

## IMPACT OF STUDENTS' INDUSTRIAL WORK EXPERIENCE SCHEME ON ENTREPRENEURSHIP DEVELOPMENT IN NIGERIA

**TERVER FABIAN AENDE**

*College of Education, Kastina-Ala. Benue State*  
*e-mail: [aendeterverfabian@yahoo.com](mailto:aendeterverfabian@yahoo.com)*

**OJO BERNARD USMAN**

*Federal University of Agriculture,*  
*Makurdi, Benue State*  
*e-mail: [benveemercy2013@gmail.com](mailto:benveemercy2013@gmail.com)*

**TERHEMEN CORNELIUS USENDE**

*College of Education,*  
*Katsina Ala, Benue State*  
*e-mail: [usendecornelius@gmail.com](mailto:usendecornelius@gmail.com)*

### ABSTRACT

This paper examines the impact of Students 'Industrial Work Experience Scheme (SIWES) on entrepreneurship development in Nigeria. It underscores the importance of SIWES training among students of tertiary institutions, as a road map for entrepreneurship development thereby reducing the ever-growing rate of unemployment in Nigeria. By way of qualitative analysis, predicated on secondary sources, the paper posits that SIWES plays an important role in shaping a nation's intellectual human capital in today's world, despite its challenges such as inadequate training of technicians, insufficient exposure to practical work, poor information flow between schools and supervisors, unnecessary policy reviews and discontinuity, insufficient personnel motivation etc. The paper submits amongst others that Government should encourage the SIWES scheme by funding the programme adequately.

**Keywords:** SIWES; Entrepreneurship; Entrepreneur; Development; Unemployment and Employment

### Introduction

The Students' Industrial Work Experience Scheme (SIWES) was introduced in Nigeria as a skill training programme designed to expose and prepare students of higher institutions to work situations, as they exist in the world of work. SIWES is also an effort to bridge the existing gap between theory and practice, and to expose students to necessary skills for smooth transition from classroom to the world. It enables students to acquire technical skills and experience for professional development in their studies. Before the inception of the scheme, there was a growing concern among Nigerian industrialists that graduates from the institutions of higher learning lacked adequate practical experience necessary for employment.

SIWES was introduced by the Ministry of Commerce in collaboration with Industrial Training Fund (ITF) in Nigeria in the year 1973, about 47 years ago. It was then limited to students of Technology. Currently, students of many other disciplines participate in industrial training, including Business Education students. Business Education is an aspect of vocational studies that prepares the students for both teaching and office occupation. The students of Business Education also go for Industrial Training (IT) to acquire skills that will equip them for office occupation (ITF Handbook, 2010).

No doubt, SIWES plays an important role in shaping a nation's intellectual human capital through entrepreneurial skills training. Entrepreneurship is a process of creating something new and valuable by devoting the necessary time, effort, energy and assuming

the accompanying financial, psychic, social risks and receiving the resultant reward in monetary terms and personal satisfaction and independence (Chukwudi, 2005; Hisrich, Peters & Shepherd, 2008). It is concerned with creating opportunities, meeting the needs of individuals, identifying gaps in one's immediate environment, community and society at large, and bringing together resources in an innovative and profitable way to fill the gaps (Oni & Olaleye, 2004). Therefore, entrepreneurship development has been made mandatory for all Nigerian graduates, irrespective of their disciplines, since year 2000. The strategic objectives of the national policy are to: (1) improve the capacity of youths to develop positive independent and innovative thought process and overall entrepreneurial mind-set and (2) the development of vocational skills to stimulate future graduates towards venture and wealth creation.

The federal government of Nigeria since the 1960s has put in place different kinds of institutional framework, to reduce youth unemployment in the country. These among others include establishment of Industrial Development Centres (IDCs), the Small Scale Industries Credit Scheme, Credit Guidelines to Financial Institutions, Working for Yourself/Entrepreneurship Development Programme (WFY/EDP), National Economic Reconstruction etc.

The Nigerian government, in its effort to encourage entrepreneurial initiatives, established many programmes through funding from its Central bank, to midwife the initiative. These efforts have led to increases in the numbers of private domestic firms (NDE, 2012).

According to Araba (2013) entrepreneurship is important as a diffusion mechanism to transform scientific inventions into new product and service innovations. Consequently; tertiary institutions and research institutions have been admonished to develop knowledge intensive high-growth enterprises from all academic disciplines, not just technical ones. He believes that higher education institutions can create an environment that fosters entrepreneurial mind-sets, skills and behaviors across organizations. Lending credence to IT/SIWES, Araba (2013) emphasizes that it is important to involve stakeholders inside and outside of higher educational institutions in entrepreneurial skill training. He therefore recommends that if the polytechnic graduates are to enter the business world and entrepreneurship, it is necessary to involve business people and entrepreneurs in the academic education process.

Entrepreneurial skills acquisition in employment creation is very crucial. This employment and self-reliance can be best accomplished through the SIWES training programme. In an attempt to implement the programme, numerous and varieties of barriers are entangled. This explains the reason for this research work. The research intended to determine the impact of SIWES on entrepreneurship development in Nigeria.

### **Statement of the Problem**

The Students' Industrial Work Experience Scheme (SIWES) as is undertaken by students is designed to expose them to a variety of on-the-job productive skills. That is, promoting the acquisition of practicable work skills and competencies desirable of graduates, to fit in the world of work without hindrances. SIWES is aimed at ensuring that its participants do not only acquire the needed industrial work situation skills, but are also equipped with the opportunities to develop their self-potentials to face the societal future developmental and survival challenges.

To some extent, SIWES has been able to equip participants with these employable and transitory competencies. Olabiyi, Okarfor, and Aiyelabowo (2012) in their study of SIWES programme found out that, SIWES has not yielded the desired change in the beneficiaries work habits, due to inadequate supervision of students by both teachers and the industrial-based supervisors, disruption in the school academic calendar, and the

disparities between the curriculum contents and the experience the students are exposed to during SIWES. There are equally reported cases of graduates' lack of employable skills among different employers of labour in the country. Students on their own part, have discovered that what most of the supervisors are after is how they can defend their SIWES report rather than how to make use of the scheme and maximize their abilities, knowledge and skills with regards to their profession. Not all students sent on SIWES are paid, some are even asked to pay money to be accepted to do their Industrial Training programme.

If the aims of SIWES are not achieved, students will end up knowing the theoretical aspect of what they study, with little or no idea about the practical aspect of it. Therefore, they cannot gain employment or provide employment for the society.

### **Objectives of the Study**

The objective of this study is to assess the impact of students' Industrial Work Experience Scheme on students' entrepreneurship development in Nigeria. Specifically the study sought to:

- i. Find the impact of Students 'Industrial Work Experience Scheme on Students' entrepreneurship development in Nigeria.
- ii. Identify the challenges militating against students' acquisition of entrepreneurial skills through SIWES.
- iii. Put in place strategies for promoting acquisition of entrepreneurial skills through SIWES.

### **Significance of the Study**

The study will be of great significance to students, SIWES supervisors /institutions, researchers as well as policy makers on SIWES coordination and management.

### **Research Questions**

- i. Does the SIWES programme have any impact on entrepreneurship development in Nigeria?
- ii. Are there any challenges posed by SIWES to entrepreneurship skills development and to what extent?
- iii. What are the solutions/strategies available for promoting acquisition of entrepreneurial skills via SIWES?

### **Methodology of the Study**

The analytical research design using secondary sources of data was adopted in this work, to expose the root causes of the subject matter and to deal with them diligently.

### **Literature Review**

#### ***Theoretical Framework***

Many theories exist relevant to this study, but we shall limit ourselves to two theories which are namely, the theory of skill acquisition and the Systems theory.

#### ***Theory of Skill Acquisition***

The theory of skill acquisition was illustrated by Sedeai (2003), using a theory propounded by Hubert and Stuart Dreyfus in (1973), who assumed that skill development is "knowing how". The authors argued that many skills, such as riding a bicycle could not simply be reduced to "knowing that". According to Sedeai (2003), a person goes through at least five stages of different knowledge, specific tasks, and ways of decision making as he acquires and improves on his skills. These five stages are novice, advanced beginner, competence, proficiency and expertise.

The author believes that as human beings acquire skills through instruction and experience, they do not appear to leap suddenly from rule-guided "knowing that" to experience-based "knowing how". The authors affirmed that there is a gradual process

involved for an individual to go through the five stages, in order to reach the stage of expertise or knowing how. In the novice stage, according to the author, the individual has some general ideas and is in the process of learning the rules. At the second stage, which is the advanced beginner, the individual's performance improves to a relatively acceptable level only after the novice has had enough experience and practice in copying the real situation. The theory explained that during the third stage which is competence, the learner starts becoming personally involved with the task. He starts to perceive more than one option from which he has to choose the best one. In the fourth stage or proficiency stage, the learner while intensively understanding his task, still thinks analytically about his actions. During the last stage, which is the expertise, the propounders maintained that learners know what to do, based on mature understanding of their task.

### ***The Systems theory***

The Systems theory as propounded by Easton David in 1965 is an important rationale for this study. The System theory is based on the premise that a political system could be seen as a delimited and fluid system of steps in decision making. It thus stated that, politics should be seen as a whole, not as a collection of isolated problems to be solved; thus, a framework upon which one investigates and describes the inter-dependence and relatedness of groups or parts that work together to produce results.

Taken from the perspective of Alexander and Stanley (1998), the systems theory is an interdisciplinary study of the abstract organization of phenomena independent of its substance and type. The basic principle being that any system of organization, technical or task aspects are interrelated with the human or social aspects. The interaction between the industries, the institutions of learning, and the students, with regards to SIWES ought to synergize to form a whole, to effect the required changes in the environment (reduction of SIWES beneficiaries' graduate unemployment). The rationale for using this theory may literally be explained as, that the unusual changes observed in the environment (graduates unemployment) resulted to the "demand" for the "action" SIWES. As such SIWES outputs should be able to produce the required changes in the environment (reduction of graduate unemployment). Hence, a review of the scheme is needed so that SIWES outcome can generate the desired changes for which the policy was introduced.

### **Conceptual Framework**

#### ***Students' Industrial Work Experience Scheme (SIWES) and Entrepreneurship***

The Students' Industrial Work Experience Scheme is a skill training programme designed to expose and prepare students in institutions of higher learning for the industrial work situation which they are likely to face after graduation. Olugbenga (2009) defined Industrial Training as that form of educational process provided to students of special skill-oriented subjects, to enable them acquire the specific skills and attitude in the subject and also enable them function properly in the occupation when formally employed, and it is done in the real occupational environment. Adams (2007) stressed that the SIWES or Industrial Training is an advance or a more formal form of apprenticeship programme which is geared towards skill acquisition and development. Oyedele (2000) noted that the programme helps the students to concretize knowledge and enables them to do the work well. Chijioke and Ezema (2010) opined that SIWES training is like a key factor that enhances efficiency and expertise of the workforce.

Furthermore, Derrick (2012) stated that most of Nigerian tertiary institutions do not have the necessary equipment and facilities to equip the students with the necessary skills and competencies. It is then necessary for schools to be liaising with industries/artisans' workshops, where those modern facilities can be found for students to get exposed to real practical activities.

Entrepreneurship is derived from the French word *entreprendre* which means to *undertake*. Hence, entrepreneurship is the process of undertaking activities concerned with identifying and exploiting business opportunities, while assuming their attendant risks. According to Amerua and Obiazi (2009), entrepreneurship is the process of perceiving business opportunities, mobilizing both human and material resources and initiating action(s) under an enterprise, which is characterized by risk taking, innovation and creativity, to meet individual, group or societal needs. Entrepreneurship involves taking chances, because new businesses do not emerge by accident (Engelhoff, 2005). Entrepreneurship brings about the exploitation of opportunities and resources that exist or are available in the market. It is made up of a wide spectrum of activities which are:

- Self employment
- Innovative ideas applied to a business
- Establishment of organizations
- Use of different resources
- Awareness and exploitation of available opportunities in the market
- Working with all factors of production under risk.

One major problem of research in entrepreneurship is how entrepreneur and entrepreneurship is defined. Gartner (1988) commented that entrepreneurship lacks a clear definition because there are different beliefs concerning entrepreneurship. He further noted that for someone to be called an entrepreneur, the behavior, traits and personality of the individual must have the characteristics of an entrepreneur.

Entrepreneurs are people with high aptitude that are able to enforce change and have distinctive characteristics that are found in a few people. Gottleib and Ross (1997) identified entrepreneurs with the following characteristics:

1. An entrepreneur could not just be the owner of a business but also an employed manager, a leader or a founder.
2. The processes and procedures of entrepreneurship should just be taken as a production factor.
3. The main factor for developing a venture is the “joy of creating” not for profit.
4. An entrepreneur is not only a risk bearer but also a person that takes risks, when investing into a business.
5. The duty of an entrepreneur is to implement ideas and opportunities. He sees factors such as knowledge and logical reasoning that can either make or mar an establishment.

### **Characteristics of Entrepreneurship and Entrepreneurs**

Different scholars of entrepreneurship have given various characteristics of an entrepreneur based on their own views. According to Casson (1982), some of the characteristics of an entrepreneur include: technical knowhow, risk bearing, ability to gather motivational and financial resources. Stephenson (2010), on the other hand, regards the major characteristics of an entrepreneur as: planning ability, team work and seriousness. Gottleib and Ross (1997) are of the view that the characteristics of highly successful entrepreneurs include:

- Risk-bearing ability: Successful entrepreneurs must have the ability to bear risk that comes with running a business. Risk arises as a result of the uncertain and dynamic environment of the business. Many entrepreneurs are fond of avoiding risk and preferring to seek others who can bear the risk.

- Technical knowledge: This is a very important tool that is used by experts in marketing and production processes.
- Ability to gather financial and motivational resources: The establishment of a new business would require financial and motivational resources. Some entrepreneurs may not have these required resources but they must be able to gather them from those who have them.
- Self-confidence and multi-skilled: Successful entrepreneurs believe in themselves and are able to face any situation, without having any inferiority complex. They possess the “jack of all trade and master of all” attitude. They have confidence in themselves when faced with difficult situations and circumstances.
- Innovative skills: They see what others cannot see and have the ability to create a niche in the market. They easily create new ideas that have distinctive features.
- Result-orientated: They easily get the result they want, either through others or with others. They set goals and ensure that actual performance equals expected results.
- Total commitment: Starting and managing a new business requires a lot of hard work, dedication, commitment and energy.
- Calm: Successful entrepreneurs are always calm and cool when faced with stress and emergency situations.
- Tolerance: Entrepreneurship deals with issues relating to people with different personalities, motives, attitudes and perceptions. In relating with people, successful entrepreneurs must be tolerant.
- Team player: To create a new business can be done by one person, but to maintain and sustain a successful business cannot be done by one person. Entrepreneurs need other people to work with, to fulfill the goals of the business. Entrepreneurs must be able to manage a team effectively and get the right team members. “The entrepreneur’s most important team members are the customers as without customers, a business cannot survive”.

### **Importance of Students’ Industrial Work Experience Scheme (SIWES)**

Students’ Industrial Work Experience Scheme as a form of cooperative education was described by Stadt and Gooch (2010) as a programme of occupational education, for those who go through cooperative arrangement between the institution and employers; receive instruction/training by alternation of study in school with a job in an occupational field. He stressed that two experiences must be planned and supervised by the school and employers so that each contributes to the students’ education and professional development. Effah, Boanmpong, Adu, Anokye, and Asamoah (2014) stated that, it is at the economy or organizational level that decisions are made which enable the individuals to give off their best. He also explained that it is at the industrial training programme that students are allowed to take decisions and get involved in doing the jobs through participation.

Akerejola (2014) stated that the work experience is an educational programme, where students participate in work activities while still attending school. This gives students the opportunity to be directly involved and be part of the actual work situation outside the classrooms. It was specifically designed to provide students of tertiary institutions in specific courses, with the opportunity of acquiring practical skills and experiences on the job, before graduation, so that they can graduate as professionals. Likewise Ugwuanyi, Chijioke and Ezema, (2010) opined that training is a key factor that enhances efficiency and expertise of the workforce.

### **Importance of Entrepreneurial Skills**

Entrepreneurial skills acquired in the context of this study refer to an individual's knowledge and ability to perform specific tasks successfully. Entrepreneurship skills are business skills which one acquires to function effectively in the turbulent business environment, as an independent or self-employed person, in order to improve one's economic status and the society at large.

The importance of entrepreneurship skills cannot be over-emphasized since appropriate skill acquisition through entrepreneurship will help to make young school leavers to be self-reliant and boost their economic status. Isiake (2008) stated that entrepreneurship has been identified globally and nationally as a tool for generating a sustainable economy, which is the core value of the National Economic Empowerment Development Strategies (NEEDS). The establishment of small business helps to generate substantial amount of employment and income which are essential parts of a country's Gross National Product (GNP). For the laudable benefits of entrepreneurship to manifest in youths and the general public, the skills must be learned through formal or non-formal settings. Ugwanyi and Ezema (2010) remarked that when youths are empowered through the acquisition of entrepreneurial skills, there is the possibility that they will use same to create new avenues for wealth.

### **Challenges Facing the SIWES Programme**

Certain challenges are militating against the development of these entrepreneurial intentions and skills in the industry. Amasa (1996) observed that the SIWES programme which was designed to familiarize trained personnel with the world of work is fast degenerating into a mere formality. The programme has fallen short of expectations, as a result of poor co-ordination between industries and the training institutions. Hence, the need for the institution-industry relation to be repositioned, fused together, and fully committed to the skill development programmes. The challenges militating against the SIWES programme include:

- Inadequate training of technicians, technologists due to inadequate training facilities in higher institutions;
- Insufficient exposure to practical work, series of strikes and closure of schools, lack of functional libraries, laboratory and workshops;
- Inadequate information between schools and industries. Industry-based supervisors are often not involved in designing the training programmes;
- Unnecessary policy reviews and discontinuities between successive administrations, and general bureaucratic bottlenecks;
- Insufficient personnel motivation, commitment to duty, and patriotism. Supervisors are not seriously committed and as a result students' trainees are not assigned to challenging jobs.

### **Challenges of Entrepreneurship Development in Nigeria**

Successive governments in Nigeria have emphasized the need for the development of enterprises in order to reduce the rate of unemployment and poverty level. The need for encouraging increased productivity and self-employment has been accompanied by the formulation of Small Scale Enterprise Promotion Policy. More often than not, government pronouncements are not backed up by effective implementation. Basic infrastructural facilities such as good roads, constant power supply, access to information and communication, among others, aid in development of mind and body as well as assist productivity in any environment.

In Nigeria, these basic needs are lacking and so have frustrated a lot of young people with bright ideas and a corresponding spirit, to effect a change in some areas of their life. For instance, power supply which is the bedrock of production has proven to be the greatest challenge to any aspiring entrepreneur in Nigeria. Most times businesses have to be run using generators. The cost of running a business with a generator reduces the profit which an entrepreneur may earn. During scarcity of gas or petrol, businesses are grounded. This factor adds immensely to total overhead costs, leading to high cost of products/services. This is a discouragement to entrepreneurial development.

Another worrisome challenge is the issue of transportation. Air transport is very expensive and beyond the reach of young entrepreneurs; the railroad is no longer functional, while the road which is the most affordable means of transport is not conducive. The roads are dilapidated, leading to unwarranted road accidents and unnecessary delays. Communication system comes with enormous service cost by the various telecommunication companies, and this has a trickledown effect on internet service. Security of property and citizens has been made worst by the incapability of the security personnel to handle incessant attacks. Entrepreneurs who are serious about doing business need to arrange private security personnel in order to secure their facilities. This arrangement does not come cheaply; it reduces or erodes the profit margin of the entrepreneur, whose primary objective is profit maximization.

Agbeze (2012), writing on the obstacles of entrepreneurship development, asserted that the challenges facing aspiring entrepreneurs include non-accessibility to local and international markets, absence of a viable credit policy that addresses the specific needs of the enterprises, difficulty in procuring business approval, multiplicity of taxation, high inflation and other macroeconomic distortions. All these put together have made entrepreneurial activities cost-intensive, unprofitable and uninteresting thereby dissuading the youths from assuming entrepreneurial leadership positions (Anyadike, Emeh, and Ukah, 2012).

### **The Role of SIWES in Entrepreneurship Development in Nigeria**

SIWES is seen as a strategic instrument for industrialization and economic development because of its potential to induce scientific and technological transformation within the economy. By and large, entrepreneurial skills development potentials of SIWES programme cannot be overestimated, being designed to prepare students of Polytechnics, Universities, Colleges of Technology and Colleges of Education for the industrial work situation they are likely to meet after graduation.

A greater proportion of problems confronting technical/vocational education in Nigeria today is rooted in the failure of technical and engineering institutions to impart appropriate skills, knowledge and attitudes readily for gainful or self-employment of their graduates. The role of SIWES in this regard is manifested in the context of the education policy, curriculum design and development, as well as in forging the school-industry linkage vital for labour market-driven skills development. For the scheme to achieve its full potentialities, the curriculum design has to be repositioned towards training for entrepreneurship as part of its priorities. The development of entrepreneurial attitudes should be seen as an essential ingredient for its success. This will require a reward system to support innovative business concepts or ideas, in the course of students' educational pursuits.

The role of entrepreneurial skills acquisition in job/employment creation cannot be overemphasized. Gambari (2009) stated that if Third World countries, especially Nigeria, must be economically self-reliant, they must necessarily diversify their economies, and their youths as well, must embrace self-employment, encouraged through an appropriate

favorable policy environment that would facilitate skills acquisition, entrepreneurship and self-reliance, through SIWES training.

However, due to the way entrepreneurial programmes have assumed a global proliferation and dimension, it was suggested by Volkmann in 2004, as cited by Hartigan and Billimon (2005) that entrepreneurship will become “the major academic discipline for Business Education in the 21st century”. SIWES is a very important programme which the students are expected to benefit from, if it is well implemented. Unfortunately, many researchers, including Obasi (2015) have observed some setbacks to the achievement of the goals of SIWES.

In spite of these setbacks, the role of Students’ Industrial Work Experience Scheme (SIWES) on entrepreneurship development in Nigeria is encouraging. SIWES plays a significant role in human resources. It helps students to develop new practical skills, as interaction with many students on industrial attachment confirms this fact. Students should however, be aware of what the present society holds for them and adapt accordingly by utilizing their training opportunities to become entrepreneurs.

### **Conclusion**

It suffices to say at this juncture that SIWES has a great impact on entrepreneurship development in Nigeria and even beyond. Despite the notable contributions and achievements of the scheme in human capital development in Nigeria, the operations of the scheme are still bedeviled with some challenges that undermine achievement of its major objectives. Hence, this study was necessitated to x-ray the factors that constitute challenges of SIWES in its bid to meet the training needs of Nigerian graduates. The study also identified the needed changes that could be made in SIWES, to facilitate a decrease in the unemployment rate among Nigerian graduates through entrepreneurship.

### **Suggestions**

- Based on the findings of this study, the following suggestions were proffered;
1. Government should encourage the SIWES by funding the programme adequately.
  2. SIWES should be made an annual programme, to allow for students progression and achievement of the needed work habits, skills, attitudes and competencies through the training periods.
  3. Students should be subjected to annual central SIWES examination on practical experience gained after each training period, as organized by the ITF, so as to lift their entrepreneurship spirit.
  4. The National Universities Commission (NUC) should extend the SIWES programme to one year, so that the students can acquire more relevant experience in entrepreneurship.
  5. The Industrial Work Experience Scheme (SIWES) units in institutions should give out letters to students on time so as to facilitate their placement in industries.
  6. Institutions should not just post their students to various organizations and firms for the sake of industrial training, but should properly plan SIWES, gather necessary information about the firms/organizations their students will be sent to, and inform such firms/organizations beforehand.
  7. Orientation programmes should be organized for the students to be sent on Industrial Training before they are posted. This will properly acquaint students with the necessary information to facilitate their successful training during the IT programme.

8. Supervisors should supervise rather than just sign logbooks and listen to their students present and defend their reports. The Supervisors should endeavor to visit their students at their IT centres, to not just supervise the students but also provide assistance in clarifying ambiguities.
9. Students should be paid when they are sent on IT because they are considered as workers while they are on IT. This is because they perform certain duties and functions that contribute to the growth of the organization in question.
10. Workers where students are sent on Industrial Training should help to facilitate the IT programme of students rather than use it as a means of taking a break from their jobs, or handing the difficult duties to student-trainees.
11. The period of Industrial Training should match with a number of factors such as: course duration, professionalization of the course, practicability of the course and so on.
12. Most institutions, ask students to pay for SIWES. The money gotten should be used to fund the programme so as to facilitate its success. Institutions should not wait on the government for everything, especially those that they have billed students for.

## REFERENCES

- Adam, C. O. (2007). The Training Development and Education of Library Manpower in Information Technology in University of Libraries in Nigeria. *World libraries* 17 (1) 1-4
- Agbeze, M. (2012). Charting new Development for Industry and Education Partnership *Journal of Vocational/Technical Education Research*, vol. 12 (3), 127-234.
- Akerejola, O. (2014). *Information and Guidelines for Students Industrial Work Experience Scheme*. Retrieved from <http://www.itfnigeria.org/docs/siwes-op-guide.pdf>.
- Alagbe, N. J. (2007). Restructuring SIWES to Meet the National Development Plan in Educational System. *National Conference of National Association for Research Development Proceedings*, 1(1) 22-30
- Alexander & Stanley (1998). SIWES: The Genesis and Influence on National Growth and Development Retrieved from <http://eduregard.com/wpcontent/uploads/2016/04/SIWESstudents-1.pdf>
- Amasa, G. D. (1996). School-Industry Partnership: A Vehicle for Social and Economic Development in Nigeria. *Journal of Nigeria Association of Teachers of Technology* vol.2 (1), pp. 31-42.
- Amerua, F. A. & Obazi, A. E. (2009). Entrepreneurship Education in Home Economics: Problems and Prospects. A Paper Presented at the Annual National Conference of Association for Encouraging Qualitative Education held at Federal College of Education, Nassarawa,
- Anyadike, N.; Emeh, I.; & Ukah, F. O. (2012). Entrepreneurship Development and Employment Generation in Nigeria: Problems and Prospects. *Journal of Education and General Studies*, 1(4) Araba, S. (2013). Entrepreneurial Education as a Tool for Reducing Unemployment in Comfort.

- Bonaventure, O. C. (2012). Students' Entrepreneurial Skill Acquisition through Students' Industrial Work Experience Scheme (SIWES) in Nigeria: An Analytical Approach *International Journal of Independent Research and Studies*. 1(3), 97-105.
- Casson, M. (1982). Entrepreneurship. In DR. Henderson (edition.), *The Fortune Encyclopedia of Economics*, 76(11), 87-147.
- Chijioke and Ezema (2010). *Challenges of Students' Industrial Work (e-journal)*. Paper 410
- Chukwudi, O. W. (2005). *The Entrepreneur: Challenges, Coping Strategies and Implications for Entrepreneurship Education*. A Lead Paper Presented at the 6th Annual Conference of Hope Economic Research Association of Nigeria (HERAN) on the 8<sup>th</sup> September.
- Derrick, T. (2012). The effect of Industrial Training on Engineering Undergraduate. *Education and Research*, 70 (12)67-67.
- Effah, B.; Boanmpong, E.; Adu, G.; Anokye, R.; & Asamoah, J. N. (2014) Issues of the Industrial Training Programme of Polytechnics in Ghana. The Case of Kumasi Polytechnic. *Journal of Education and practice* 5(5), 39 -46
- Egelhoff, T. (2005). Entrepreneurs: Have you got what it takes? Retrieved from [www.smalltownmarketing.com/entrepreneurship.html](http://www.smalltownmarketing.com/entrepreneurship.html)
- Gambari, J. (2009). *The Importance of Skills Acquisition: A Challenge to Nigerian Legislators*. Retrieved September 20, 2013 from [www.nasslegislatonline.com](http://www.nasslegislatonline.com)
- Gartner, W. B. (1988). Who is an Entrepreneur? Is the Wrong Question. *Entrepreneurship, Theory and Practice*, 13(4), 47-68.
- Gottlieb, E. & Ross, J. (1997). Made Not Born: HBS Courses and Entrepreneurial Management. *Harvard Business School Bulletin*, 73, 41-45.
- Hisrich, R. D.; Peters, M. P.; & Shepherd, D. A. (2008). *Entrepreneurship*. New Delhi: Mc Graw-Hill Publishing Company.
- Industrial Training Fund Handbook (2010). Retrieved from [www.unirazak.edu.my/pintar/fit/docs/pt-handbook.doc](http://www.unirazak.edu.my/pintar/fit/docs/pt-handbook.doc). on 5/11/2011.
- Isiaka, O. R. (2008). Entrepreneurship Education: Strategy for National Development. *Delta, Business Education Journal*, 1(3), 113-183.
- National Directorate of Employment (2012). The Prospect and Problems in National Directorate of Employment in Nigeria, *Journal of Public Administration* 4 (2), 89-91.
- Obasi, R. (2015). The Impact of Industrial Training on Students Academic performance. *Advances in Social Science. Research Journal*, 2 (6) 186B196s
- Olabiyi, O. S.; Okarfor, B. O.; & Aiyelabowo, O. P. (2012). Managing the Challenges of Industrial Works Experience Scheme in Developing Workforce among Youths in South West Nigeria. *British Journal of Arts and Social Sciences*, 4(2) 330-341
- Olugbenga, A. F. (2009). Towards Effective SIWES Curriculum Development in Applied Science, Nuhu Bamlli polytechnic, Zaria. *Pacific Journal of Science and Technology* 10(1)234-239
- Oni, E. D. & Olaleye, S. S. (2004). *A New Perspective on Entrepreneurship*. Ibadan: Ejon Publishers.

Haritigan & Billmon (2005). *Student's Industrial Work Experience in Nigeria: Concepts, Principles and Practice*. Enugu: Cheston Agency Limited.

Oyedele, J. P. (2000). Cooperative Work Experience Programme for Youths in Education. *Business Education Journals 2: 30-53*

Sedeai, C. (2003). Med. Educ online 0210 .15; 1034021meo V1510 4846 published online 2003 Jun 14 doi 10.3402/meo.V15io.4846

Stadt, L. & Gooch, S. (2010). Business and Successful Entrepreneurship: Personality Traits of Successful Entrepreneurs.

Stephenson, H. (2010). The Heart of Entrepreneurship. *Harvard Business Review, 34(22), 85-94*.

Ugwuanyi C. F. & Ezema J. U. (2010). Challenges of Students' Industrial Work Experience Scheme (SIWES) in Library and Information Science in the ICT Environment. *Library Philosophy and Practice* July 2010. Accessed on 10th September 2011.

[www.unrazak.edu](http://www.unrazak.edu)