these few chances is increasing by year. Even at that, some organizations for certain/inexplicable reasons reject students posted to them for industrial training. One major problem facing proper training for the world of work is the inadequate facilities for industrial attachment (Okorie, 2000).

   In a situation where the facilities exist, the fear of many employers is that many students are inexperienced to handle certain delicate

machines and tools without damaging them. A situation where students are allowed to see, but are not allowed to use certain equipment does not provide desired experiences needed to prepare them for the industry or world of work. In some instances, students have had to scout for places of attachment and occasionally, end up in places irrelevant to their course of study/area of specialization thereby defeating the fundamentals objectives of SIWES (Nwoji, 2003).

2. **Lack of interest on the part of Industrial and Institutions' Staff toward the Supervision of Industrial Work Experience**
   Staff detailed to go to the industries to supervise students often fail to do so. Staff appears to be more interested in the supervision allowance than the performance of the actual supervision. Some collect the students' logbooks when these students have come back from their industrial training and simply concoct entries and sign (Okorie, 2001).

   The ITF operational guidelines, spell out that three separate officials should supervised students on industrial attachment, an industry based supervisor, supervisor from the institution and a supervisor from industrial training fund. The supervisor from the industry is expected to assess the students' progress on weekly basis and make appropriate comments in their logbook. The institution based supervisor is expected to visit at least once every month and monitor the students' progress to ensure that the practical experience being encountered is relevant to the course of the study (Nwoji, 2003).

   An officer from the Industrial Training Fund is also expected to visit student at-least once during industrial attachment, to ensure that they are actually participating in the scheme, in areas that are relevant to their course of study.

3. **Students' lack of interest toward Industrial Work Experience**: This often manifests in the non-provision of adequate information, non-participation in the orientation programme and the subsequent industrial training, non-submission of the logbooks, form 8 and the technical report and the non-participation in the SIWES seminar by students. Also many students do not take the scheme very serious. Some regard it as a mere holiday job. The only come in for their monthly allowance without regard to the objectives for which the scheme was set (Nwoji, 2002).

4. **Non-Provision of Allowance to all Staff**: SIWES supervision involves more physical visit to organizations, a lot of initial preparation, collation and documentation of data, monitoring and assessment of staff, students and organizations and compilation and processing of results and the services of other lecturers, Head of Department/ Directors of Schools are involved. Not all the staff that participated in one way or the other are paid. This therefore, affects the effectiveness of supervision exercise as each lecturer is supposed to visit the attachment about three times (Osinem, 1999).

5. **Failure by the school coordinating Unit to prepare the master list and Placement List on time**: This may be due to late registration of industrial training students, late supply of relevant information by students, inadequate staffing and inadequate infrastructure and working tools. The requirements of the SIWES guidelines on this are usually breached. Submissions are received with multiple duplications of names, matriculation/serial numbers and inclusion of students of unaccredited courses. In some cases, basic requirement for processing students allowance such as duration of attachment are not specified as reported by (Ogbonna, 2001). As a result, even while funds are available students cannot be paid during industrial attachment due to late submission of relevant document for payment (i.e. students' master and placement list).

6. **Inadequate Orientation Programme for Students Industrial Work Experience Scheme Participating Students**: Absence of students participation during orientation programme organized in school before students embark on industrial attachment often reveals students ignorance of the objectives of the scheme. This indicates that SIWES orientation activities were either not delivered to them before commencing their individual attachment or that some students absent themselves from such programme (Atsumbe, 2006).

Solution to the Challenges of SIWES in Vocational and Technical Education Partnership with Industry

The following are suggestions made based on some of the factors militating against the operation of SIWES as well as the roles to be played by stakeholders (ITF, institutions and industries). Among the suggestions for sustainable SIWES programmes are:

1. **Provision of Adequate Industries**: The ITF in collaboration with the captains of industries, manufacturing association of Nigeria, should identify industries, companies and establishments nationwide where students could be posted for meaningful SIWES programme. This should be in line with the objectives enumerated in the current SIWES job specification document. Such establishment should receive incentives from the government in form of award of contract, tax relief etcetera.

2. **Establishment of Industrial Centers**: It is a well-known fact that most of the serving industries in the country are operating at far below capacity installation. This has resulted in fewer placement positions while students' enrolment had kept on increasing. It is therefore, pertinent that the government through ITF and in collaboration with other stakeholders should establish industrial centers which should be capable of taking up to five hundred students at a time.

3. **Better Funding/Funding of Supervision Exercise**: Funding of research and development centers and supervision allowances are necessary backbone of any true development in VTE. The main aim of SIWES is in its practical content. Every student must therefore be exposed to all avenues of obtaining this practical training. Also, effort must be made to involved all relevant students in the industrial training allowances.

4. **Sponsorship from Industries**: Industries/companies should sponsor programmes that will develop SIWES, knowing fully that a well develop programme is to the advantages of the nation and the industries themselves. This is because those who will benefit from sponsorship will eventually use human capital in them to develop the nation.

5. **Good orientation programme/Timely submission of ITF documents:** the SIWES coordinating units should organize good orientation programme before students embark on SIWES programme. Experts from relevant field of studies including ITF staff should be invited to present papers on the importance of SIWES. Attendance on the part of students should be compulsory. ITF documents such as Master/Placement lists should be submitted on time to the nearest ITF office for processing students' allowances.

Conclusion

The SIWES programme which is aimed at inculcating, in the participants work skills that are relevant to their chosen course of study as well as exposed them to machinery and equipment used in their course of study. However, some industries are not willing to provide placement for VTE students on industrial attachment in order to expose them to field of practical work during the period. In addition, some industries do not have a structured training programme for students. This situation therefore, may defeat the fundamental objectives of SIWES rendering the scheme fruitless.

Recommendations

Government and allied stakeholders should implement the real objectives of SIWES as provided in the ITF document and the suggestions highlighted above, so that the students of technology, engineering and related courses will greatly benefit with practical skills.

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