

**ASSESSMENT OF THE MANAGEMENT OF STUDENTS'  
INDUSTRIAL WORK EXPERIENCE SCHEME  
(SIWES) IN TERTIARY INSTITUTIONS  
OF KEBBI AND SOKOTO STATES**

**BY**

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*M.TECH./SSSE/2004/1165*

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**NOVEMBER, 2008**

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**A THESIS SUBMITTED TO THE DEPARTMENT OF INDUSTRIAL  
AND TECHNOLOGY EDUCATION, SCHOOL OF SCIENCE  
AND SCIENCE EDUCATION, FEDERAL UNIVERSITY  
OF TECHNOLOGY, MINNA.**

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AWARD OF MASTER OF TECHNOLOGY(M. TECH.) IN  
INDUSTRIAL AND TECHNOLOGY EDUCATION**

**NOVEMBER, 2008**

## DECLARATION

I, Mohammed, Hamza Dankolo M.TECH/SSSE/2004/1165 a postgraduate student in the Department of Industrial and Technology Education, declared that the work embodied in this thesis is original and has not been submitted in part or full for any other diploma or degree of this or any other University.

Mohammed, Hamza Dankolo

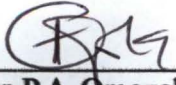
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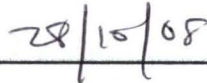


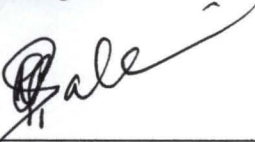
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## CERTIFICATION

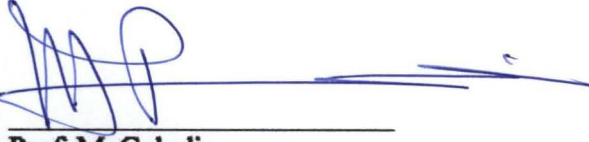
This is to certify that this thesis "Assessment of the Management of Students' Industrial Work Experience Scheme in Tertiary Institutions of Kebbi and Sokoto States" has been read and approved by the undersigned persons as having been prepared in accordance with regulations of thesis presentations and meeting the basic requirements for the award of Master Degree in Building Technology by the Department of Industrial and Technology Education, School of Science and Science Education, Federal University of Technology, Minna.


  
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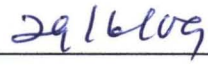
  
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### **Abstract**

The process of planning, organizing, coordinating and controlling the activities of an organisation, body or unit, to use the available resources in achieving the set goals and objectives is termed management. Good management of Students Industrial Work Experience Scheme (SIWES) will make it easy for students to be able to acquire the necessary skills in their various fields of study in order to bridge the gap that exists between institution and industry. This study was conducted to assess the management of students industrial work experience scheme (SIWES) in tertiary institutions of Kebbi and Sokoto states. A survey research design was adopted for the study while three research questions as well as three hypothesis guided the study. A 61 structured questionnaire items was developed by the researcher and used to collect data from 505 administrators and students, who constituted the population of the study in Kebbi and Sokoto states. The instrument was face and content validated by three senior lecturers and the reliability coefficient (Alpha) of the instrument was 0.78. Mean and Standard Deviation were the statistical tools used to answer the research questions while t-test was employed to test the hypotheses at 0.05 level of significance. The findings of the study indicated among other things that: "the respondents agreed that there is duplication and omission of beneficiary of SIWES allowances, students are not being placed by the institutions' SIWES unit, tertiary institutions do not operate a separate budget for SIWES programme. Based on the findings of the study, it was recommended among others that; periodic - test to assess students' performance at place of attachment should be introduced and letters of commendation should be given to distinguish industry and establishments, tertiary institutions should operate a separate budget for SIWES programme in order to achieve an effective management of SIWES programme in tertiary institutions.

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# CHAPTER I

## INTRODUCTION

### Background of the Study

As part of it's hope to transform the nation's economy from its predominant dependence on foreign expertise to a state of self-reliance, through the training and development of Nigerians that would be competent to perform the specialized skills required to manage essential sectors of the economy, the federal government, through decree No. 47 of 8<sup>th</sup> October, 1971 established Industrial Training Fund (ITF). As a manpower development agency, ITF specifically provide services and facilities for the development of skilled manpower, particularly, in the industrial and commercial sectors of the economy. Olaitan, Nwachukwu, Onyemachi, Igbo & Ekong, (1999) highlighted that the decree also mandated the industrial training fund to:

- \* Provide facilities for training of persons employed in industry and commerce;
- \* Conduct or assist others to conduct research into any matter relating to training in industry and others and others.

On the basis of the organization's powers, the Industrial Training Fund initiated Students Industrial Work Experience Scheme (SIWES) in 1974. Students Industrial Work Experience Scheme is meant for on -- the -- job practical experience for students undergoing all courses that need exposure to industrial activities during their college programmes. The internship that SIWES facilitates for students is to become fully focused in the pursuit of national development. Dikko (2000) observed that SIWES is a leading step to internship in Nigeria and hoped that the scheme shall provide the missing link between industries and tertiary institutions. It also provides a strong link between

education and industries which is essential for preparing young people for enthusiastic and efficient employment. Onen (1984) in Okonkwo (2003) maintained that SIWES is aimed at enhancing student's acquisition of skills while still in school. Adebayo (2003) sees SIWES as an integral part of Technical Education which is aimed at stimulating desirable attitude towards work. He further maintained that, in order to perform effectively at work, the worker must be trained with the same tools and in the same environment in which he shall eventually work. Okonkwo (2003) cited Mbonu (2000) who outlined the following as objectives of SIWES among others which include:

\* To expose and prepare students for the industrial experience which they are likely to meet after graduation among others. Awojobi (2005) emphasized that SIWES is aimed at exposing students to work situation as well as keeping them abreast of current developments in their chosen career. It is believed that the scheme will enable students acquire practical skills in their area of specializations

The success of every organization depends largely on the roles played by the management of such organization. Lanre (2002) defined management as a process involving planning, motivating, coordinating and controlling all the activities of an organization in order to achieve the set objectives. He further explained that planning involves how to arrange for the working team, the availability of materials and set standards of expected performance, coordinating as keeping "in step" all the different sections within the organization. While motivating is the building up of the 'morale' or 'team spirit' of the workforce and controlling as the checks and balances of the entire systems within the organization.

The roles of the bodies involved in the management of SIWES determine the success or failure of the programme. These bodies include the Federal Government, Industrial Training Fund (ITF) and the supervising agencies viz; National University Commission (NUC), National Board for Technical Education (NBTE), National Commission for Colleges of Education (NCCE), Employers of Labour and Training Institutions. Some of the roles these bodies play are enshrined in the information and guidelines for Students Industrial Work Experience Scheme (2004) :

The roles of the federal government include:

To provide adequate funds to the industrial training fund through the federal ministry for the scheme; to make it mandatory for all ministries, companies and parastatals to offer places for the attachment of students in accordance with the provisions of decree No. 47 of 1971 as amended in 1990, and others.

The roles of the Industrial Training Fund (ITF) among others include:

To formulate policies and guidelines on SIWES for distribution to all the SIWES participating bodies, institutions and companies involved in the scheme; to regularly organize orientation programmes for students prior to their attachment.

The roles of supervising agencies (NUC, NBTE & NCCE) include: To ensure the establishment and accreditation of SIWES units in institutions under their jurisdiction; to direct the appointment of full-time SIWES co-ordinators; to ensure adequate funding of SIWES units in all institutions and others.

The roles of the institutions include:

To establish SIWES co-ordinating units with a separate account, adequately staffed and funded to ensure effective operation of the scheme; to appoint SIWES co-ordinators, to

identify placement opportunities for students' attachment with employers; to supervise students at their places of attachment and others.

The roles of the students include:

To attend institution's SIWES orientation programme before going on attachment; to be obedient to constituted authorities and adhere strictly to all rules and regulations of the organization where they are attached among other things.

It can however be seen that, the primary purpose of SIWES programme is to integrate theory and practice for the successful economic and technical development of the country. Interestingly, valuable technical education can only be acquired through partnership between schools and industries, an opportunity, which SIWES programme provide. The scheme exposes students to industry based skills necessary for a smooth transition from classroom to the world of work so as to afford students of tertiary institutions the opportunity of being familiarized and exposed to the needed experience in handling machinery and equipment which are usually not available in the educational institutions. SIWES programme therefore form the bedrock of technical education through which the acquisition of saleable, practical and applied skills are achieved. Despite the good will of government in the establishment and funding of SIWES to improve skills development of students of tertiary institutions in Nigeria, the scheme according to Onyeukwu (2000), falls short of expectation and hence ineffective. Supporting this claim is Mahmoud (2001) who observed that SIWES programme is being faced with problems of inadequate attention by the administrators, which include non-payment of students' allowance, institution based supervisors' allowance as well as shifting of SIWES placement on students among other things. Astumbe (2000) blamed

these mirages of problems of inadequate management and administration of the programme on the side of both the schools, ITF and the federal government at large. Ayeni (2004) also observed that one of the factors of failure in training of engineers/technologists and craftsmen is lack of effective planning and coordination of students industrial work experience scheme, which results in the production of half baked skill manpower. According to him, some of these problems borders on late submission of students' placement list and improper documentation of students placement, lack of supervision of students by some institutions, irrelevant training during SIWES, Non acceptance of students by some employers. Ojo (2005), stressed that within thirty years of existence, SIWES had received wide and variety of write – ups, analysis, discussions and amendments on it's viability, modes of operations and financing. While assessing the impact of SIWES on practical skills development of students, Atsumbe (2006) lamented that SIWES programme is characterized by poor coordination, inadequate supervision of students, lack of funds and students being placed in industries not relevant to their area of training which has led to the failure of the programme to back up training of students with relevant job experience.

### **Statement of the Problem**

The modalities for managing work experience (including SIWES in Nigeria) vary from one country to another but they have basically the same objective. Jemerigbe (2004) stated that in Egypt, students acquire real life work experience by direct involvement in construction of furniture, electrical and plumbing works. Lecturers also get involved in consultancy services. In Nigeria, the aim according to Nwajagu (2004), is to let students have access to complete industrial equipment which otherwise their institutions are not

able to provide within the school workshop and, also to let students detach from the school environments to have real life working experience which is the essence of their studies.

The success or failure of every organization (including SIWES) depends on the effectiveness or otherwise of its management which is the backbone of an organization. The issue to be addressed with regards to SIWES programme and its role in skills acquisition of students in tertiary institution is whether the scheme is serving the purpose for which it was established for, judging from the fact that there is a serious mismatch between the quality of graduates from tertiary institutions and the labour market requirements thereby making them unemployable in the industries needing their services. Observations made on students from our Universities, Polytechnics, Colleges of Agriculture/ Education / Technology (otherwise tertiary institutions) who attend this scheme in Kebbi and Sokoto states have proved otherwise. There is however, no trace of data and generalisable research information for the assessment of the management of students industrial work experience scheme in tertiary institutions of Kebbi and Sokoto states. It is on this basis that the researcher deems it necessary to carry out a research on the assessment of the management of students industrial work experience scheme in tertiary institutions of Kebbi and Sokoto states.

### **Purpose of the Study**

This study was aimed at assessing the management of students industrial work experience in tertiary institutions of Kebbi and Sokoto states. Specifically, the study was also designed to:

1. Assess the current methods of implementing SIWES programme in tertiary institutions



of Kebbi and Sokoto states.

2. Determine the problems hindering effective management of SIWES programme in tertiary institutions of Kebbi and Sokoto states.
3. Identify strategies for improving the management of SIWES programme in tertiary institutions of Kebbi and Sokoto states.

### **Significance of the Study**

The giant strides that have been made by most industrialized nations today is as a result of the establishment of a functional educational system that lays emphasis on practical skills. In Nigeria, the importance of occupational skill development through the SIWES programme is obvious and imminent hence, any research finding geared towards improving the effectiveness of SIWES programme will be of great significance.

The findings of the study will help in working out modalities for bridging the gap between theory and practice of engineering, technological and other related occupations in most Nigerian institutions of higher learning. The results of the study will be of paramount importance to the industrial training fund by creating awareness on the identified problems as well as offering direction and suggestions for effective management of SIWES programme. It will equally provide needed information for the policy makers for formulating suitable policies concerning SIWES programme. It will also be useful in exposing the students of tertiary institutions to the aims and objectives of SIWES programme. The findings of this study will be of immense benefit to the administrators of SIWES in that it will enable them to re-design their programme in order to improve the management of students industrial work experience scheme in tertiary institutions of Kebbi and Sokoto states. The findings of this study will also be of

benefit to tertiary institutions in Kebbi and Sokoto states in that they will have easy dissemination of information from SIWES office to the various departments involved in the scheme which will lead to effective and efficient students' industrial work experience exercise. Kebbi and Sokoto state governments will benefit from the findings of this study if good management structures are put in place by SIWES, and students pass through the industrial work experience and acquired the necessary skills that will make them fit into world of work. Their exposure to these experiences will be used to improve their performance in government work / services. Furthermore, the findings of this study will play a vital role to the institutions of higher learning in working out modalities for the training of full-baked students that will be practically oriented and self-reliant.

### **Scope of the Study**

This research work is delimited to assessment of the management of students industrial work experience scheme in tertiary institutions of Kebbi and Sokoto states only. The study was delimited to the current methods of implementing SIWES programme, which include planning, coordination, controlling, motivation and supervision.

### **Assumptions of the Study**

The following assumptions were made in this research study:

Based on the structure of the questionnaire administered.

1. It was assumed that the respondents will give reliable information.
2. It was assumed that the respondents will be knowledgeable enough to validate the instrument.

3. It was assumed that the respondents will sacrifice their time to give proper attention to the instrument.

### **Research Questions**

This research work was conducted to provide answers to the following research questions:

1. What are the current methods of implementing SIWES programme in tertiary institutions of Kebbi and Sokoto states?
2. What are the problems hindering effective management of SIWES programme in tertiary institution of Kebbi and Sokoto states?
3. What are the strategies for the management of improving SIWES programme in tertiary institutions of Kebbi and Sokoto states?

### **Hypothesis**

The following hypotheses were formulated to guide this study and were tested at ( $p < 0.05$ ) level of significance.

**H<sub>01</sub>** There is no significant difference between the mean responses of administrators of SIWES and students on assessment of the current methods of implementing SIWES programme in tertiary institutions of Kebbi and Sokoto states.

**H<sub>02</sub>** There is no significant difference between the mean responses of administrators of SIWES and students on assessment of the problems hindering effective management of SIWES programme in tertiary institutions of Kebbi and Sokoto states.

**H<sub>03</sub>** There is no significant difference between the mean responses of administrators of SIWES and students on strategies for improving the management of SIWES programme in tertiary institutions of Kebbi and Sokoto states.

## **CHAPTER II**

### **REVIEW OF RELATED LITERATURE**

Literature related to this present study was reviewed under the following sub-headings:

- ◆ Theoretical Frame Work of the Study
- ◆ Historical perspective of Industrial Training Fund (ITF)
- ◆ Management in Students Industrial Work Experience Scheme (SIWES)
- ◆ Planning Strategies for Enhancing SIWES programme in Tertiary Institutions
- ◆ The Role of Motivation in Enhancing the Productivity of SIWES Programme Workforce in Tertiary Institution
- ◆ The Coordination of SIWES Programme for Improved Efficiency in Tertiary Institutions
- ◆ The Role of Controlling for Improved Efficiency of SIWES Programme in Tertiary Institutions
- ◆ Historical Development of Skill Acquisition in Nigeria
- ◆ Summary of the Review of Related Literature

#### **Theoretical Frame Work of the Study**

The term management according to Frederickson (2001) refers to the creation and maintenance of an internal environment in an organization where individuals working together in a group can perform efficiently and effectively towards the attainment of the organizational objectives. A manager therefore is one who exercises control over human, money and material resources being the essential inputs used for the attainment of the organizational goals. The above definition clearly shown that management is all about the processes of planning, organizing, controlling and directing both human, money and material resources in order to achieve the targeted goal of an organization while a manager is the chief executive who guides, plans, directs and controls the activities of the organization into a productive working mechanism for the achievement of the

organizational objectives. Fredrickson further highlighted that there are management theories among which include:

**Theories of Conflict:** This theory was formulated by Getzels and was based on the assumption that the task- achievement of a social system, irrespective of the nature of the task, requires the combined efforts of a number of people with varying functions and responsibilities, whose position in the social system are usually hierarchically (vertically) arranged to establish the relationships between the superior and the subordinates.

**Theories of Motivation (Bernard Simion):** - This theory was formulated by Bernard Simion and was based on the principle of psychology which asserts that various needs arouse and direct the behaviour of the organization towards the satisfaction of these needs; and that in any activity except simple reflex behaviour, there are definite motives and internal conditions which serves to direct the organisms towards certain goals.

**The Systems Theory:** - This theory sees an organization as a social system which can be further sub-divided into sub-systems each having a super-system which constitutes its environment. All the sub-systems work towards the maintenance of the life of the social system as a whole, the survival of which depends on its capacity to maintain constancy in its process and relationships within and outside the system. To survive, the system and it's sub-systems must be open to have capacity relate to and exchange matter with their environments.

**Weber Bureaucratic Model:** - According to Weber, specialization encourages a high degree of technical expertise among staff, which in turn entails their selection according

to their technical qualification. Specialization leads to hierarchical structure which prescribed who gives orders and to whom while establishing the relationships between subordinates and superiors.

Bureaucracy, according to Weber is also characterized by dependence on formal rules and regulations, which are established to guide official action and ensure uniformity. They also support the legitimacy of authority and so help to coordinate the activities of the organization and promotes its continuity even when changes of personnel occur.

**Laissezfaire Theory:** This theory believes that an individual should be allowed to use his initiatives to work out the best solution to his problems at any given point in time possibly through trial and error. This theory does not pay attention to public interests and criticism as managers and their staff tends to use any approach that seemed to be most economical and efficient in offering the best prospects for achieving the organizational objectives.

**The Behavioural Science Theory:** This theory believes that a worker is motivated by a complex variety of needs and by implications, the effective manager therefore ought to have the knowledge of the various fields in the social sciences and apply them as and when necessary. It is important to note that the theory encourages participatory management; motivation of individuals and groups; direction of talents towards the achievement of the organizational objectives; conducive working environments as well as humanism in management.

**Scientific Management Theory:** This theory believed that workers are motivated by financial needs since they earned their living through remuneration received. It also believed that workers should not necessarily take part in organizational decision making process. Scientific management theory contends that workers remuneration should be based on competence and individual interest should be subjected to the interest of the organization. The major focus of the theory is workers productivity and the improvement of management effectiveness aimed at minimizing or even eliminating wastage of materials resources, time as well as under – utilization of resources. These management theories if so adopted in the management of SIWES will facilitate the realization of the organizational objectives.

The introduction and implementation of the National Policy on Education (NPE 2004) added increased responsibilities both in scope and range to vocational and technical education. Vocational and technical education is a form of education aimed at providing an individual with necessary skills and attitudes which will make the individual competent enough for gainful employment in a specific occupation. For a nation such as Nigeria to develop both industrially and economically, the needs for a sound vocational and technical education cannot be over emphasized as it is the medium through which the needed skilled manpower such as technologists, craftsmen, technicians as well as artisans are produced. According to (NBTE, 2003), development of sound basis for vocational and technical education is central to the nation's desire of becoming industrialized and self-reliant. Similarly, the Federal Republic of Nigeria (2004) stated that vocational and technical education is an integral part of technological development.

By the decree No. 47 of 1971, the Industrial Training Fund (I.T.F.) was established to promote and encourage the acquisition of skills in industry and commerce with a view to generating a pool of indigenous trained manpower sufficient, enough to meet the needs of the economy. According to (Fakorede, 1998), the ITF use the following approaches to the development of effective manpower training:

- Implant training programme for small and medium sized companies.
- Industry oriented vocational training programmes
- Apprenticeship training scheme
- Continuous direct training courses, seminars, conferences and workshops for employees from both private and public sectors of the economy.
- Improves reimbursement and grants scheme

In 1974, sequel to the series of complaints from the employers of labour that the graduates from institutions of higher learning were theoretical and in most cases were strange to industrial machines, environments and complex nature of activities, the I.T.F. initiated and established Students Industrial Work Experience Scheme (Onyeukwu 2000). Students Industrial Work Experience Scheme (SIWES) is a skill training programme designed to expose and prepare students for the industrial work situation they are likely to meet after graduation. The scheme is meant to expose students to work methods and experiences in handling equipment and machinery that may not be available in the educational institutions. SIWES programme from its inception involved students and teachers from tertiary institutions, corporate industrial and commercial bodies including small scale and private enterprise as well as the Industrial Training Fund (I.T.F.).



This co-operative machinery between industries and institutions of higher learning is aimed at producing effective results with the supervision and control of the I.T.F. Supporting the foregoing, Amaewhule (1989), stressed that educational industrial co-operation in the training of students is expected to expose them to the dynamism and capabilities required by the N.P.E. Atsumbe (2002) opined that ,the skill acquired by a student is proportional to the attitude the individual concerned has towards the work.

### **Historical Perspective of Industrial Training Fund (ITF) .**

As the world turns into a global village with it's attendant technological breakthrough and rapid industrialization, many questions are agitating the minds of employers. Pertinent among these questions is how to prepare the workforce for challenges ahead so that their establishments can remain relevant in business. The industrial training fund was established by decree no. 47 of 8<sup>th</sup> October, 1971 with the aim of "promoting and encouraging the acquisition of skills in industry and commerce with a view to generating a pool of indigenious trained manpower sufficient enough to meet the needs of the economy". It was the first of the three manpower training and development agencies created by the federal military government during the second national development plan period (1970 – 1974). The other two include the Nigerian Council Management Development (NCMD) and the Administrative Staff College of Nigeria ASCON (ITF, 2001).

**The Functions of ITF:** The functions of the Industrial Training Fund (ITF) as enumerated by 2001 manpower training and development Programmes of ITF are:

- Encouraging greater involvement of employers, particularly small employers, in the organization and development of training programmes and facilities including the establishment of group training schemes and centres in certain critical areas of economic activity;
- Building of training facilities of its own, in identified areas of national need;
- Organising research and studies into training as a support to other activities of the fund;
- Establishing uniform national vocational and apprenticeship training scheme in the country;
- Seeking to harmonize ITF's non-formal training programmes with the curricular of formal education institutions;
- Bearing a proportion of the direct cost of on – the – job and off – the – job training of Nigerian employees.

The decree establishing ITF stipulates that employers should contribute 3% of their annual payroll or half of their turnover, whichever ever was greater to the ITF as a mandatory training levy. It also provides subvention from the Federal Government. The amendment decree no. 37 issued on 10<sup>th</sup> September, 1973 reduced employers' rate of levy to 2%. This was further reduced to 1% of annual pay-roll, since 1975. The penalty of non – payment of levy within the time prescribed (not later than 1<sup>st</sup> April of the following year) results in the payment of 5% of the amount unpaid each month or part of the month after 1<sup>st</sup> April each year in addition to full payment of the outstanding levy.

**Reimbursement and Grants Scheme:-**The reimbursement and grant scheme of the ITF was incepted in July 1973. Under the scheme, the fund bears part of the cost of workers/employers training and further education by providing grants for courses undertaken. The decree, which established the fund, gave it's governing council the power to allow a maximum reimbursement of sixty percent (60%) of an employer's contribution for each year. The scheme has been revised from time – to – time. The fourth revised grants scheme is now in operation. Once the conditions for paying reimbursement are fulfilled, prompt payments are expected to be carried out. The aim of the grants and reimbursement – scheme is to encourage employers to train their staff in accordance with the needs of the various industries. Employers are therefore, urged to intensify efforts to improve the quality of their manpower through appropriate and approved training programmes.

At present, according to manpower training and development programmes of ITF (2007), there are about six ITF training centers across the country, which includes the following among others:

- i. Industrial skills Training Centre  
Ikeja,
- ii. Centre for Excellence  
(Staff Training Centre)  
Bukuru, Jos.
- iii. Instructor Training Centre, Kano

Banawo (1982) cited in Okonkwo (2003) elucidates the purpose of establishing ITF as:

\* Operating a cooperative system with industries and commerce so as to enable students

in institutions acquire a workshop experience during their course of study.

- \* Giving financial aid to trade centers and vocational schools as well as institutions of higher learning for practical education programme.
- \* Training and retraining of employees.

Okonkwo (2003) further agreed with Agbana who also viewed the functions of ITF as increasing the rate of effective labour for its productivity and participation in the national economy to transfer management and other ancillary functions of Nigerians and adopt the policy of self-reliance so that Nigerians would be trained and retrained to cope with skillful responsibilities. The industrial training fund since its establishment has provided practical grounding of various facets of human endeavours of wide ranging professional orientation in the scientific, technical, technological, accounting and administrative disciplines. No society can achieve meaningful progress without encouraging its youths to acquire necessary skills. Such skills would enable them face the challenges of harnessing available resources to meet the needs of their societies and also improve on the means of production. It is in this light that Industrial Training Fund (ITF) in 1974 created a programme called Students Industrial Work Experience Scheme (SIWES).

In an effort to bridge the gap between theory and practice of technology and engineering courses offered in Nigerian tertiary institutions of learning, (ITF) established (SIWES) as a cooperative programme between industries and tertiary institutions. Students Industrial Work Experience Scheme (SIWES) is a skill-training programme designed to expose and prepare students in institutions of higher learning in Nigeria for

industrial working situations they are likely to meet after graduation (ITF, 1990). Okonkwo (1986) explained that the scheme takes the form of on the job supervised work experience for students offering courses demanding exposure to the much-needed industrial skills. According to Onyeukwu (2000), the students industrial work experience scheme is a skill-training programme designed to expose and prepare students for the industrial working situations they are likely to meet after graduation. The scheme is also meant to expose students to work methods and experience in handling equipment and machinery that may not be available in educational institutions thus, the central focus of the scheme therefore, is to enlist and strengthen employers' involvement in the educational process of preparing students for employment in industry. Jen (2002) stated that, the primary purpose of SIWES is to integrate theory and practice recognizing that theory without practice is sterile and that practice without theory is superficial. He further outlined the purpose of SIWES as:

- To develop a well – balanced combination of occupational competences enabling graduates enter and advance in satisfying careers.
- To develop the necessary skills, work attitudes and habits for job tenure and or entry into other occupational instructional programmes.
- To help individuals develop viable career plans based on realistic self-appraisal and accurate occupational information.
- To facilitate the transition from school to productive work.

The SIWES as a cooperative programme between industry and institutions of higher learning in Nigeria is a condition of students' studies. The integration of experiential and theoretical learning is the primary goal of SIWES. Umoh (2003) explained that SIWES

programme is a scheme planned, coordinated, supervised and evaluated by ITF, training institutions and industries (employers), so that each contributes to the students' education and their employability. The scheme, which is a skill-training programme, is designed to expose and prepare students of tertiary institutions to real life situation after graduation. The importance of SIWES, according to NUC (2004), as an avenue created for students to be exposed to industrial environment and also enables them to develop occupational competences so that they can readily fit into their chosen careers after graduation cannot be overemphasized. ITF (2004) stated that the scheme exposes students to industry based skills necessary for a smooth transition from classroom to the world of work. It affords students of tertiary institutions the opportunity of being familiarized and exposed to the needed experience in handling machinery and equipment, which are usually not available in the educational institutions. Participation in SIWES has become a necessary precondition for the award of diploma and degree certificates in specific disciplines in most institutions of higher learning in the country, in accordance with the educational policy of government. In her contribution to the importance of SIWES, Awojobi (2005) stated that the supervised industrial work experience scheme is designed to expose students of vocational and technical education to intensive practical knowledge and experience in their areas of specialization. This study therefore sets out to assess the extent of students' participation in the scheme. The scheme, according to ITF (2006), was also designed to offer lecturers the opportunity to evaluate the relevance of training to the needs of industry. The scientific breakthroughs and technological innovations of recent times have created numerous changes in all spheres of life. The changes occasioned by these developments have led to the emergence of a global economy that is knowledge based. It

is therefore, rational that aspects of the administration of SIWES must be reviewed in line with the emerging challenges. The ultimate "bottom line" in every manager's job is to succeed in helping an organization to achieve high performance by well utilizing all its human and material resources. If productivity in the form of high levels of performance, effectiveness and efficiency is a measure of organizational success, managers are largely responsible for ensuring its achievement. It is their job to successfully mobilize technology and talent by creating work environments within which others work hard and perform to the best of their abilities. They do this through the process of management.

#### **Management in Students Industrial Work Experience Scheme (SIWES).**

Management can be referred to as a collection of facts and figures on a particular situation, applying some form of evaluation to these facts and figures in order to reach a conclusion (Steven, 2000). Ozigi (2001) viewed management technique as a conceptual approach to planning, organizing, motivating, coordinating and controlling human and material resources available within an organization with the sole aim of achieving a target. Management according to Schermerhorn (2002), is the process of planning, organizing, leading and controlling the use of resources to accomplish performance goals. Taylor (1911) as cited in Schermerhorn (2002), noticed that many workers did their jobs their own way and without clear and uniform specifications. He believed that this caused them to lose efficiency and perform below their true capacities. He also believed that this problem could be corrected if workers were taught and then helped by supervisors to always perform their jobs in the right way. Taylor used the concept of "time study" to analyze the motions and tasks required in any job and to develop the most efficient ways to perform them. He then linked these job requirements with both training for the work

and support from supervisors in the form of proper direction, work assistance and monetary incentives. This approach is known as scientific management. Taylor defined scientific management as an emphasis on careful selection and training of workers and supervisory support. Taylor further outlined four guiding action principles of scientific management as follows:

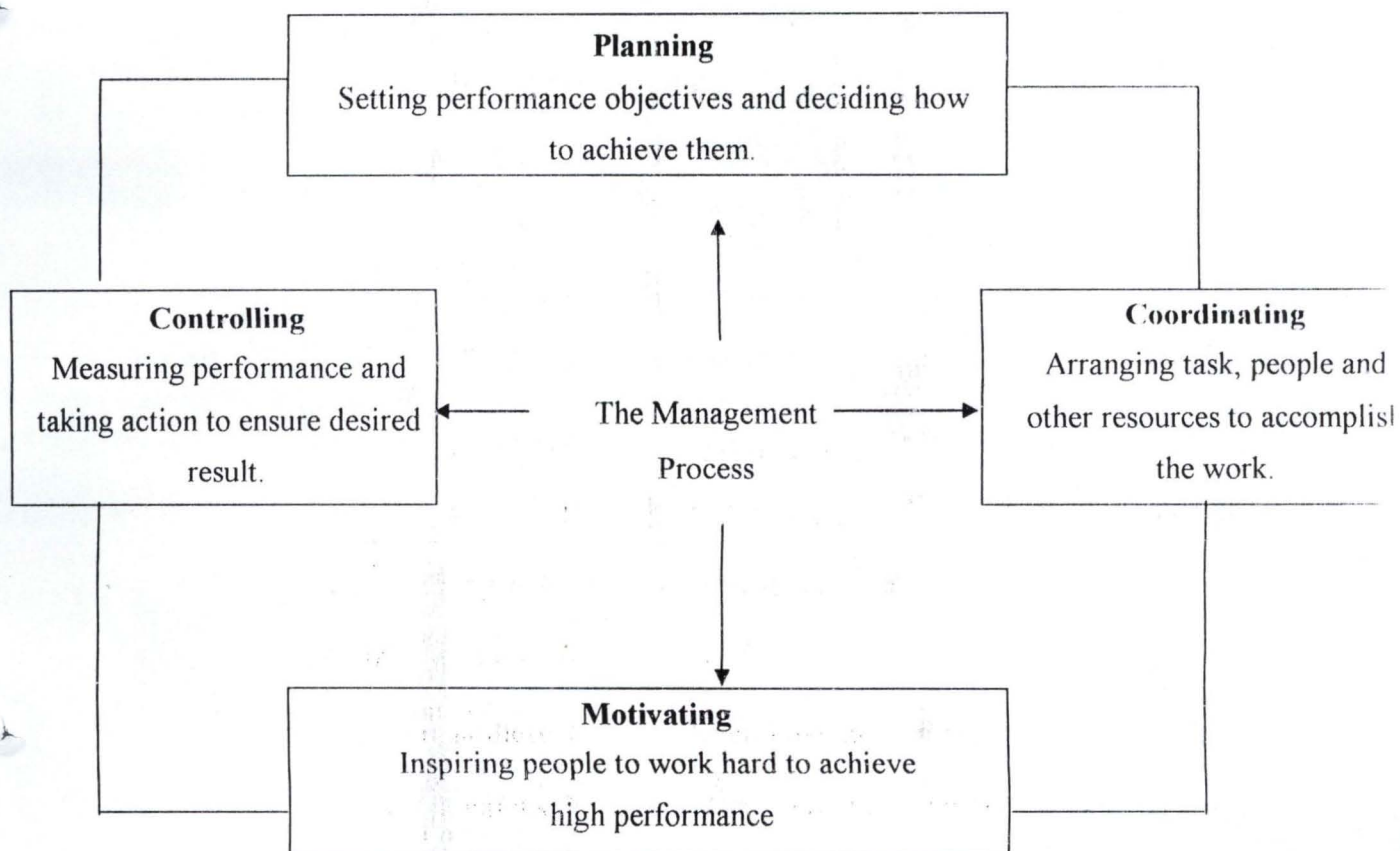
1. Develop for every job a "science" that include rules of motion, standardized work implements and proper working conditions.
2. Carefully select workers with the right abilities for the job.
3. Carefully train workers to do the job and give them proper incentives to co-operate with the job.
4. Support workers by carefully planning their work and by smoothing the way as they go about their jobs.

Taylor tried to use scientific techniques to improve the productivity of people at work. The implications of his efforts if not his exact scientific management principles, are found in many management settings till date.

Alan (2003) also defined management as the process of planning, coordinating, motivating and controlling both human and material resources in order to achieve set objectives. The four functions of management and their interrelationships used in an organization such as students industrial work experience scheme, to achieve maximum output, according to Thomas (2005), can be shown in the figure below:



**Figure 1: The Four Functions of Management Process**



**Source:** Thomas, 2005

All managers, regardless of title, level type and organizational settings are responsible for the four functions. However, it is important to know that they must often do not accomplish these functions in linear step-by-step fashion. Rather, the reality of managerial work is that the functions are being continually engaged as a manager moves from task to task and opportunity to the process of mobilizing resources to accomplish goals.

### **Planning Strategies for Enhancing SIWES programme in Tertiary Institutions**

In management, planning is the process of setting performance objectives and determining what actions should be taken to accomplish them. In planning, a manager identifies desired work results and the means to achieve them. Planning is a major part of management process – One by which a manager looks for alternative courses of action and goals for the future (Fayol, 2000). In carrying out the basic needs for planning, Fayol, stated that it is most necessary to know what is possible and what is wanted while absence of a plan entails hesitations, false steps, and untimely changes of direction, which are causes of weakness if not disaster in business or an organization such as students industrial work experience scheme.

Planning according to Alan (2003) can be categorized into three for efficient and effective management of an organization such as SIWES. These are corporate planning (Long – term). This is the responsibility of top management, and it involves the formulation of organizational policy and drawing up a master plan of what the organization will achieve over a period of 5 – 10 years. This type of planning is also referred to as a strategic planning, and deals with financial, economic, marketing, and growth aspects. It focuses attention on broad objectives rather than defining precise goals. Tactical planning (medium – term). This covers the systematic achievement of long-term plans which must be translated from broad general objectives into detailed specific objectives. These specific objectives usually relate to the separate departments making up the organization and in sum total from the long – term plans. In both these types of planning, the actual planning periods are not in isolated blocks of five years. Rather, at the end of each financial year, the plan is projected forward a further year, thus

maintaining a five – year onward – moving plan. Operational planning (budget) covers the week – by – week and month – by – month planning by both top management and departmental managers. Budgets are prepared by departmental managers well before the beginning of financial year, and are then approved by the directors in accordance with the long – term plans. The agreed budget for the financial year can be divided to cover convenient periods of time or ‘Control periods’ – often four – week periods or calendar months. At the end of each control period a review of results is made, and corrective action taken where necessary. A budgetary system’s basic aim is to control expenditure so that at all times income exceeds expenditure but it also has indirect advantages, in that when managers or directors as in the case of SIWES are preparing their budget they are put in a position where they must plan realistically for the year ahead; and since the separate departmental budgets form the master budget, it initiates and encourages co-operation between sections and departments. Planning takes on increasing importance as the size of the organization increases. While the manager of small organization may devote little time to planning, a large organization will make use of specialist planners. Whatever the size of the organization, the basic planning requirements are nevertheless present. The adoption of the above planning categories can assist the management of students industrial work experience scheme in tertiary institutions of Kebbi and Sokoto states in achieving both long-term and specific objectives.

**Forecasting:-** This is an integral part of planning and covers various methods of assessing probable future event. (Azam & Brauchle, 2003). Managers and administrators at all levels including those of SIWES are required as part of their duties to appraise

possibilities. This may be an informal appraisal; or it may involve the formal collection of information and the use of statistical analysis, however basic an unsophisticated. Since any organization exists to meet the requirement of its customers or beneficiaries (as in the case of SIWES), any forecasting is basically answering the question; who will our customers (or beneficiaries) be? What services will they require? Customers demand for service and more particularly sales, shows movement or variation over a period of time - movements which are usually linked with the national economy. Forecasting can be used in the management of SIWES to appraise the possibilities of the entire work experience of students in tertiary institutions of Kebbi and Sokoto states during their industrial training programme. Good planning or strategic planning with inducement are moving spirits in making the worker to make maximum utilization of his potentiality for maximum productivity.

### **The Role of Motivation in Enhancing the Productivity of SIWES Programme Workforce in Tertiary Institutions**

Motivation according to International Labour Organization (2000) is the process of arousing people's enthusiasm to work hard and direct their effort to fulfill plans and accomplish objectives with the use of incentives. Through motivation, managers, directors and administrators (as in the case of SIWES in tertiary institutions of Kebbi and Sokoto states) build commitments to a common vision, encourage activities that support goals and influence others to do their best work in the organization. Sa'eed (2000) defined motivation as a social psychological concept and how it can influence an individual or groups in an organization to show commitment and dedication towards the attainment of the organizations goals. This refers to the extent to which an individual or groups needs are

satisfied as well as the extent to which the individual or groups perceives that satisfaction as stemming from total job situation. Schermerhorn (2002) viewed motivation as the introduction of positive reinforcement in order to strengthen the expected performances of individual or groups so that it will be repeated in future or as the introduction of an undesirable, painful and aversive stimulus after behaviour which causes the punished behaviour to decrease in frequency and eventually discontinued.

In his contribution to the definition of motivation with respect to management, Imel (2001) explained that motivation is a very important but often difficult part of a manager's task to build up the 'morale' or 'team spirit' of the workforce. Ogwo (2004), defined motivation as that process that stimulate movements or action in an organism. Motivation is a prime mover in human behaviours. It is that condition which make a worker to put extra hard work in order to achieve the set objectives of an organization. This is done through inducement or incentives either in cash or kind usually offered by the organization with the sole aim of increasing productivity. Motivation can be used to enhance the productivity of SIWES programme workforce in tertiary institutions of Kebbi and Sokoto states. In order to achieve the organizational objectives through motivation, the workforce must be carefully co-ordinated.

### **The Co-ordination of SIWES Programme for Improved Efficiency in Tertiary Institutions**

According to Fayol (2000), coordination is the process of bringing together the various activities of an organization in a unified form for the smooth running of programmes in an organization towards the realization of the targeted objective. He further highlighted that it is a clear responsibility of every manager to device strategies for bringing together all those behaviours that help

the group to move towards accomplishment of the organizational objectives. Frederickson (2001), viewed co-ordination as a process of assigning tasks, allocating resources and arranging activities to implement plans. Through co-ordination managers, co-ordinators (as in the case of SIWES in tertiary institutions of Kebbi and Sokoto states) turn plans into actions by defining jobs, assigning personnels, and assigning them with technology and other resources.

According to Obi (2003), co-ordination is the total work carried out by managers and co-ordinators in an organization which is made up of several different units of jobs and which must be kept 'in step' or organized into one fold. This means bringing together all the departments, sections, and units that make up the organization under one common umbrella in an attempt to achieve the organizational set objectives.

Ogwo (2004), explained that co-ordination in an organization is that function of administration which attempts to relate and ultimately fuse the purposes of an organization and the people who comprised it's working parts. It is the continuously developing plan which defines the job, and shows how it can be efficiently and effectively accomplished by people functioning in a certain social environment. Organizations have goals or purposes towards which the activities of the people in them are directed. They also have individuals in offices or roles, each responsible for definite tasks. In more permanent types of organizations such as students industrial work experience scheme, the roles are more stable than the occupants themselves, resulting in a structured social organization. Co-ordination of Organizational structures as seen by Edward (2004), are those patterns of behaviour in the organization that are relatively stable and that change slowly. These patterns, roles or positions are arranged to show the

relationships to each other. This hierarchy of super ordinate – subordinate relationships serves to facilitate the allocation of roles and resources in order to achieve the goals of the organization. Proper co-ordination of activities of students industrial work experience scheme in tertiary institutions of Kebbi and Sokoto states can improve the practical orientation, which students acquire during Industrial attachment. This can only be achieved through proper planning, motivating the workforce, co-ordinating the entire activities of all the units or departments and controlling the organizational structure entirely.

### **The Role of Controlling for Improved Efficiency of SIWES Programme in Tertiary Institutions**

The key issue in how well plans get implemented is how well the organization adopts to rapid change. In today's dynamic times, things don't always go as anticipated and plans must be modified and redefined with the passage of time.

The management function of controlling as elucidated by Armstrong (2000), described controlling in management as a function involving to varying degrees, everybody in the administrative hierarchy. He lists fourteen guiding principles to controlling of administrative behaviour, namely: Division of work, authority, discipline, unity of command, unity of direction, subordination of individual interest to the interest of the organization, remuneration, co-ordination, scalar chain (line of authority), order, equity, stability of personnel, initiative, and esprit de corps. These principles presupposed that controlling the administration of an organization must make provision for the co-ordination and supervision of organizational functions and that the responsibility for doing so rest with the chief executive or the co-ordinator (as in the case of students

industrial work experience scheme in tertiary institutions of Kebbi and Sokoto states) who is the legitimate authority and the focal point of the organization, the chief executive or the co-ordinator must develop a formal structure which allows a vertical allocation of responsibilities and a communication flow, and he should be able to maintain order and discipline with a degree of fairness and equity in his organization.

Achi (2002), viewed controlling as the process of measuring work performance, comparing results to objectives, and taking corrective action as needed. Through controlling, managers, administrators and co-ordinators (as in the case of students industrial work experience scheme in tertiary institutions of Kebbi and Sokoto states) maintain active contact with people in the course of their work, gather and interpret reports on performance, use this information to plan constructive action and change. According to Ajisoye and Wamyo (2002), controlling is everything that is done in accordance with established rules and regulations. Controlling can also be seen as methods of regulating, curbing, and checking the excesses of individuals and bodies in pursuance of the organizational duties. In an organization such as the students industrial work experience scheme, the director may control the conduct of supervisors and other supporting staff through the enforcement of rules and regulations. The SIWES is in turn being controlled by Industrial Training Fund while the ITF takes instructions from the Federal Government.

### **Historical Development of Skill Acquisition Programme in Nigeria**

Skill acquisition is the bedrock of vocational and technical education, which enable an individual to earn a living. Many authors defined skill in different ways. Oxford mini reference dictionary defined skill as an ability to do something well. Skill



according to Hornby (1995), is the ability in doing something with dexterity and a well established habit of doing something. This definition implies that skill is all about the acquisition of performance competences which promotes national stability, security of life and property as well as balanced economic development by engaging the graduates in meaningful occupational activities in areas such as constructions, manufacturing, machine operations, service jobs etc. Okorie and Ezeji (1988) cited in Irene, Tukura, Atsumbe and Ma'aji (2000) skill is a well-established habit of doing something involving the acquisition of performance capabilities in the most economic way. It is generally believed that, acquisition of requisite skills is an avenue through which the productive power of a nation can be increased. Soanes (2001) defined skill as the ability to do something expertly well, especially as a result of long practical experience. Similarly, Okozor (2001) opined that skill is that which prepares an individual for a gainful employment and minimizes unnecessary dependence. Olaitan (1999) cited in Atsumbe, (2002) also defined skill as the practical effort that can help an individual acquire a total array of responsibilities within an activity, which he/she performs for work to have been done. These definitions however implies that skill involves not only a purely physical activity as often conceived by some people indeed involves both mental as well as physical activities.

The history of skill acquisition programme in Nigeria dated back to the pre-colonial era in it's earliest form called apprenticeship, which was more or less a family affair. In this system, the group (apprentist and the master) are made to feel a sentiment of being closely united, a feeling that was crucial for survival in the earliest stages of man's development. Father – son relationship was the basis of the apprenticeship system

and there was no question of choice of work to learn but each one would automatically enter into his father's shoes whether he liked it or not as a result of lack of alternative job openings. It does not matter whether the job has any future for the trainee or might be of interest to him. Irene et al (2000) highlighted that, in the traditional societies, people have been engaged in a variety of vocations and receiving training by elders and experts through instruction given by them. It was pointed out that farming, fishing, leatherwork, animal care, smiting, weaving, carpentry and many other occupations have been mastered through observations and by on – the – job training. At the modern times, serious thought is being given to skill acquisition in a more formalized manner through the establishment of some vital programmes aimed at development of skills. By this method, an experienced worker (trainer) contracts to teach the broad range of skills he knows to the trainee. Jen (2002) explained that of recent, many strategic and tactical programmes for occupational skill development were introduced. He further stressed that the most notable among them are the open apprenticeship scheme, the “waste to wealth scheme” of the National Directorate for Employment (NDE) and the Students Industrial Work Experience Scheme (SIWES) under the supervision of the Industrial Training Fund (ITF).

**Importance of Skill:** - In nowadays, the level of attention and emphasis being given to the development of occupational skill in all our educational endeavours can not be over emphasized. This is in line with the intention of government and the effort in making educational experiences meaningful and geared towards self-realization through the acquisition of appropriate skills, abilities and competencies. Jen (2002) highlighted that acquisition of skills enables an individual to recognize his own capabilities and talents as the real world becomes more relevant. Atsumbe (2002) explained that when group of

unemployed people acquire sellable skills through vocational training programmes, they become useful to the society in the following ways:

- It provides them with financial and psychological security, since they can thereafter work as trained craftsmen.
- The employer receives productive work from the craftsmen.
- The society at large, receives continuous supplies of skilled labour and quality goods.

He further stressed that the acquisition of skill prevents youths from becoming social misfits and hence helps to arrest some social ills such as armed robbery, stealing etc.

**Categories of Skill:-** Skills according to Irene et al (2000) are categorized into three main types viz: Technical, Human and Conceptual skills. She further cited Okorie and Ezeji (1988) that technical skills call for understanding and proficiency in a specific activity, particularly when involving methods, processes, procedures or techniques. Human skills refer to the leader's ability to work effectively in a group situation as a member and to foster a cooperative effort within the group of which he is the team leader while the conceptual skills refers to the capacity of the management personnel to perceive the organisation as an integral unit which involves ability to recognise the independence of various functions of an organisation.

### **Review of Related Empirical Studies**

Despite all the efforts of government towards improving school - industry partnership to make technical education more functional, problem of effective partnership strategies still exist.

In a study titled Industry – College Relationship a tool for functional technology conducted by Ehizogie (1993), the study investigated the relationship between industry and technical institutions as well as the effect of such relationship on practical ability of students in Edo state technical colleges. Administrators of SIWES in technical institutions were the targeted sample of first group while the students constituted the sample of the second group. To carry out the study, four research questions as well as four hypotheses were formulated.

A structured questionnaire was used to collect data from 810 respondents who constituted the population. Based on the data collected and analyzed, the findings of the study with respect to factors for non – functionality of students of technical institutions among others include inadequate interaction or liaison between technical colleges and the industrial establishments. Non-provision of in-service industrial training for administrators of SIWES as well as ineffective supervision of SIWES students by the technical institutions. It was recommended among others that, the administrators of SIWES should be well groomed practically with a wealth of industrial experience. In another study conducted by Amasa (1995) to identify the strategies for improving partnership between industries and technical institutions in Kaduna state stressed that after careful study and analysis of data collected, he found out that partnership strategies were not being utilized and co-ordination of the existing strategies was poor. The study identified 6 current ways in which the measurement of SIWES can be carried out between industries and schools, 8 training linkages that will facilitate effective vocational training between industries and schools and 9 ways of co-ordinating those training linkages for vocational training and efficient management. Therefore, it was

recommended among others that SIWES should articulate management strategies in order to achieve the set objectives of the organization.

Dangana (2000) also conducted a study on affective work adjustment competencies considered important by vocational technical educators and employers for smooth school – industry transition to identify affective work adjustment competencies that will facilitate a smooth SIWES programme in vocational / technical institutions in Kaduna state. The findings of the study revealed that employers want employee to possess work – related social skills and habits such as reliability, trust-worthiness, willingness to learn, ability to work as a team and problem solving techniques. Based on the findings it was recommended among others that, a school – industry consultative council should be constituted to facilitate interaction, co-operation and collaboration between institution and industry. In another study titled school – industry partnership: A veritable tool for quality technology education programmes conducted by Atsumbe (2005), a survey design was adopted for the study to investigate the current vocational practices between industries and schools, strategies that will help promote industries and schools, strategies that will promote effective partnership between the industry and the training institutions as well as the modalities for sustaining the partnership. The findings of the research study shows that most of the partnership strategies are poor. Henceforth it was recommended among others that supervisory bodies like ITF, NBTE, NCCE and NUC in conjunction with the federal ministry of education should urgently embark on campaign creating the awareness on the need for partnership between industries and training institutions.

Dyankov (2006) conducted a research on improving capabilities of trainees and exposition to the economic use of resources for the enhancement of productivity in the work place. A descriptive survey research design was adopted for the study, three research questions as well as three hypothesis guided the study with a population of 265 respondents. The study aimed at improving the productivity and resource management in setting up a sustainable self employed ventures. Dyankov observed that, certain ingredients such as planning, coordinating, and controlling economic resources are in illusion, especially to employees who are just exposed to the world of work after graduation. The study recommended among others that, there should be effective utilization of human and material resources, identifying viable ventures and managing it as well as building effective team work in moving a business forward. Peters (2007) also carried out a research on plant and equipment maintenance in order to re-orientate equipment maintenance technicians with modern techniques of new generation gadgets. The research was designed to expose equipment maintenance technicians to the modern methods and techniques of trouble-shooting and maintenance. The study was guided by four research questions as well as four hypotheses specifically to improve the techniques and applications of modern plant maintenance, demonstrate how trouble – shooting skill can be applied in plant maintenance and apply cost effective procedure in maintenance operation. Peters who is a production engineer with splins engineering in the United States of America, listed some recommendations which higher institutions of learning may include in the curriculum for the technicians as: Systematic approach to plant maintenance, maintenance objective and functions, strategic planning and control of

maintenance, Self use of modern tools and equipment for maintenance, coordination and monitoring equipments.

### **Summary of the Review of Related Literature**

In the review of related literature in this study, the historical perspective of ITF, the establishment of SIWES by the industrial training fund as well as the management in SIWES programme viz: Planning strategies for enhancing SIWES programme, the role of motivation in enhancing the productivity of SIWES programme workforce, the co-ordination of SIWES programme for improved efficiency and the role of controlling for improved efficiency of SIWES programme in tertiary institutions of Kebbi and Sokoto states were integrated in the chapter. Skills acquisition programme in Nigeria was also incorporated, some of the related empirical studies were reviewed and the summary of the literature reviewed was also discussed. Literature reviewed in this study revealed that most of the partnership strategies were not being utilized and co-ordination of the existing strategies is poor (Amasa, 1995). There has been a concensus that the production of trained industrial personnel through quality training programme could be better achieved when there is a closer working relationship between industries and technical institutions in the country (Dangana, 2000 and Atsumbe, 2000).

However, it appears as if there is poor management of SIWES programme in tertiary institutions of Kebbi and Sokoto states which may not be unconnected with lack of proper planning and coordination of relationship between the schools and industry. The related empirical studies reviewed revealed studies in the area of school-industry partnership and affective work competencies for a smooth school-industry transition. The studies were very useful as they relates to the purpose for which siwes was established

for. The studies reviewed advocated for a closer working relationship between industries and technical institutions through the establishment of school – industry consultative council to enhance vocational training. Critiques have recommended that the tertiary institutions in collaboration with industries should frequently organize workshops, seminars and conferences to review training content area with the aim of designing an effective curriculum for tertiary institutions (vocational and technical) that is essentially related to occupations in industries. This is very much in line with the view of the researcher.

The fact that SIWES is aimed at enhancing skill acquisition among students, it is clear that there is a serious mismatch between the quality of graduates and the labour market requirements. This study therefore intends to investigate such factors responsible for this mismatch with a view to proffering solutions that will help the attainment of SIWES goals.



## **CHAPTER III**

### **METHODOLOGY**

This chapter described the procedure adopted in carrying out the research study. It therefore dealt with the research design, area of the study, population of the study, sample, instrument used for data collection, validation of the instrument, administration of the instrument and method of data analysis.

#### **Research Design**

The design used was a descriptive survey to study the characteristic features of a group of people by collecting and analyzing data from only a few people considered to be representative of the entire group. The study was aimed at eliciting opinion of SIWES administrators from various institutions such as ITF co-ordinators, SIWES supervisors and students of tertiary institutions of Kebbi and Sokoto states on the assessment of the management of students industrial work experience scheme in tertiary institutions of Kebbi and Sokoto states.

#### **Area of the Study**

The areas covered for this study were Kebbi and Sokoto states due to their similarities in terms of weather and climatic conditions as well as cultural background. Sokoto state is located on latitude  $4^{\circ}$  and  $6^{\circ}$  North and longitude  $12^{\circ}$  and  $14^{\circ}$  South of the equator with its capital at Sokoto in the extreme North -West. Sokoto state is bordered by Niger Republic in the North, Zamfara state in the East and South-East.

It is equally boarded by Kebbi state in the West and South -West with a total landmass of about 28,232.37 square kilometer.

Meanwhile, Kebbi state is located on latitude 4<sup>0</sup> and 6<sup>0</sup> North and longitude 10<sup>0</sup> and 13<sup>0</sup> South of the equator. Kebbi state has its capital in Birnin Kebbi with a total area of about 36,229 square kilometer. It is bordered by Zamfara state in the East, Niger state in the South and South - East respectively and internationally shared borders with Niger and Benin Republics in the West and South-West respectively. (See Appendix A)

### Population of the Study

The target population for this study was made up of two groups:

- i. All students of vocational/technical education in tertiary institutions of Kebbi and Sokoto states who participated in SIWES programme.
- ii. All SIWES administrators of tertiary institutions offering vocational/technical education in Kebbi and Sokoto states.

The overall target population is summarized according to tertiary institutions offering vocational/technical education in table 1 below:

**Table 1: Distribution of Population According to Institutions**

S/N	Name of institution	No of students	No of SIWES Administrators
1.	CAS	161	6
2.	C A Z	382	9
3.	SSCOE Sokoto	135	5
4.	SSP Sokoto	527	15
5.	UDUS	194	11
6.	WUFP Birnin Kebbi	819	23
	<b>TOTAL</b>	<b>2218</b>	<b>64</b>

**Key:**

- CAS :- College of Administration, Sokoto
- CAZ :- College of Agriculture, Zuru
- SSCOE :- Shehu Shagari College of Education, Sokoto
- SSP :- Sokoto State Polytechnic, Sokoto
- UDUS :- Usman Danfodio University, Sokoto
- WUP :- Waziri Umaru Federal Polytechnic, Birnin Kebbi

**Sources:**

College of Administration Sokoto, SIWES Unit (2007)

College of Agriculture Zuru, SIWES Unit (2006)

Shehu Shagari College of Education, Sokoto SIWES Unit (2007)

Sokoto State Polytechnic Sokoto, SIWES Unit (2007)

Usman Danfodio University Sokoto, SIWES Unit (2007)

Waziri Umaru Polytechnic Birnin Kebbi, SIWES Unit (2006)

**Sample**

Stratified random sampling technique was used to elicit the opinion of the respondents on assessment of the management of students industrial work experience scheme in tertiary institutions of Kebbi and Sokoto states. There were two groups of respondents in the sample with the following allocations: All SIWES administrators in the two states were used for the study. (All together, 64 administrators of SIWES were used as respondents).

20% of all the students that participated in SIWES programme from each institution were used as follows:

20% of 161 =	32 for CAS
20% of 382 =	76 for CAZ
20% of 135 =	27 for SSCOE Sokoto
20% of 527 =	105 for SSP Sokoto
20% of 194 =	39 for UDUS
20% of 819 =	162 for WFUP Birnin Kebbi
<b>Total</b>	<b>= 441</b>

Hence, all the 441 students and 64 administrators of SIWES in these institutions making up a total of 505 respondents were used for this study:

1. Group one comprising all the 64 administrators of SIWES in these institutions during 2006/2007 academic session.
2. Group two comprising all the 441 students that participated in SIWES programme in these institutions during 2006/2007 academic session.

### **Instrument for Data Collection**

A structured questionnaire items addressing research questions were used to elicit responses from the respondents of the study. Four-points rating scale was used to elicit information from the respondents. This was tagged Assessment of the Management of SIWES Questionnaire (AMSIWESQ) .See Appendix E

The instrument was divided into four sections, A, B, C, & D. Section 'A' addressed general information about the respondents; Section B was on the current methods of Implementing SIWES programme, section C was on the problems hindering effective management of SIWES programme while section D focused on the strategies for improving SIWES programme management in tertiary institutions of Kebbi and

Sokoto states. The rating scale used for research question 1 was strongly Agree (SA), Agree (A), Disagree (D) & strongly Disagree (SD); Research question 2 was rated as very serious (VS), serious (S), Mild (M) and very mild (VM) while research question 3 was rated as very important (VI), Important (I), Fairly Important (FI) and Not Important (NI).

### **Validation of the Instrument**

The instrument was face and content validated by the supervisor and two other experienced senior lecturers who critically examined and corrected the instrument. These lecturers were drawn from the Department of Industrial and Technology Education, Federal University of Technology, Minna. Their suggestions and recommendations as relates to relevance to research questions as well as ambiguity of sentences were used to effect corrections before the final draft was produced and administered to the respondents. Some of their suggestions include: To use four points rating scale against the earlier proposed five points rating scale, to avoid loading items with long sentences, to be clear and straight to the point, to choose a rating scale as relates to a particular research question. Based on their suggestions also, the generated items were screened down from 93 to 61 items.

### **Reliability of the Instrument**

In order to establish the reliability of the instrument, a pilot – test was carried out on 10 Administrators and 20 Students drawn from Abdu Gusau Polytechnic Talata Mafara and Federal College of Education (Technical) Gusau in Zamfara state. A total sum of 30 respondents were used for the pilot – testing but do not form part of the

study. The index for the various sections were 0.72 for section B, 0.88 for section C and 0.74 for section D while the reliability coefficient of 0.78 was obtained using split half method (pearson product moment correlation coefficient). This indicated that the instrument used was consistent and reliable.

### **Administration of the Instrument**

The administration of the instrument was carried out personally by the researcher with the help of research assistants. A briefing session with the research assistants preceded the administration of the instrument. Five hundred and five (505) questionnaire was distributed while only four hundred and ninety eight (498) of the questionnaire was retrieved making a total return of (98.6%). The retrieval of the questionnaire was done immediately after completion to avoid mutilation. See Table 2 below:

**Table 2**  
*Distribution and Return Rate of Questionnaire According to Institutions*

S/N	State	Institution	Distributed	Returned	% Returned
1.	Kebbi	CAZ	85	85	100
2.	"	WUFP B/K	185	181	97.8
3.	Sokoto	CAS	38	38	100
4.	"	SSCOE	32	31	96.9
5.	"	SSP	125	123	98.4
6.	"	UDUS	50	50	100

### **Method of Data Analysis**

Data collected for this study was organized and analysed based on the research questions. Data concerning each item was analysed using mean and standard deviation while t-test was employed to analyse the hypotheses at 0.05 level of significance and interpreted relative to the concept of limits of values 1 to 4 as on the four points rating scale used for the study. This implies that the lower and upper limits of values 1 to 4 were considered in making the point of decision for mean values of response categories. (See Appendix F).

### **Decision Rule**

Nominal Values of 1-4 points were assigned to different items in the questionnaire. The cut-off point for decision making was based on the mean value of 2.50 and above for the responses considered agreed, serious, and important while mean value less than 2.50 were considered disagreed, mild and not important. The hypotheses that were tested using t-test at 0.05 level of significance. Hypotheses were considered significance where the calculated t-value is equal or greater than the t-table while the hypotheses were considered not significant where the calculated t-values were less than the t-table value.

## CHAPTER IV

### PRESENTATION AND ANALYSIS OF DATA

This chapter presents an analysis of the data collected in this study. The data obtained was analyzed according to the research questions and hypotheses that guided the study while t-test was employed to test the hypotheses at 0.05 level of significance.

#### Research Question 1

What are the Current Methods of Implementing SIWES Programme in Tertiary Institutions of Kebbi and Sokoto States?

**Table 3: The Mean ratings of Respondents on the Current Methods of Implementing SIWES Programme.**

S/N	ITEM	N <sub>1</sub> = 64		N <sub>2</sub> = 441		REMARK
		$\bar{X}_1$	$\bar{X}_2$	$\bar{X}_t$		
1.	Long term plans are made by administrators of SIWES programme	2.43	1.67	2.05		Disagree
2.	Every work to be carried out is guided by rules and regulations.	3.40	3.80	3.60		Agree
3.	Plans are usually well implemented in SIWES programme.	2.29	2.01	2.15		Disagree
4.	Full utilization of personnel is planned	2.25	2.15	2.20		Disagree
5.	Students are being placed by the Institution's SIWES Unit	2.24	1.96	2.10		Disagree
6.	Students are being placed in areas relevant to their course of study	1.50	2.90	2.20		Disagree
7.	Students' residential locations are considered during SIWES placement	2.50	2.00	2.25		Disagree
8.	Goals and objectives of SIWES are specified to guide plans	3.50	3.10	3.30		Agree



		N <sub>1</sub> = 64		N <sub>2</sub> = 441		Continuation of Table 3	
S/N	ITEM	$\bar{X}_1$	$\bar{X}_2$	$\bar{X}_t$	REMARK		
9.	Accomplishment of activities are Planned and timed	2.50	2.20	2.35	Disagree		
10.	Plans are usually backed with strategies to ensure success.	2.61	1.99	2.30	Disagree		
11.	Plans developed are usually feasible within time limits Organized	2.06	2.40	2.23	Disagree		
12.	Availability of modern equipment and machinery in the training establishment	1.95	2.25	2.10	Disagree		
13.	Logbook is introduced to provide adequate guide for students and supervisors.	3.59	3.41	3.50	Agree		
14.	Logbook provides information on the practical experience a trainee undergo during SIWES programme.	3.11	3.59	3.35	Agree		
15.	Tertiary institutions operate a separate budget for SIWES programme	3.14	2.76	2.95	Agree		
16.	Tertiary institutions organizes sensitization campaign that involve visits to relevant industries and establishments.	3.21	2.89	3.05	Agree		
17.	Tertiary institutions organize workshops for SIWES co-ordinators and supervisors to update their knowledge on SIWES activities	2.86	2.44	2.65	Agree		
18.	Students are provided with entrepreneur training during industrial attachment	3.92	3.48	3.70	Agree		
19.	Orientation programme is organized for prospective SIWES students by ITF in collaboration with employers of labour.	3.77	3.53	3.65	Agree		
20.	Industry – based supervisors give students adequate attention.	1.49	2.61	2.05	Disagree		

S/N	ITEM	Continuation of Table 3			REMARK
		$N_1 = 64$	$N_2 = 441$		
		$\bar{X}_1$	$\bar{X}_2$	$\bar{X}_t$	
21.	Students always fills and presents their log books for signing regularly.	2.18	2.04	2.11	Disagree
22.	Students attends the required working hours during the period of attachment.	1.34	1.16	1.25	Disagree
23.	Students are always paid their SIWES allowances regularly.	3.30	2.90	3.10	Agree
24.	Supervisors are adequately funded for supervisory visits.	2.40	2.30	2.35	Disagree

**Key:** $N_1$  = Number of Administrators $N_2$  = Number of Students $\bar{X}_1$  = Mean Responses of Administrators $\bar{X}_2$  = Mean Responses of Students $\bar{X}_t$  = Mean Responses of all Respondents ( $\frac{\sum X}{N}$ ) Where N is the total number of Respondents

Table 3 above shows that the respondents agreed with items 2,8,13,14,16,17,18 and 19 which correspond with the means 3.30,3.50, 3.35, 2.50, 3.50, 2.65, 3.70 and 3.65 respectively. The respondents however indicated their disagreements with the items 1,3,4,5,6,7,9,10,11,12,15,20,21,22,23 and 24 which corresponds with the means 2.05, 2.15, 2.20, 2.10, 2.20, 2.25, 2.35, 2.30, 2.23, 2.10, 2.15, 2.15, 2.11, 1.25, 2.30 and 2.35 respectively.

**Research Question 2**

What are the Problems Hindering Effective Management of SIWES Programme in Tertiary Institutions of Kebbi and Sokoto States?

**Table 4: The Mean Ratings of Respondents on the Problems Hindering Effective Management of SIWES Programme.**

S/N	ITEM	N <sub>1</sub> = 64		N <sub>2</sub> = 441		REMARK
		$\bar{X}_1$	$\bar{X}_2$	$\bar{X}_t$		
25.	Insufficient funds for running SIWES Programme	2.33	2.69	2.51	Serious	
26.	SIWES programme is too expensive to operate	2.96	2.40	2.68	Serious	
27.	Delay in payment of students' and supervisors' allowances	2.65	3.35	3.00	Serious	
28.	Duplication and omission of beneficiaries of SIWES allowances	3.08	2.10	2.59	Serious	
29.	Lack of proper supervision of students during industrial training.	2.65	2.79	2.72	Serious	
30.	Delay in submission of placement list	1.90	2.20	2.05	Mild	
31.	Disparity between master list and placement list	3.40	2.82	3.11	Serious	
32.	Inconsistency of academic calendar in tertiary institutions	3.60	3.50	3.55	Serious	
33.	Non-effective liaison between industry supervisors and tertiary institutions.	2.69	2.91	2.80	Serious	
34.	Inconsistency in SIWES periods	2.40	1.80	2.10	Mild	
35.	Nonchalant attitude by employers	2.60	2.40	2.50	Serious	
36.	In adequate provision of quality jobs for student's training	1.98	2.12	2.05	Mild	

Table 4 above shows that the respondents indicated serious/very serious on items 25, 26, 27, 28, 29, 31, 32, 33 and 35 which correspond with the means 2.51, 2.68, 3.00, 2.59, 2.72, 3.11, 3.55, 2.80 and 2.50 respectively. The respondents however indicated mild/very mild with items 30, 34 and 36 with means of 2.05, 2.10 and 2.05 respectively.

### Research Question 3

What are the Strategies for Improving SIWES Programme Management in Tertiary Institutions of Kebbi and Sokoto States?

**Table 5**

*The Mean Ratings of Respondents on the Strategies for Improving the Management of SIWES Programme in Tertiary Institutions of Kebbi and Sokoto States.*

S/N	ITEM	N <sub>1</sub> = 64		N <sub>2</sub> = 441		REMARK
		$\bar{X}_1$	$\bar{X}_2$	$\bar{X}_t$		
37.	SIWES programme should be evaluated frequently to sharpen focus	3.26	2.94	3.10	Important	
38.	Priority should be given to professionalism and technical competence when constituting a SIWES unit.	2.69	3.11	2.90	Important	
39.	Institutions should take the full responsibility of SIWES placement for students.	3.42	2.98	3.20	Important	
40.	ITF should device a yardstick for measuring/ evaluating the level of success in implementing SIWES	3.42	2.98	3.20	Important	
41.	Objectives of the programme should be stated in behavioural terms for easy evaluation	2.80	2.60	2.70	Important	

$N_1 = 64$		$N_2 = 441$		Continuation of Table 5	
S/N	ITEM	$\bar{X}_1$	$\bar{X}_2$	$\bar{X}_t$	REMARK
42.	Letters of commendation should be given to distinguished industries and establishments).	2.60	2.44	2.52	Important
43.	Employers of labour should create industrial training Unit in their various organizations.	3.13	2.65	2.89	Important
44.	Institutions should establish a full-fledged SIWES unit.	3.70	3.50	3.60	Important
45.	Data entry interface should be installed at all SIWES participating institutions.	3.80	3.64	3.72	Important
46.	Method of processing supervisors' and students' allowances should be improved.	3.15	3.25	3.20	Important
47.	Deadline for submission of placement lists should be adhered to.	2.88	3.22	3.05	Important
48.	There should be a strong policy regarding acceptance of SIWES students by employers	3.30	3.40	3.35	Important
49.	There should be a well defined work scheme for students to follow	2.82	2.58	2.70	Important
50.	Periodic – test to assess students performance at the place of attachment should be introduced.	3.14	2.84	2.99	Important
51.	Education tax fund should intervene in the provision of vehicles for the scheme.	3.20	3.00	3.10	Important
52.	Orientation of students on SIWES should be taken more serious.	2.98	2.92	2.95	Important
53.	Data transfer from various institutions to the fund's central computer server should be encouraged.	3.48	3.42	3.45	Important
54.	Facilities on the internet should be explored to create flexibility in the management of SIWES programme	2.78	2.82	2.80	Important

		$N_1 = 64$	$N_2 = 441$		Continuation of Table 5	
S/N	ITEM	$\bar{X}_1$	$\bar{X}_2$	$\bar{X}_t$	REMARK	
55.	The decree establishing the ITF and indeed, policy guidelines on SIWES should be strictly adhered to.	3.55	3.65	3.60	Important	
56.	Coordinators' nonchalant attitude to SIWES programme should be tackled	3.50	3.60	3.55	Important	
57.	Employers' negative perception on the impact of SIWES programme should be overcome	3.82	3.58	3.70	Important	
58.	Insufficient number of personnel in the management of SIWES programme should be avoided.	2.93	2.77	2.85	Important	
59.	Appropriate personnel are to be involved in SIWES operations	3.60	3.70	3.65	Important	
60.	Sufficient facilities and equipments at the training establishments for industrial training should be provided.	2.94	2.66	2.80	Important	
61.	Appropriate evaluation procedures for supervisors should be introduced.	3.40	3.80	3.60	Important	

**Key:** $N_1$  = Number of Administrators $N_2$  = Number of Students $\bar{X}_1$  = Mean Responses of Administrators $\bar{X}_2$  = Mean Responses of Students $\bar{X}_t$  = Mean Responses of all Respondents ( $\frac{\sum X}{N}$ ) Where N is the total number of Respondents

Table 5 shows that the respondents indicated as important, all suggested items on the strategies for improving the management of SIWES programme in tertiary institutions of Kebbi and Sokoto States. With mean responses ranging between 2.52 to 3.72.

### Hypothesis 1

There is no significant difference in the mean responses of administrators of SIWES and students on the assessment of the current methods of implementing SIWES programme in tertiary institutions of Kebbi and Sokoto states.

**Table 6**

*t-test analysis of the responses of administrators and students on the assessment of current methods of implementing SIWES programme in tertiary institutions of Kebbi and Sokoto states.*

S/N	ITEM	N <sub>1</sub> = 64		N <sub>2</sub> = 441		df = 503		t-CAL
		$\bar{X}_1$	SD <sub>1</sub>	$\bar{X}_2$	SD <sub>2</sub>			
1.	Long term plans are made by administrators of SIWES programme	2.43	0.21	1.63	0.22	2.01*		
2.	Actions are usually guided by rules	3.40	0.28	3.80	0.27	0.25**		
3.	Plans are usually well implemented	3.29	0.14	2.01	0.16	2.30*		
4.	Full utilization of personnel is planned	2.25	0.23	2.15	0.25	1.51**		
5.	Students are being placed by the Institution's SIWES Unit.	2.24	0.24	1.96	0.23	2.20*		
6.	Students are being placed in areas relevant to Their course of study	1.50	0.20	2.90	0.26	3.30*		
7.	Students' residential locations are considered During SIWES placement	2.50	0.29	2.00	0.27	3.21*		

S/N	ITEM	N <sub>1</sub> = 64		N <sub>2</sub> = 441		df = 503		Continuation of Table 6	
		$\bar{X}_1$	SD <sub>1</sub>	$\bar{X}_2$	SD <sub>2</sub>	t-CAL			
8.	Goals and objectives of SIWES are specified to Guide plans.	3.50	0.29	3.10	0.27	1.14**			
9.	Accomplishment of activities are Planned and timed	2.50	0.22	2.20	0.18	2.17*			
10.	Plans are usually backed with strategies to ensure success	2.61	0.31	1.99	0.29	1.12**			
11.	Plans developed are usually feasible within time limited Organized	2.06	0.27	2.80	0.28	1.28 **			
12.	Availability of modern equipment and machinery in the training establishment	1.95	0.25	2.25	0.24	0.90 **			
13.	Logbook is introduced to provide adequate guide for students and supervisors	3.59	0.15	3.41	0.14	0.80 **			
14.	Logbook provides information on the practical Experience a trainee undergo during SIWES programme	3.11	0.30	3.59	0.28	0.92 **			
15.	Tertiary institutions operate a separate budget for SIWES programme.	3.14	0.34	2.76	0.33	2.82 *			
16.	Tertiary institutions organizes sensitization campaign that involves visits to relevant industries and establishments.	3.21	0.36	2.89	0.35	0.70 **			
17.	Tertiary institutions organize workshops for SIWES Co-ordinators and supervisors to update their Knowledge on SIWES activities	2.86	0.32	2.44	0.28	1.22**			
18.	Students are provided with entrepreneur training During industrial attachment	3.92	0.47	3.48	0.45	1.19**			
19.	Orientation programme is organized for prospective SIWES students by ITF in collaboration with employers of labour	3.77	0.41	3.53	0.40	1.20**			



		N <sub>1</sub> = 64		N <sub>2</sub> = 441		df = 503		Continuation of Table 6		
S/N	ITEM	$\bar{X}$	SD <sub>1</sub>	$\bar{X}$	SD <sub>2</sub>	t-CAL				
20.	Industry – based supervisors give students adequate attention.	1.49	0.24	2.61	0.20	0.89 *				
21.	Students always fills and presents their log books for signing regularly.	2.18	0.30	2.04	0.20	3.01 *				
22.	Students attends the required working hours during the period of attachment	1.34	0.40	1.16	0.38	2.71*				
23.	Students are always paid their SIWES allowances regularly.	3.30	0.41	2.90	0.39	1.07**				
24.	Supervisors are adequately funded for Supervisory Visits	2.4	0.32	2.30	0.28	3.40 *				

**Key:** \* = Significant      \*\* = Not significant      t-table = ±1.96  
SD<sub>1</sub> = Standard Deviation of Administrators  
SD<sub>2</sub> = Standard Deviation of Students

Table 6 above shows that **significant** difference exist in the t-test analysis of responses of administrators and students on the assessment of current methods of implementing SIWES programme in tertiary institutions of Kebbi and Sokoto states. The items are: 1, 3, 5, 6, 7, 9, 15, 21, 22, and 24. These items have their t-cal to be greater than the t-table of 1.96 at 503 df. The values of these items are: 2.01, 2.30, 2.20, 3.30, 3.21, - 2.17, 2.82, 3.01, 2.71 and 3.40 respectively. These items are therefore not significant. However, items 2, 4, 8, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20 and 23 have their t-cal less than the t-table of 1.96, so the null hypothesis is significant.

## Hypothesis 2

There is no significant difference between the mean responses of administrators of SIWES and students who participated in the programme on assessment of the problems hindering effective management of SIWES programme in tertiary institutions of Kebbi and Sokoto states.

**Table 7**  
*t-test analysis of the responses of administrators and students on the assessment of the problems hindering effective management of SIWES programme in tertiary Institutions of Kebbi and Sokoto state.*

S/N	ITEM	N <sub>1</sub> = 64		N <sub>2</sub> = 441		df = 503		t-CAL
		$\bar{X}_1$	SD <sub>1</sub>	$\bar{X}_2$	SD <sub>2</sub>			
25.	Insufficient funds for running SIWES programme	2.33	0.37	2.69	0.35	2.63	*	
26.	SIWES programme is too expensive to operate	2.96	0.34	2.40	0.28	1.44	**	
27.	Delay in payment of students' and supervisors' allowance	2.65	0.27	3.35	0.22	2.77	*	
28.	Duplication and omission of beneficiaries of SIWES allowances	3.08	0.27	2.59	0.31	-3.21	*	
29.	Lack of proper supervision of students during Industrial training	2.65	0.21	2.79	0.23	1.36	**	
30.	Delay in submission of placement list	1.90	0.42	2.90	0.38	2.55	*	
31.	Disparity between master list and placement list	3.40	0.44	2.82	0.49	-2.93	*	
32.	Inconsistency of academic calendar in tertiary Institutions	3.60	0.36	3.50	0.21	1.26	**	
33.	Non-effective liaison between industry supervisors And tertiary institutions	2.69	0.30	2.91	0.27	1.54	**	
34.	Inconsistency of SIWES periods	2.40	0.42	1.80	0.41	3.12	*	
35.	Nonchalant attitude by employers	2.60	0.27	2.40	0.28	1.15	**	
36.	In adequate provision of quality jobs for student's training	1.98	0.33	2.12	0.27	1.70	**	

**Key:** \* = Significant      \*\* = Not significant      t-table =  $\pm 1.96$

SD<sub>1</sub> = Standard Deviation of Administrators

SD<sub>2</sub> = Standard Deviation of Students

Table (7) above shows that significant difference exist in the t-test analysis of responses of administrators and students on assessment of strategies for effective management of SIWES programme management in tertiary institutions of Kebbi and Sokoto states. These items are: 25, 27, 28, 30, 31 and 34, with values of t-cal as 2.63, 2.77, -3.21, 2.55, -2.93 and 3.12. These values are greater than the t-table of  $\pm 1.96$ , so the null hypothesis is significant.

### Hypothesis 3

There is no significant difference between the mean and responses of administrators of SIWES and students on the assessment on the strategies for improving the management of SIWES programme in tertiary institutions of Kebbi and Sokoto states.

**Table 8**

*t-test analysis of the responses of administrators and students on the strategies for improving the management of SIWES programme in tertiary institutions of Kebbi and Sokoto states.*

S/N	ITEM	N <sub>1</sub> = 64		N <sub>2</sub> = 441		df = 503		T-CAL
		$\bar{X}_1$	SD <sub>1</sub>	$\bar{X}_2$	SD <sub>2</sub>			
37.	SIWES programme should be evaluated frequently to sharpen focus	3.26	0.39	2.94	0.33	-1.51**		
38.	Priority should be given to professionalism and technical competence when constituting a SIWES unit	2.69	0.31	3.11	0.25	0.98 **		
39.	Institutions should take the full responsibility of SIWES placement for students	3.42	0.28	2.98	0.20	-1.23**		
40.	ITF should device a yardstick for measuring/ evaluating the level of success in implementing SIWES	3.42	0.42	2.98	0.39	1.55 **		
41.	Objectives of the programme should be stated in behavioural terms for easy evaluation	2.80	0.22	2.60	0.23	2.32**		

and untimely change of direction which causes weakness if not disaster in an organization (Fayol, 2000). The findings of the study also revealed that students attend the required working hours during the period of attachment which is in line with some of their expected roles in the implementation of the SIWES programme as enshrined in the information and guidelines for students industrial work experience scheme (2004). The findings of the study revealed that plans are not usually well implemented in SIWES programme which obviously hinders the effectiveness of the scheme based on the observations made by Ayeni (2004) who identified lack of effective planning and implementations among other things as one of the factors of failure of the scheme in the realization of its set objectives.

#### ***Problems Hindering Effective Management of SIWES Programme***

The findings of the study with respect to the problems hindering effective management of SIWES programme revealed that there is: Insufficient funds for running SIWES programme, Delay in payment of students' and supervisors' allowances, Inconsistency in SIWES periods, Duplication and Omission of beneficiaries of SIWES allowances as well as a Disparity between master list and placement list. These problems were identified by Ojo (2005) who pointed out that within thirty years of existence, SIWES had received wide and variety of write ups, analysis, discussions and amendments on its viability, modes of operations and financing.

#### ***Strategies for improving SIWES programme management***

Findings of this study with respect to strategies for improving SIWES programme management in tertiary institutions of Kebbi and Sokoto states, (table 5) revealed that the respondents agreed that letters of commendations should be given to distinguished

Industries and establishments in order to motivate such organizations/Establishments towards realizing the set goals and objectives of the programme. This is in line with the opinion of Ogwo (2004) who explained that motivation can be used in stimulating movements or action in an organism or establishment at large.

The findings also revealed that, there should be a strong policy statement regarding acceptance of SIWES students by employers, Periodic – test to assess students' performance at the place of attachment should be introduced and appropriate evaluation procedures for supervisors should be introduced. This implies that there is the needs to employ other methods so as to make the effectiveness of SIWES programme more responsive which is in line the statement of Okorie and Ezeji (1988) cited in Erene et al (2000) that technical skills call for understanding and proficiency in specific activity, particularly when involving methods, processes, procedures and techniques.

This section presents a discussion on hypothesis that guided the study as follows: The result presented in table 6 on hypothesis 1 revealed that significant difference exist in the t-test analysis of responses of administrators and students on the assessment of current methods of implementing SIWES programme in tertiary institutions of Kebbi and Sokoto states which is in line with the observations made by Ayeni (2004) that, there is lack of effective planning and coordination of students industrial work experience scheme which results in the production of half baked skill manpower. The result presented in table 7 on hypothesis 2 indicated that there is a significant difference in the t-test analysis of responses of administrators and students on the assessment of problems hindering effective management of SIWES programme in tertiary institutions of Kebbi and Sokoto states which corresponds with the opinion of Ojo (2005) who stressed that,

within thirty years of existence, SIWES had received wide and variety of write-ups, analysis, discussions and amendments on it's viability, modes of operations and financing.

The result in table 8 on hypothesis 3 revealed that significant difference exist in the t-test analysis of responses of administrators and students on the assessment of strategies for improving the management of SIWES programme in tertiary institutions of Kebbi and Sokoto states which is in line with opinion of Imel (2001) who explained that motivation is a very important but often difficult part of a managers' task to build up the 'morale' or 'team spirit' of the workforce.

#### **Summary of the Study**

This study was conducted by the use of descriptive survey research design employed to assess the management of students work experience scheme in tertiary institutions. To realize this objective, a 61 items structured questionnaire was developed and used for data collection. The instrument was face and content validated by three senior lecturers drawn from the Department of industrial and Technology Education, Federal University of Technology, Minna. The reliability of the instrument was determined using cronbach's Alpha method of determining internal consistency, which yielded a reliability coefficient of 0.78. The instrument was also divided into sections A - D.

Section A dealt with general information about the respondents, section B dealt with current methods of implementing SIWES programme in tertiary institutions, section C. dealt with the problems hindering effective management of SIWES Programme in tertiary institutions while section D dealt with the strategies for improving the

management of SIWES programming in tertiary institutions. A total of 505 copies of the questionnaire were distributed to the respondents but only 498 were returned representing a return rate of 98.6%. Mean and Standard Deviation were used to answer the three research questions while t-test was employed to test the hypothesis at 0.05 level of significance.

The findings of the research revealed among other things that, students are not being placed by the institution's SIWES unit, Tertiary institutions do not operate a separate budget for SIWES programme, Insufficient funds for running SIWES, Delay in payment of Supervisors, and students' allowances, Duplication and omission of beneficiaries of SIWES allowances and inconsistency in SIWES periods.

#### **Implications of the Study**

The finding of this study have serious implication considering the facts that a lot of factors contributed immensely to the fallen standard of SIWES programme. The findings have implications for Government, Industrial Training Fund, Tertiary Institutions, Administrators of SIWES and Students at large. One of the major findings of the study that the respondents agreed was there is insufficient funds for smooth running of SIWES programme. The implication of this to the Government is that more financial commitments is required to improve the management of the programme. Other findings of the study with specific reference to the current methods of implementing SIWES programme indicated that plans are not usually well implemented students are not being placed by the institutions SIWES units, as well as tertiary institutions do not operate a separate for SIWES programme. The implication of these is that the policy makers of SIWES programme must sit – up and re – structure their programme in must a way that it

will be able to play a vital role of improving the skills acquisition of students and thus making it more responsive.

Another important finding of this study on the problems hindering effective management of SIWES programme revealed that, there is delay in payment of supervisors and students allowances Duplication and Omission of beneficiaries of SIWES allowances Delay in submission of placement list, Disparity between master and placement list as well as inconsistency in SIWES periods. The implications of these problems demand that the ITF. The SIWES units, the Administrators of SIWES, the students of tertiary institutions as well the tertiary institutions must work hand in hand with one another toward overcoming these problems so as to improve the effectiveness of the scheme in its roles of improving the skills development of students and thus making them self – reliant individuals in the society.

The findings of this study with respect to strategies for improving the effectiveness of SIWES programme revealed that: letters of commendations should be given to distinguished industries and statement regarding the acceptance of SIWES students, periodic – tests to asses students performance at the place of attachment should be introduced as well as appropriate evaluation procedures for supervisors should be introduced. The implications of these strategies demands that the SIWES units, the institutions, the administrators of SIWES and the students of tertiary institutions has various roles to play in the adoption of these and some other approaches for effective management of SIWES programme in tertiary institutions.



## **Conclusions**

Based on the findings from this study are the following conclusions that: Students are not being placed by the institutions SIWES units, Tertiary institutions do not operate a separate budget for SIWES programme, Students attends the required Working hours during the period of attachment, plans are not usually well implemented, there is insufficient funds for running SIWES programme, There is delay in payment of students' and supervisors' allowances, There is delay in submission of placement list, There is problem of duplication and Omission of beneficiaries of SIWES allowances, There is a problem of disparity between master list and placement list. There is inconsistency in SIWES periods, Letters of commendation should be given to distinguished industries and establishments, There should be a strong policy statement regarding acceptance of SIWES students by employers, periodic – test to assess students' performance at the place of attachment should be introduced as well as appropriate evaluation procedures for supervisors should be introduced.

## **Recommendations**

Based on the findings of this study, the following recommendations that will improve the effectiveness in the management of students industrial work experience scheme in tertiary institutions of Kebbi and Sokoto state are made:

1. Students should be placed by the institutions' SIWES units.
2. Tertiary institutions should operate a separate budget of SIWES programme
3. Adequate funds for smooth running of SIWES programme should be provided
4. Prompt payments of students' and supervisors' allowances should be adhered to.
5. Problems of duplication and omission of beneficiaries of SIWES allowances as well as

Delay in submission of placement list should be overcome.

6. Letters of commendation should be given to distinguished industries and establishments.
7. There should be periodic – test to assess students' performance at the place of attachment.

### **Suggestions for Further Research**

For the purpose of further research, the following suggestions are made;

1. Problems of inadequate funding of SIWES programme in tertiary institutions
2. Strategies for improving school – industry relationship for effective SIWES programme in tertiary institutions
3. Follow – up study on the performance of students after acquiring skills from SIWES programme

## References

- Achi, P.B.U. (2002) "Dislocation in the tertiary education management" The National Summit on Higher Education ECOWAS Secretariat, Abuja – Nigeria
- Adebayo, S.A. (2003) Contribution of SIWES towards the Development of Nigerian Certificate of Education N.C.E. Technical (Elect – Elect) in Kwara State, Unpublished Bachelor's thesis, Department of Industrial and Technology Education, Federal University of Technology Minna – Nigeria.
- Ajisoye, J. S. & Wamyo, O. (2002) "Enhancing professionalism in engineering through Students Work Experience Programme (SWEP)". Conference proceedings engineering education and sub-regional workshop on New Engineering Curriculum. Pp. 119 – 120. Maiduguri 14<sup>th</sup> – 19<sup>th</sup> August.
- Alan, S. (2003) Motor Trade Management (revised). Retrieved on 10<sup>th</sup> February 2007 from <http://www.nwlink.com/~donclark/hrd/mechanic.html>.
- Amaewhule, W. (1989), State and Relevance of Industrial Attachment for Faculties of Education: An Exploration.
- Amasa, G.D. (1995) Strategies for improving partnership between Industries and Technical institutions for effective vocational training in Kaduna State. Unpublished M.Ed thesis. Department of Vocational Teacher Education, University of Nigeria, Nsukka.,
- Armstrong, N. (2000) The New Management Handbook: A reference guide to the best in management practice. Retrieved on 20<sup>th</sup> March 2007 from <http://www.nwlonk.com/~donclark/hrd/history.html>.
- Atsumbe, B. N. (2002) Needed Improvements on the curriculum of the Technical College Mechanical Engineering Craft Practice. Unpublished Ph.D Thesis, Department of Vocational Teacher Education, University of Nigeria, Nsukka – Nigeria.
- Atsumbe, B. N. (2005) School – Industry partnership: A veritable Tool for Quality Technology Education. A published paper presented at the 6<sup>th</sup> Annual Engineering Conference held at Federal University of Technology Minna. 15<sup>th</sup> – 17<sup>th</sup> June.
- Atsumbe, B. N. (2006) Impact of SIWES on Practical Skills Development of Mechanical Students of Industrial and Technology Education. A Journal of Educational Research and Development. Volume 1 Number 2, July (55 – 59).
- Awojobi, A. O. (2005) Effectiveness of SIWES as a link between Non - Formal Vocational Technical Education for Sustainable Youth Empowerment, 18<sup>th</sup> Annual National Conference of Rivers – Nigeria.

- Ayeni, A. J. (2004) The use and improvisation of instructional materials in the teaching and learning process as it affects Technical Education. A published paper presented at the Workshop on improving Technical / Learning process held at Federal Science and Technical College Zuru - Nigeria. 23<sup>rd</sup> – 24<sup>th</sup> September.
- Azam, M.S. & Brauchle, P.E. (2003) A study of Supervisor and Employee perceptions of Work attitudes in information age Manufacturing Industries. *Journal of Vocational Education Research*, 28 3 (185 – 186).
- Dangana, D. M. (2000) Affective Work Adjustment competencies considered Important by Vocational Technical Educators and Employers for Smooth School – Industry Transition. Unpublished M. ED Thesis. Department of Vocational Teacher Education, University of Nigeria, Nsukka.
- Dikko, M. (2000) The Necessary Steps to Closer Cooperation Between Industries and Institutions of Higher Learning in Nigeria. A paper presented at the workshop on scientific research and the Nigerian industries Ilorin: University of Ilorin.
- Dyankov, A (2006) Improving Capabilities of trainees and exposition to the economic use of resources for the enhancement of productivity in the work place. *United State of American Journal of Studies in Technical Career*. 6 (4) 250-253.
- Edward, L. (2004) Organization in a dynamic World. Retrieved on 17<sup>th</sup> March, 2007 from <http://www.authorxchange.com/us/home.jsp>.
- Fakorede, I.A. (1998) Industrial Work Experience and technical/vocational Education. Enugu Spectrum books publishing Co.
- Fayol, B.G. (2000) Academy of Management Review. Retrieved on 15<sup>th</sup> March, 2007 from <http://www.mambodesign.com/index.html>.
- Federal Republic of Nigeria (2004) National Policy on Education 4<sup>th</sup> Edition Lagos: NERDC Press.
- Frederickson, W. (2001) Organizational behaviour management. Retrieved on 17<sup>th</sup> March, 2007 from <http://www.business.global.html>
- Hornby, A.S.(1995), Oxford Dictionary of Current English. New York: Oxford University Press
- Imel, S. (2001) Workforce Education: Beyond Technical Skills. Retrieved on 22<sup>nd</sup> March, 2007 from <http://www.ERIC/ACVE/publications>.
- Information and Guidelines for SIWES: Industrial Training Fund (Revised, 2004). Jos – Nigeria.

- Industrial Training Fund, (1990) Students Industrial Work Experience Scheme (SIWES) Operational guidelines. Jos – Nigeria .
- Industrial Training Fund, (2007) Manpower Training and Development Programmes, Jos – Nigeria .
- Industrial Training Fund, (2004) Industrial Training Fund, 9<sup>th</sup> Bienial SIWES National Conference, Jos – Nigeria. 13<sup>th</sup> – 14<sup>th</sup> July.
- Industrial Training Fund, (2006) , 10<sup>th</sup> Bienial SIWES National Conference, Lokoja – Nigeria .
- International Labour Organization, (2000) ILO: Training for Employment: Social Inclusion, Productivity and Youth Employment. Geneva.
- Irene, N. M., Tukura, H., Atsumbe, B. Ma'aji, S. (2000) An introduction to vocational guidance and occupational information. Minna : Shemsy printing and publishing Co.
- Jemerigbe, H.I. (2004) "Enhancing National Industrial Skills Acquisition process through Students Industrial Work Experience Scheme (SIWES). A paper presented at the 9<sup>th</sup> Biennial SIWES National Conference, Jos. 13<sup>th</sup> – 14<sup>th</sup> July.
- Jen, S.U. (2002) Issues and constraints in Polytechnic Education in Nigeria, paracelete publishers, Yola – Nigeria.
- Lanre, S. (2002) The Development Management and Prospects of Engineering Consultancy practice in Nigeria: proceedings of National Engineering Conference of Nigerian Society of Engineers Kaduna – Nigeria.
- Mahmoud , A. O. (2001) Evaluation of Students Industrial Work Experience Scheme (SIWES) in Federal Technical College , Shiroro, Kuta – Niger State. Unpublished Post Graduate Diploma Thesis, Department of Industrial and Technology Education, Federal University of Technology Minna – Nigeria.
- National Board for Technical Education (2003). Electrical Installation and maintenance work. Curriculum and Module specifications Kaduna: NBTE Publication Unit.
- NUC, (2004) The report of the Chief Executive Secretary, National University Commission at the 9<sup>th</sup> Bienial SIWES National Conference held at Hill station Hotel Jos – Nigeria. 13<sup>th</sup> – 14<sup>th</sup> July.
- Nwajugu, C.O. (2004) SIWES – A Continuum of practical Academic Assessment. A paper presented at the 9<sup>th</sup> Bienial SIWES National Conference held at Hill station Hotel Jos, - Nigeria. 13<sup>th</sup> – 14<sup>th</sup> July.

- Obi, G.O. (2003) Approaches to programme planning in Adult Education in F.C. Okafor, E.O. Okeem, T.A. Ume, & J.I. Mereni, (Eds). Administration of Adult Education. Obosi: pacific publishers.
- Ogwo, B.A. (2004) Improvisation in teaching and Learning. (A commissioned paper presented at the train - the - teacher workshop for capacity Building of Lecturers in Colleges of Education, organized by Education Tax Fund (ETF).
- Ojo, O.J. (2005) Impact Assessment of Students Industrial Work Experience Scheme (SIWES) on Selection of final year practical project. Unpublished Bachelor's thesis. Department of Industrial and Technology Education, Federal University of Technology Minna – Nigeria.
- Okonkwo, O. (1986) "The SIWES in Nigerian Polytechnics, an Explanatory Analysis". Nigerian Journal of Technical Education 12, 1 & 2 Kaduna: NBTE (153 – 155).
- Okonkwo, S.C. (2003) The Effects of Industrial Work Experience on the Career aspiration and self esteem of students of Federal Polytechnic, Nasarawa. Unpublished Bachelor's thesis. Department of Industrial and Technology Education, Federal University of Technology Minna – Nigeria.
- Okozor, D.O. (2001) Skill acquisition for sustainable poverty alleviation in Nigeria. *Technology Education and Poverty Alleviation in Nigeria*. NATT conference proceeding Umunze 31-35
- Olaitan, S.O., Nwachukwu, C.E., Onyemachi, G., Igbo, C.A., & Ekong, A.O. (1999) Curriculum Development and Management in vocational Technical Education, cape publishers International limited, Onitsha – Nigeria.
- Onyeukwu, F.O.N. (2000) Strategies aimed at Improving the Students Industrial Work Experience Scheme (SIWES) in Colleges of Education in Nigeria. Journal of Nigerian Association of Teachers of Technology 3, 2 (430 – 435).
- Oxford Minireference dictionary: Great Britain: Oxford University Press.
- Peters, J. T. (2007) plant and equipment maintenance. The Journal of American Association of Teacher Education in Agriculture (23).
- Sa'eed M.D. (2000) Motivation of Workers in an Organization (A case study of UBA, Aliyu Jedo road, Sokoto). Unpublished Master's thesis. Department of Budgeting and Finance, Usman Danfodio University Sokoto – Nigeria.
- Schermerhorn, J.R. (2002) Management, Seventh Edition. Retrieved on 5<sup>th</sup> March 2007 from <http://www.wiley.com/college/Schermerhorn.html>.

Soanes, C. (2001). Oxford Dictionary of current English. New York: Oxford University Press.

Steven, R.C. (2000) School leadership. Retrieved on 10<sup>th</sup> February, 2007 from <http://www.10rrainemonre.com>.

Thomas, T. (2005) Conflicts Management. Retrieved on 22<sup>nd</sup> March, 2007 from <http://www.catalystwomen.org/home.html>.

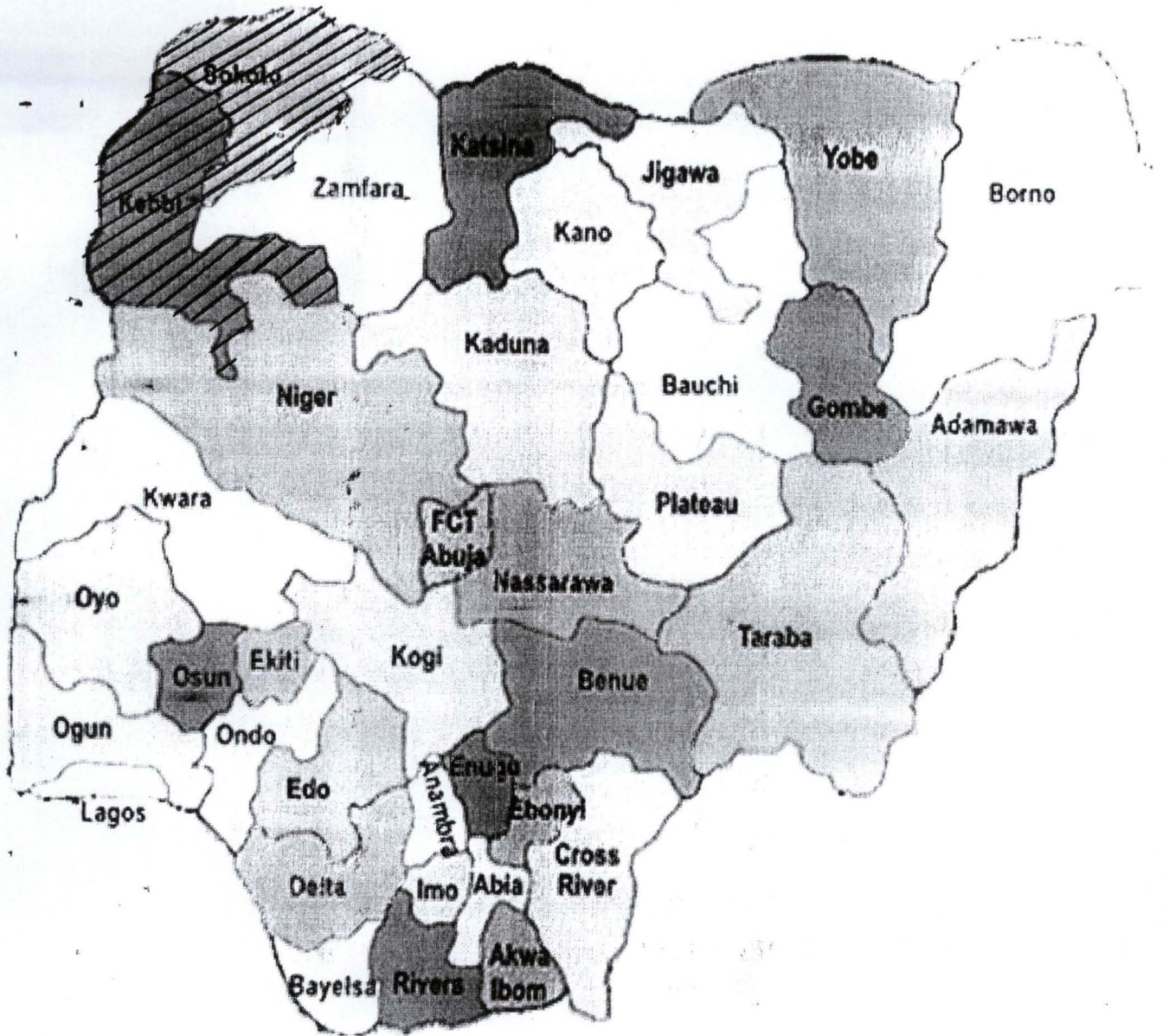
Umoh, M. (2003) An Introduction to Vocational & Technical Education in Nigeria, Franedoh publishers (Nig.) Ltd. Calabar – Nigeria.

# APPENDICES



APPENDIX A

A MAP SHOWING GEOGRAPHICAL LOCATION OF KEBBI AND SOKOTO STATES



Key:  Symbol Indicating the Study Area

Source: Kebbi State Government Dairy, 2008

**Appendix B**

Department of Industrial and Technology Education  
Federal University of Technology  
School of Science and Science Education  
Minna, Niger State  
15-08-2007

.....  
.....  
.....

Dear Sir,

**REQUEST FOR VALIDATION OF INSTRUMENT**

I am a postgraduate student of Industrial and Technology Department, School of Science and Science Education, Federal University of Technology Minna. My research project is on "ASSESSMENT OF THE MANAGEMENT OF STUDENTS INDUSTRIAL WORK EXPERIENCE SCHEME IN TERTIARY INSTITUTIONS OF KEBBI AND SOKOTO STATES"

Attached is a draft copy to be used for the instrument of the study. You are kindly requested to rate the items in terms of their suitability and appropriateness in addressing the subject matter, also add any item(s) you consider suitable which might have been omitted and correct any ambiguity in any of the items (use additional sheets attached).

Your contribution towards the success of this work is highly appreciated.

Yours faithfully,

**Hamza M. Dankolo**  
M.Tech./SSSE/2004/1165

Appendix C

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA DEPARTMENT OF INDUSTRIAL AND TECHNOLOGY EDUCATION

AUTO TECHNOLOGY
BUILDING TECHNOLOGY
ELECT/ELECT TECHNOLOGY
METAL TECHNOLOGY
WOOD TECHNOLOGY
DATE: 27-08-2008

Your Ref:.....
Our Ref:.....
.....
.....

LETTER OF INTRODUCTION FOR CANDIDATES CARRYING OUT A RESEARCH WORK

..... is a postgraduate student of the Department of Industrial and Technology Education of the Federal University of Technology, Minna. He/She is currently undertaking a research work on

.....
.....
.....

It would be highly appreciated if you could supply him/her with the information he/she may require from you. All information from you will be treated confidentially.

Thank you so much for your cooperation.

Handwritten signature and date 27-08-08
PROF. K.A Salami
Project Coordinator

**Appendix D****LETTER TO RESPONDENTS**

Department of Industrial and Technology  
Education  
School of Science and Science Education  
Federal University of Technology  
Minna, Niger State.  
Date:.....

Dear Sir/Madam,

**ASSESSMENT OF THE MANAGEMENT OF SIWES QUESTIONNAIRE**  
**(AMSIWESQ) IN TERTIARY INSTITUTIONS OF**  
**KEBBI AND SOKOTO STATES.**

This questionnaire is designed to assess the management of Students Industrial Work Experience Scheme (SIWES) in tertiary institutions of Kebbi and Sokoto states. Instructions are provided at each section to guide your respond appropriately to the items as they relate to you.

Please be fully assured that any information you may provide will be dealt with as strictly confidential and be used for no other purpose than this study only. Your identity is not required.

Thank you for your anticipated co-operation.

Yours faithfully,

**HAMZA M. DANKOLO**  
M. TECH./SSSE/2004/1165

## Appendix E

### ASSESSMENT OF THE MANAGEMENT OF SIWES QUESTIONNAIRE IN TERTIARY INSTITUTIONS OF KEBBI AND SOKOTO STATES.

#### SECTION A

This section deals with category of the respondents and the type of responsibilities they bear to the scheme. Please tick ✓ in the boxes provided below to indicate the category that apply to you.

1. SIWES Administrator in tertiary institution
2. Student of tertiary institution who participated in SIWES programme

#### SECTION B

This section is concerned with the current methods of implementing SIWES programme in tertiary institutions of Kebbi and Sokoto states. Tick ✓ to indicate the extent a given item is applicable in your own case. The response categories for this section are Strongly Agree (SA); Agree (A); Disagree (D) and Strongly Disagree (SD).

S/N	Question 1: What are the current methods of implementing SIWES programme in tertiary institutions of Kebbi and Sokoto states?	Degree of Applicability			
1.	Long term plans are made by administrators of SIWES programme	SA	A	D	SD
		—	—	—	—
2.	Every work to be carried out is guided by rules and regulations in SIWES programme	—	—	—	—
3.	Plans are usually well implemented	—	—	—	—
4.	Full utilization of personnel is planned	—	—	—	—
5.	Students are being placed by the Institution's SIWES Unit	—	—	—	—

6.	Students are being placed in areas relevant to their course of study	—	—	—	—
7.	Students' residential locations are considered during SIWES placement	—	—	—	—
8.	Goals and objectives of SIWES are specified to guide plans	—	—	—	—
9.	Accomplishment of activities are Planned and timed	—	—	—	—
10.	Plans are usually backed with strategies to ensure success.	—	—	—	—
11.	Plans developed are usually feasible within time limits Organized	—	—	—	—
12.	Availability of modern equipment and machinery in the training establishment	—	—	—	—
13.	Logbook is introduced to provide adequate guide for students and supervisors.	—	—	—	—
14.	Logbook provides information on the practical experience a trainee undergo during SIWES programme.	—	—	—	—
15.	Tertiary institutions operate a separate budget for SIWES programme	—	—	—	—
16.	Tertiary institutions organizes sensitization campaign that involve visits to relevant industries and establishments.	—	—	—	—
17.	Tertiary institutions organize workshops for SIWES co-ordinators and supervisors to update their knowledge on SIWES activities	—	—	—	—
18.	Students are provided with entrepreneur training during industrial attachment	—	—	—	—
19.	Orientation programme is organized for prospective SIWES students by ITF in collaboration with employers of labour.	—	—	—	—
20.	Industry – based supervisors give students adequate attention.	—	—	—	—
21.	Students always fills and presents their log books for signing regularly.	—	—	—	—

22.	Students attends the required working hours during the period of attachment.	—	—	—	—
23.	Students are always paid their SIWES allowances regularly.	—	—	—	—
24.	Supervisors are adequately funded for supervisory visits.	—	—	—	—

### SECTION C

This section deals with the problems hindering effective management of SIWES programme in tertiary institutions of Kebbi and Sokoto states. Tick ✓ to indicate the degree at which each item affects the effective management of SIWES using the following response categories: Very Serious (VS), Serious (S), Mild (M) and Very Mild (VM).

S/N	Question 2: What are the problems hindering effective management of SIWES programme in tertiary institutions of Kebbi and Sokoto states?	Degree of problem			
		VS	S	M	VM
25.	Insufficient funds for running SIWES programme	—	—	—	—
26.	SIWES programme is too expensive to operate	—	—	—	—
27.	Delay in payment of students' and supervisors' allowances	—	—	—	—
28.	Duplication and omission of beneficiaries of SIWES allowances	—	—	—	—
29.	Lack of proper supervision of students during industrial training.	—	—	—	—
30.	Delay in submission of placement list	—	—	—	—
31.	Disparity between master list and placement list	—	—	—	—
32.	Inconsistency of academic calendar in tertiary institutions	—	—	—	—
33.	Non-effective liaison between industry supervisors and tertiary institutions.	—	—	—	—
34.	Inconsistency in SIWES periods	—	—	—	—
35.	Nonchalant attitude by employers	—	—	—	—
36.	In adequate provision of quality jobs for student's training	—	—	—	—

### SECTION D

This Section identifies the modalities for improving the effectiveness on the management of SIWES programme in tertiary institutions of Kebbi and Sokoto states. Please tick ✓ to indicate your opinion about the level of importance of each item using the following scale: Very Important (VI), Important (I), Fairly Important (FI) and Not Important (NI).

S/N	Question 3: What are the strategies for improving SIWES programme management in tertiary institutions of Kebbi and Sokoto states?	Level of Importance			
		VI	I	FI	NI
37.	SIWES programme should be evaluated frequently to sharpen focus	—	—	—	—
38.	Priority should be given to professionalism and technical competence when constituting a SIWES unit.	—	—	—	—
39.	Institutions should take the full responsibility of SIWES placement for students.	—	—	—	—
40.	ITF should device a yardstick for measuring/evaluating the level of success in implementing SIWES	—	—	—	—
41.	Objectives of the programme should be stated in behavioural terms for easy evaluation	—	—	—	—
42.	Letters of commendation should be given to distinguished industries and establishments).	—	—	—	—
43.	Employers of labour should create industrial training Unit in their various organizations.	—	—	—	—
44.	Institutions should establish a full-fledged SIWES unit.	—	—	—	—
45.	Data entry interface should be installed at all SIWES participating institutions.	—	—	—	—
46.	Method of processing supervisors' and students' allowances should be improved.	—	—	—	—
47.	Deadline for submission of placement lists should be adhered to.	—	—	—	—



- 48. There should be a strong policy statement regarding acceptance of SIWES students by employers — — — —
- 49. There should be a well defined work scheme for students to follow — — — —
- 50. Periodic – test to assess students performance at the place of attachment should be introduced. — — — —
- 51. Education tax fund should intervene in the provision of vehicles for the scheme. — — — —
- 52. Orientation of students on SIWES should be taken more serious. — — — —
- 53. Data transfer from various institutions to the fund’s central computer server should be encouraged. — — — —
- 54. Facilities on the internet should be explored to create flexibility in the management of SIWES programme — — — —
- 55. The decree establishing the ITF and indeed, policy guidelines on SIWES should be strictly adhered to. — — — —
- 56. Coordinators’ nonchalant attitude to SIWES programme should be tackled — — — —
- 57. Employers’ negative perception on the impact of SIWES programme should be overcome — — — —
- 58. Insufficient number of personnel in the management of SIWES programme should be avoided. — — — —
- 59. Appropriate personnel are to be involved in SIWES operations — — — —
- 60. Sufficient facilities and equipments at the training establishments for industrial training should be provided. — — — —
- 61. Appropriate evaluation procedures for supervisors should be introduced. — — — —

## Appendix F

### STATISTICAL TOOLS USED FOR CALCULATION OF THE t-TABLE AND ACCEPTANCE MEAN.

t-table

$$\begin{aligned}
 df &= n_1 + n_2 - 2 \\
 &= 441 + 64 - 2 \\
 &= 505 - 2 \\
 &= 503 \longrightarrow df = 503 \\
 &\longrightarrow \text{t-table (P.05)} = \pm 1.96
 \end{aligned}$$

t- test

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{(N_1SD_1^2 + N_2SD_2^2)}{N_1 + N_2 - 2} \cdot \frac{(n_1 + n_2)}{(n_1 + n_2)}}}$$

df	=	Degree of Freedom
n	=	Number of Items
$\bar{X}_1$	=	Mean of Administrators
$\bar{X}_2$	=	Mean of Students
SD	=	Standard Deviation
SD <sub>1</sub>	=	Standard Deviation of Administrators
SD <sub>2</sub>	=	Standard Deviation of Students
N <sub>1</sub>	=	Number of Respondents in the First Group
n <sub>2</sub>	=	Number of Respondent in the Second Group
$\bar{X}_t$	=	Total Mean of Administrators and Students
t-cal	=	t-calculated
2	=	Constant