

Full Length Research Paper

Effect of students' industrial work experience scheme on students' readiness for world of work

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The research on effect of students' industrial work experience scheme on students' readiness for world of work in Nigeria was undertaken to find out whether students' industrial work experience scheme (SIWES) has any significant effect on students learning and readiness for life of work with respect to knowledge, skill and attitude improvement while on internship in the industry. The study was designed as a quasi-experimental study from a population of 320 students of vocational and technical education students of FCT College of Education Zuba-Abuja. From the population, a pre, post and control groups sample of 120 students was selected using simple random sampling method. The sample mean recorded a slightly lower standard deviation for all the independent variables with respect to knowledge, skill and attitude, indicating that SIWES does have some positive impact on students. However, the null hypothesis which states that there is no significant difference in the knowledge, skill and attitude mean of students prior to and after SIWES was accepted. The implication of this study is that SIWES as presently implemented in Nigeria cannot achieve any meaningful result with regards to preparing students adequately to function properly in the work place, the programme therefore needs to be reevaluated and appropriate changes made. The study therefore recommended that SIWES programme should be redesigned in such a way that the outcome expected and success achieved through the training programme can be measured. It was also recommended that emphasis should be placed on teaching students organizational ethic while on SIWES so as to acquire the right attitude towards a life of work.

Key words: Practical skill, knowledge, attitude, students' industrial work experience scheme (SIWES).

INTRODUCTION

Among the factors of production, the entrepreneur is second to none because of the important role it plays in the conversion of resources into goods. The quality of the goods reveals not just the quality of the material used but also the skill and knowledge of the labour involved in the

conversion process. The employability of labour is a function of skill, experience and knowledge possessed and perhaps, attitude. In this regards, Nedum-Ogbede (2016) stated that the main objective of vocational and technical education is to empower individuals with skills,

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knowledge and attitude required for success on the job and by so doing, reduce youth unemployment. The possession of a marketable skill is considered the most priced asset of a job seeker notwithstanding the academic qualification of that person. Anything outside skills is considered an added advantage. National Bureau of Statistics (NBS, 2016) surveyed data on graduate youths in Nigeria and found evidence of rising unemployment. The data showed that for first quarter of 2016, 14.2% of post graduate youths, were unemployed compared to 12.4% in the last quarter of 2015. In terms of age group, those employed between the ages of 15 and 24 were 21.5 and 19.0% while those between the ages of 25 and 34 were 12.9 and 11.4% for 2016 and 2015, respectively. The aforementioned statistics did not give causal reasons for the unemployment recorded. However, evidence from researches such as Rahmat et al. (2011), Lowden et al. (2011), Rehman and Mehmood (2014), and Abas and Imam (n.d.) link the global problem of unemployment to the dearth of skill set classified as fundamental, personal management and teamwork skills among graduates and job seekers. Proof of this assertion is found in Oloruntimehin (2014) who opined that though class work is fundamental to learning, it falls short of enabling the learner to acquire the competencies required for carrying out a specific job in a real world situation. In other words, the classroom is grossly ill-equipped to prepare graduates for a life of work. This information explains clearly the factors responsible for the unemployment challenges facing Nigeria and perhaps, the sub Saharan countries of Africa.

It has been argued that the purpose of the Students' Industrial Work Experience Scheme (SIWES) is to assist in bridging the gap between what has been learnt in the classroom and what the industry requires from employees. O'Connor et al. (2015) disclosed that work-based learning is made up of early placement, job shadowing, work placements, internship and cooperative or community-based work experiences. It therefore means that SIWES is a work based learning programme at times referred to as apprenticeship. Akerejola as cited in Olugbenga (2009) stated that the sole purpose of setting up SIWES was to bridge the gap between theory and practice found in programmes of tertiary institutions in Nigeria. Similarly, Effah et al. (2014) opined that one purpose of industrial training as found in the Ghana experience was to expose trainees to practical skills in their relevant occupational areas and to acquaint them with the functions of new technologies, machines and equipment that they have heard of and read about in books but have not gotten the chance to use them. Some researchers are not so confident that SIWES is capable of providing the needed experience graduates needed to succeed in the work place. For instance, Ukwueze (2011) expressed doubt as to whether the SIWES has been able to achieve the goal of improving the skill of undergraduate students, consequently, educationist and economic

planners too share this feeling, particularly with respect to graduate unemployment and its impact on the society. There are also mixed concerns about how much of the experience acquired during SIWES is actually helpful to student's job readiness after graduation.

SIWES is a skill development programmed initiated by the Industrial Training Fund (ITF), in 1973 to bridge the gap between theory and practice among students of engineering, technology and vocational education in institutions of higher learning in Nigeria. It is meant to provide for on-the-job practical experience for students through exposure to work methods and techniques in handling equipment and machinery that may not be available in their institutions of learning. The scheme also prepares students for work situations that they are likely to meet after graduation (ITF, 2004). Similarly, Olugbenga (2009) posited that SIWES is similar to skill based training programmes offered across the globe, in both developing and developed economies, such as America, United Kingdom, Germany, Finland, Malawi, Ethiopia and Ghana. According to the author, the sole purpose of setting up SIWES was to bridge the gap between theory and practice found in programmes of tertiary institutions in Nigeria. This assertion was affirmed by Effah, et al. (2014) who noted that one purpose of industrial training as found in the Ghana experience was to expose trainees to practical skills in their relevant occupational areas and to acquaint them with the functions of new technologies, machines and equipment that they have heard of and read about in books but have not gotten the chance to use.

Countries of Europe compared to the rest of the world are noted to have the best and robust apprenticeship system. The leading countries according to Tansel, Institute for the Development of Labour (IZA) and Ogawa (2008) included Germany, Switzerland and Austria. Drawbacks to the development of apprenticeship system globally differ from country to country. The drawback can arise from political, policy inertia, social to cost of providing training. The drawback of United Kingdom in this respect despite its industrial history according to Gambin and Hoggarth (2017) was traced to weak legal framework for apprenticeship.

Problem statement and justification

SIWES has been in operation since 1973 providing opportunity for future workforce to acquire practical knowledge required and available only in the industry. It is also about exposure to new techniques, technology and work ethic among others. However, the industry continues to lament the dearth of competent and skilled graduates and also the problem of disconnect between curriculum and required practical skill set that student should possess prior to completing their programme of study. Several researches by Okolocha and Ibik (2014),

Olabiya et al. (2012), Oloruntimilehin (2014), Olugbenga (2009), Rufai et al. (2013), Ukwueze (2011) and Gambin and Hoggarth (2017) confirmed the existence of these numerous challenges. These challenges in skills by National Certificate of Education (NCE) graduates of Vocational and Technical Education, pose a serious problem in graduates' life of work and the industry. These challenges form the thrust of this study and to which it finds answers by examining the effect of SIWES on students in terms of cognitive improvement, skill development and attitude change after taking part in SIWES programme.

Objective of the study

The purpose of the study is to determine the effect of SIWES on students' readiness for world of work and to gain an insight into the true gain accruing to students of vocational and technical education in FCT COE Zuba as a result of being exposed to SIWES. Specifically, the study sought to:

- (1) Determine the effect of SIWES improvement of students' knowledge;
- (2) Determine the effect of SIWES improvement of students' skills;
- (3) Determine the effect of SIWES improvements of students' attitude to work.

Hypotheses

The following null hypotheses (H_0) were therefore formulated and tested at 0.05 level of significance:

- (1) There is no significant difference in the mean knowledge of students prior to and after SIWES training.
- (2) There is no significant difference in the mean skill of students prior to and after SIWES training.
- (3) There is no significant difference in the mean attitude of students prior to and after SIWES training.

Concept of skill

Skill is the fallout of the necessity to acquire training and experience to perform a task well. Simply put skill is the translation of knowledge into effect and it involves practical know-how, being able to demonstrate and use the tool that goes with that knowledge. Dekeyser (2007) viewed skill acquisition as the learning of a wide variety of skills which reflects a shift from first and foremost, the representation of knowledge through changes in behavior to fluent, spontaneous, effortless and highly skilled behavior accounted for by a set of basic principles peculiar to the acquisition of general skills. Okolocha and

Ibik (2014) described skill as the ability to do practical activities. For this purpose, skill acquisition is defined as learning about how something is done, observing how it is done, doing it by yourself until no further guide or supervision is required as efficiency and cost savings set in.

Concept of readiness

Readiness in the perspectives of vocational and technical education pedagogies, such as Al-Momani and Al-Balqa (2012), means to be emotionally and mentally prepared to receive or reject content especially in a learning environment. With respect to readiness, a positive outcome is produced through exposing students to mental training in the affective domain. Readiness is considered to determine to a large extent whether a graduate will make a success of his or her career or not. Gemici and Mcfaden (2010) argued that job readiness describes how well prepared and successful an employee will be on the job, similarly, Savickas as cited in O'Connor et al. (2015) argued further that students differ in their ability and time it takes to identify occupation choice and settle into it. In a way, Savickas's argument provides explanation as to why some students benefit more from exposure to SIWES while some do not. In summary, readiness is understood to mean a state of preparedness which tends to guarantee success, perfection, fluidity, efficiency and constant improvement on the task, job or work. Vocational education students therefore need to be prepared.

Concept of world of work

Preparing for a world of work is a major drive of vocational and technical education. Al-Momani and Al-Balqa (2012) stated that it has always been the main priority of vocational and technical education to introduce students to world of work at prevocational education level and this is achieved by exposing them to lifelong skill in their chosen career. A world of work therefore means to be engaged in a profession or occupation which guarantees regular income, satisfaction and with opportunity to improve on current skill set. Graduates of Vocational and Technical Education need to be guaranteed job opportunity and the security that it offers.

Empirical Review

Several notable contributions have made to researches on SIWES and skill acquisition in Nigeria and elsewhere. Some of these researches and their findings provides framework for this current study.

Olugbenga (2009) carried out a study which adopted

the survey design involving a population of 50 students in the School of Applied Sciences, Nuhu Bamali Polytechnic, Zaria. The study which seek to find out the views of students on the adequacy of skills acquired during SIWES found out that students did not acquire adequate skills on ground that the place of attachment do not have modern equipment to work with. Furthermore, students were not given free access to some equipment and that the duration of SIWES was inadequate to learn anything meaningful among others. The study recommended that since the duration is short, students should attach themselves in places where practical experience can be acquired on weekend basis, entrepreneurship component should be infused into the programme and that incentives should be offered to employees to motivate them to accept students and give them the needed experience and skill exposure that will adequately prepare them for world of work.

Olabiyi et al. (2012) carried out a similar study in South-Western Nigeria and found that constant closure of higher institutions is also a major contributor to students' inability to acquire detailed classroom knowledge, hence the gap between curriculum content and experience acquired during SIWES.

In a study undertaken by Mofesola (2012), it was found that the key problem encountered by students during SIWES centered around poor motivation of students while on industrial attachment, lack of cooperation and support from company and organizations, delay in release of allowances and that report written by students were not corrected, hence no feedback to students regarding strength and weakness. The study recommended closer cooperation between ITF and institutions and that industries and institutions based supervisors should be sensitized on the need to take supervision seriously, etc.

In Ghana, a study by Effah et al. (2014) which adopted the survey design involving 200 and 300 level students of Kumasi Polytechnic found that students were provided early information by stakeholders to enable students prepare well for the exercise. Despite the apparent favorable preparation, the study revealed that the industry is not always too welcoming of the students. Students are poorly supervised; getting a suitable place can be very challenging, poor financial support from industry among others. The study concluded that industrial training is an important exercise for graduate's skill development and recommended that the state government should be more involved in logistic and administrative role for easy placement of trainees.

Haron et al. (2019) carried out an exploratory research on the importance of generic skills technical and vocational students' employability. The study which principally focused on Technical Vocational Training (TVET) in Malaysia found that generic skills, such as work ethics, communication skills, teamwork, decision making capability and leadership skills are as important

as work specific skills for gaining employment.

In conclusion, the reviewed literature shows clearly that students do experience challenges before and after SIWES. Where industry is unwilling to allow students access to or are unwilling to train them to use their equipment contributed significantly to their poor competency level even after undergoing SIWES. The situation in Nigeria is akin to that found in Ghana. Clearly closer cooperation between institution, industry and ITF is necessary if better result is to be achieved.

Theoretical framework

This study draws inference from experiential learning and skill modeling theory. Experiential learning theory is founded on the pioneering work of the likes of John Dewey, Kurt Lewin, Jean Piaget, William James and Carl Rogers among others. Alice Kolb and David Kolb work on experiential learning application in higher institutions draws extensively from the basic principles of learning postulated by the aforementioned researchers.

The theory puts forward by the adherent of learning theory are six altogether in the following order. Learning is seen as best conceived as a process, meaning that it has clearly stated activities and outcomes. All learning is relearning, in other words, the more a learner is exposed to the same activity or subject, the more likely the learner will experience new ideas each time. Learning requires the resolution of conflicts between dialectically opposed modes of adaptation to the world. Learning therefore recognizes differences and disagreement often resolved through action, feeling and thinking. Learning is a holistic process of adaptation to the world. This principle explains the purpose of learning and the learner's role in society, learning results from synergetic transactions between the person and the environment. Based on this assumption, learning is perceived as a process of moving from the known to the unknown concept. The new experience acquired leads the learner to question previously known concept. Finally, learning is the process of creating knowledge which involves feeling, thinking and acting in order to create and recreate knowledge. Kolb and Kolb (2005) reasoned that learning is a product of experience and that experiences occur through four modes which they identified as concrete experience, abstract conceptualization, reflective observation and active experimentation.

The aforementioned modes of learning identified by Kolb and Kolb (2005) have been found to aid knowledge and skill acquisition in technical and vocational education. Of particular benefit to skill acquisition is concrete observation and active experimentation because of the freedom it afford the learner to actively participate in the learning process. Drefus and Drefus (1980) however argued that as a learner gains experience, less reliance is placed on abstract conceptualization in favour of

concrete experience. They concluded by suggesting that where skill training is concerned, skill training model should be designed to meet specific skill demand if it is to be effective. This explains why students of technical and vocational education are often encouraged to seek apprenticeship in firms that provides the specific type of skill training they need in order to be relevant in the world of work.

METHODOLOGY

The study adopted quasi experimental design based on pre-test, post test and control group samples of subjects who participated in the study. The subjects are Vocational and Technical Education (VTE) students of Federal Capital Territory (FCT), Abuja, comprising Business Education Department, Agricultural Education Department, Home Economic Education Department and Fine and Applied Art Education Department. FCT was chosen because it is the nation's capital with a heterogeneous population. The study intends to find out whether there is a significant change in students with respect to the various domain of learning that can be attributed to SIWES. A pre test, post test, and control group study of samples were analysed for mean differences of paired sample statistics. SPSS 17.0 was used to facilitate the computation.

A sample of 40% of each department was randomly selected from the total population of 320 VTE students. The study covered a period of one year, 2016/2017 academic session. The pre test questionnaire was applied when students were just about to complete 200 level and post test questionnaire when they completed the SIWES Programme during first semester in 300 level. The control group sample was drawn from 100 level students who had completed their first session in the VTE programme.

Instrument for data collection referred to as Students' Industrial Work Experience Scheme Questionnaire (SIWESQ) relied on a structured five point Likert scale type strongly agree, agree, no idea, disagree, strongly disagree with an assigned weight ranging from 5 to 1. Reliability of the instrument made up of 24 questions yielded a Cronbach alpha of 79.8%. This was further improved to 80.2% well above the benchmark of 70% when questions 3 and 6 were dropped. Mean scores of 3.00 above was accepted while those below was rejected.

The dependent variables comprised knowledge, skill and attitude, while SIWES is the independent variable. The effect of SIWES on students' improvement in knowledge, skill and attitude were based on the outcome of data analysed using descriptive statistics and analysis of variance. Thereafter, the hypotheses were tested on null assumption.

RESULTS

The responses obtained from students who participated in the study were analyzed and explained. Descriptive statistics were used to present results and test statistics were used to test the null hypotheses.

What is the effect of SIWES on improvement of students' knowledge?

The mean for pre-knowledge and post-knowledge of 3.9534 and 4.0742 was above 3.00 implying that SIWES does enhance students' knowledge in readiness for a life of work. We find proof of this from the higher mean for

post-knowledge mean after students were exposed to SIWES training.

What is the effect of SIWES on improvement of students' skills?

The mean for pre-skill and post-skill of 3.5680 and 3.6528 was above 3.00 implying that SIWES does enhance students' technical skill competence in readiness for a life of work. Again the post-skill mean shows the positive gain of students from exposure to SIWES training.

What is the effect of SIWES on improvement of students' attitude to work?

The mean for pre-attitude and post-attitude of 4.0653 and 4.0407 was above 3.00 implying that SIWES does enhance students' attitude in readiness for a life of work. Though the post attitude mean is lower compared to pre attitude mean, implying that students exhibit more behavioral change in the formal school system than outside it.

Table 1 shows the result of t-test for the paired samples. The negative mean differences of -0.12076 and -0.08483 is as a result of the higher mean reported for post knowledge and post skill after treatment. The negative mean difference of -0.02458 is however due to the lower mean score reported for post attitude after treatment. The combined standard deviations for post treatment mean difference is also less than 1.

The first null form hypothesis states that there is no significant difference in the mean knowledge of students prior to and after SIWES training was tested at 0.05 level of significance. The p-value returned 0.074. This means that there is no significant difference in the mean values of pre test and post test data for knowledge; hence, the null hypothesis is accepted.

The second null form hypothesis state that there is no significant difference in the mean skill of students prior to and after SIWES training was also tested at 0.05 level of significance. The p-value returned 0.251, which indicates that there is no significant difference in the mean values of pre test and post test data for skill. The null hypothesis is therefore accepted.

The third null form hypothesis state that there is no significant difference in the mean attitude of students prior to and after SIWES training was tested at 0.05 level of significance and returned a p-value of 0.720. A higher p-value indicates that there is no significant difference in the mean values of pre and post test for attitude, therefore the null hypothesis is accepted.

DISCUSSION

The result of the study shows that students appreciate the purpose of SIWES; however, whether their

Table 1. Paired samples test.

Test	Paired differences			95% Confidence Interval of the difference		t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1 Pre-knowledge post-knowledge	-0.12076	0.72849	0.06706	-0.23195	-0.00957	-1.801	117	0.074
Pair 2 Pre-skill post-skill	-0.08483	0.79819	0.07348	-0.20666	0.03700	-1.154	117	0.251
Pair 3 Pre-attitude post-attitude	0.02458	0.74351	0.06845	-0.08891	0.13806	0.359	117	0.720

participation in the programme better prepared them for a life of work is another matter entirely. The mean value of the paired sample showed a higher mean response after students took part in SIWES. The higher mean recorded for knowledge and skill is due to the fact that during SIWES, work schedule designed for students involves more of routine documentation under basic clerical duties. The higher mean also indicated that the students appreciate the essence of the programme. The low mean recorded for attitude may have been due to the fact that students were not exposed to mentoring in the work place. It appears employers pay little attention to attitude molding for students during SIWES, there is also little evidence to suggest that organizations who accept students for apprenticeship (SIWES) have a programme in place expose students to organization's specific ethics.

Many organizations also see the cost of mounting training for students as a burden; most of the organizations accept students so as not to come under the scrutiny of ITF. Again, many are unwilling to allow students to try their hands on industrial machines. Industry bases supervisors pay little attention to what students are doing, suggestions and guide are meagerly offered to students on industrial training. These developments explain the low mean differences for the various groups.

The acceptance of the null hypotheses in all groups implies that no significant change has been

recorded for knowledge, skill and attitude improvement as a result of students taking part in SIWES. It means that ITF after 44 years of discharging its responsibilities which is principally to train students by transforming them into technically skilled work force thereby enhancing their employability status has not been quiet successful as shown by this study and several others such as Gemici and Mcfaden (2010), Okolocha and Ibik (2014), Olabiyi et al. (2012), Oloruntimilehin (2014), Olugbenga (2009), Rufai et al. (2013) and Ukwueze (2011).

The finding of this study shows that ITF need to reform and re-strategize its training programmes on major areas such as students' placement, funding and cooperation with the industry/employers. These are the areas presently constituting severe challenge to the success of the entire programme. Because employers felt that there is no incremental benefit attached to training students accounted for the poor attention accorded students on SIWES.

Conclusion

The finding of this study shows that SIWES is not making the desired impact expected of it with respect to preparing students for the world of work. The changes in the knowledge, skill and attitude after participating in SIWES is hardly noticed, thus impairing their readiness to assume

successful role in the industry. In particular, it is observed that attitude change appeared to have recorded a lower mean score when compared with the other two groups. The implication of ignoring attitude molding by employers means that the opportunity to impart ethical values on students at pre-employment level has been lost. Skill acquisition is about mastering processes and use of equipment, a situation where students are denied access or not taught how to use industrial equipment negates the objectives of SIWES. Stakeholders need to tackle these challenges if SIWES is to produce the kind of result expected of it.

Recommendation

Based on the findings of the study, the following recommendations were made.

SIWES programme should be redesigned in form of a chart showing the expected experiences students are to be exposed to during industrial training in the area of knowledge, skill and attitude.

Attention should be focused on exposing students to organizational ethics. It will enable students to develop the right attitude with respect to acceptable norms, behaviour and practices that best complement the attitude change that have been achieved in the formal school system.

Students on industrial training should be trained

on how to properly and safely use tools and equipment. Such an invaluable experience will go a long way in improving their confidence and overall readiness to take up a job in future.

Formulating an acceptable cost sharing agreement whereby the government and beneficiaries are willing to pay for the cost of training will lead to improved cooperation on the part of the industry to properly train students.

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CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

REFERENCES

- Abas MC, Imam OA (n.d.). Graduates' competence on employability skills and job performance. *International Journal of Evaluation and Research in Education* 5(2):119-125. Retrieved from <http://iaesjournal.com/online/index.php/IJERE>
- Al-Momani M, Al-Balqa ZA (2012). Attitudes of vocational education students at Al-Huson University College towards their major. *International Journal of Vocational Education and Training* 20(1):31-41.
- Dekeyser R (2007). Skill acquisition theory. In Vanpatten, B. & Williams, J. (Eds.), *theories in second language acquisition: An introduction*. (P 97-113). New Jersey: Lawrence Erlbaum Associates, Inc. Retrieved from <https://www.tandfonline.com/doi/abs/10.2167/>
- Drefus SE, Drefus HL (1980). A five-stage model of the mental activities involved in directed skill acquisition. Operation Research Centre, University of California. Retrieved from <https://www.researchgate.net/publication/235125013>.
- Effah B, Boampong E, Adu G, Anokye R, Asamoah JN (2014). Issues of industrial training programme of Polytechnics in Ghana: The case of Kumasi Polytechnic. *Journal of Education and Practice* 5(5). Retrieved from www.iiste.org
- Gambin L, Hoggarth T (2017). Employers and apprenticeship in England: Costs, risks and policy reforms. *Empirical Research in Vocational Education and Training* 9(16):1-22. DOI:10.1186/540461-017-0060-5
- Gemici S, Mcfaden K (2010). Contribution of private-sector ICT workforce training to post-conflict reconciliation: A case study from Kosovo. *International Journal of Vocational Education and Training* 18(1):7-20.
- Haron MA, Mohammad HMA, Ali E, Che RR, Mohammad ZR (2019). The importance of generic skills for technical and vocational students employability. *International Journal of Academic Research in Business and Social Sciences* 9(7):33-45, DOI:10.6007/IJARBS/V9-i7/6089
- ITF (2004). Proceedings and resolutions. 9th biennial SIWES National Conference held at the Hill Stations Hotel, Jos, 13-14th July, 2004
- Kolb AY, Kolb DA (2005). Learning styles and learning spaces: Enhancing experiential learning in higher education. *Academy of Management Learning and Education* 4(2):193-212. Retrieved from <http://www.researchgate.net/publication/302350842>
- Lowden K, Hall S, Elliot D, Lewin J (2011). Employers' perceptions of the employability skills of new graduates. Edge Foundation. Retrieved from www.educationandemployers.org/
- Mofesola A (2012). An appraisal of the student industrial work experience scheme in Federal College of Agriculture Akure. *Greener Journal of Agricultural Sciences* 2(4): Retrieved from <http://gjournals.org/GJAS/Publication/>
- NBS (2016). Unemployment/under-employment watch q1 2016. Retrieved from <http://www.nbsnigeria.ng>
- Nedum-Ogbede PO (2016). New technologies in Business Education: Challenges and the way forward. *Nigerian Journal Business Education* 3(2):99-106.
- O'Connor PJ, Mupinga D, Hilton TML (2015). Process for using existing resources to implement career development in USA high schools. *International Journal of Vocational Education and Training* 23(1):44-56.
- Okolocha CC, Ibik HI (2014). Supervisors rating of strategies for improving school-industry linkages in vocational education in tertiary institution in Anambra state. *The International Journal of Business and Management* 2(4). Retrieved from www.theijbm.com
- Olabiya OS, Okarfor BO, Peter AO (2012). Managing the challenges of industrial work experience scheme in developing workforce among the youths in South-West Nigeria. *British Journal of Arts and Social Sciences* 5(7):18-25.
- Oloruntimilehin AJ (2014). Relationship between business students industrial work experience and classwork performance in colleges of education in Nigeria. Unpublished article. Retrieved from www.globalacademic.com/journals/pristine/
- Olugbenga AF (2009). Towards effective student industrial work experience scheme curriculum development in applied science for adequate skills utilization: A case study of the school of applied science, Nuhu Bamali Polytechnic, Zaria, *Pacific Journal of Science and Technology* 10(1):234-239. Retrieved from <http://www.akamaiuniversity.us/PJST/htm>
- Rahmat M, Ahmad K, Idris S, Zainab NFA (2011). Relationship between employability and graduates' skill. *Procedia, Social and Behavioural Sciences* 59(2012):591-597. Retrieved from www.researchgate.net/publication/257716798
- Rehman S, Mehmood A (2014). Employability skills: The need of the graduates and the employer. *VSRD International Journal of Business and Management Research*. Retrieved from www.researchgate.net/
- Rufai A, Abdulkadir M, Kagara AB (2013). Technical vocational education (TVE) institutions and industries partnership: Necessity for graduates skills acquisition. *International Journal of Scientific and Research Publications* 3(4). Retrieved from www.ijsrp.org
- Tansel A, IZA, Ogawa K (2008). The effects of apprenticeship training scheme on employment probability in Turkey. Unpublished article. Retrieved from <https://www.researchgate.net/publication/229050632>
- Ukwueze FN (2011). Impact of Student's Industrial Work Experience Scheme (SIWES) on Development of Graduate Employability Skills. *Nigerian Vocational Association Journal* 16(1):118-124.