INFLUENCE OF STUDENT INDUSTRIAL WORK EXPERIENCE SCHEME (SIWES) ON THE ACADEMIC PERFORMANCE OF OTM STUDENTS IN ICT BASED-COURSES

ADEMILUYI, LAWRENCE F. Ph.D
Department of Business and Entrepreneurship Edu, Kwara State University, Malete, Kwara State
femiluyi@yahoo.com.uk

ADEMILUYI, ABOSEDE B.
Department of Office Tech& Management, Osun State Polytechnic, Iree, Osun State
boseluyi@gmail.com

Abstract
The study assessed the influence of Student Industrial Work Experience Scheme (SIWES) on the academic performance of OTM students in the two polytechnics in Osun State offering Office Technology and Management. Descriptive survey research design was adopted. Three research questions and one null hypothesis guided the conduct of the study. The population comprised OTM teachers and 2015/2016 Academic Session ND II students of the institutions. The number of students in both institutions was 127 while teachers were 25 totaling 152. The entire population was studied. A structured questionnaire with 43 items was used to generate data from the respondents while Pearson's Product Moment Correlation method was used to determine the reliability coefficient which yielded a value of 0.84. Mean and standard deviation were used to analyze the data collected in order to answer the research questions while the null hypothesis was tested at 0.05 level of significance using t-test statistics. The study shows that Industrial Work Experience Scheme (SIWES) has great influence on student's performance in Word Processing while Desktop Publishing and Webpage Design were not greatly influenced by Industrial Work Experience Scheme (SIWES). The paper recommended that stakeholders should pay greater attention to the programme and the challenge of funding should be resolutely addressed so that the laudable objectives of SIWES may be actualized.
Key words: SIWES, Assessment, Performance, Influence, ICT-based courses

Introduction

The introduction of Students Industrial Work Experience Scheme(SIWES)into the various higher institutions of learning in Nigeria was based on the rationale that the economic and technological development of the nation depends largely on the availability of skilled manpowerto manage the various sectors of the economy. In 1974, the Federal Government of Nigeria established Industrial Training Fund (ITF) and this subsequently led to the introduction of Students Industrial Work Experience Scheme. SIWES was established to bridge the gap between classroom and work environment and in response to the complaints of industrialists that graduates of higher institutions of learning lack adequate practical background knowledge for employment in industries. It has become evident that preparation of higher institution graduates for the world of work is a task that must be thoroughly carried out for a nation to develop economically and technologically. Okpor, Ikechukwu and Hassan (2012) posit that capacity building of human resources in industry, commerce and government is through training and retraining of workers in order to effectively provide the much needed high quality goods and services in a dynamic economy. Aderonke (2013), asserts that SIWES was established to ensure the acquisition of relevant industrial work experience by students in higher institutions of learning whose courses are directly related to industry and to solve the problem of lack of

adequate practical skills for employment in the world of work. One of the key functions of ITF is to work as cooperative entity with industries where students in higher institutions of learning can undertake mid-career work or training and experience in their various areas of study.

Olakotan (2014), affirms that SIWES is charged with the responsibility to provide students in the tertiary institutions with opportunities to gain practical skills, knowledge and competency in addition to what they have learnt in the classroom. It is also designed to prepare students for the industrial working situation they may likely find themselves after graduation. It is a skill training programme designed to expose and prepare students of Engineering, Technology, Science and vocational education for industrial work situation.

Sequel to the inception of students industrial work experience scheme in 1974, there was a glaring evidence that inadequate practical exposure of students in universities, polytechnics and colleges of education posed serious challenge to both the quality and standard of engineering and technological education in which Office Technology and Management programme is not an exception. This inadequacy became a serious threat to the industrial and technological growth of the country as industries and organizations found graduates unsuitable for employment without undertaking industrial training (Ugwuanyi and Ezema,2012).

Evidence abounds that the Student Industrial Work Experience Scheme has had salutary effect on student personality, comportment, knowledge and experience (Agboola & Ademiluyi, 2016). Agboola and Ademiluyi further stated that SIWES represents the student's first real exposure to the real nature of his career, with all its intricacies, detours, opportunities and challenges. The training received during the internship is expected to enable the student have real life experience which can make him a better learner and a more seasoned professional. Fayemi (2012) identifies the major ICT skills needed in the contemporary world of work as word processing, spreadsheet, records management among others. Ajala (2011) asserts that SIWES is expected to prepare OTM students for mastery in different ICT skills. Fayemi and Ajalahowever, explain that many of the ICT skills in the OTM curriculum are not seriously in use in the industry and students cannot fully master them during SIWES.

The transformation of Secretarial Studies to Office Technology and Management (OTM) has brought about considerable positive changes on the secretarial profession. The OTM programme was introduced in Nigerian polytechnics after the NBTE in partnership with UNESCO had extensively reviewed the curriculum of Secretarial Studies with more emphasis on ICT, entrepreneurship and management courses, in order to enrich the knowledge of the students and equip them with necessary skills needed in today's office environment. (Okoro and Agholor, 2014). The new programme, introduced a number of ICT courses among which are: Webpage Design, Advanced Webpage Design, Management Information System, Database Management System, Desktop Publishing, Advanced Desktop Publishing, Modern Office Technology, ICT Office Applications I and II both at ND and HND levels (NBTE, 2007). These courses are referred to as ICT-based courses.

Office Technology and Management (OTM) is an integral part of business education programme which involves the acquisition of skills, ideas and management

abilities necessary for office job performance. Njoku (2012) describes OTM as the total activity which is planned, organized, and evaluated to prepare students to meet the technical and economic needs of a complex society. Ojohwoh (2014) views OTM as an effective, efficient, productive and functional educational programme which prepares its graduates for self employment, paid employment, self reliance and self realization. This implies that OTM programme is a programme that develops in the recipients, the knowledge and competencies needed to function as competent secretaries and office managers in the contemporary world of work. OTM, if effectively embraced could be used as a tool to eradicate poverty and reduce unemployment in Nigeria.

The major objective of Office Technology and Management programme is the acquisition of ICT skills, general education, entrepreneurship education and laying the foundation for advanced studies. Amiaya (2013) cited by Ademiluyi, Bello and Agwatu (2015) further identifies the objectives of OTM programme as follows:

1. Providing the business world with highly skilled knowledge workers who will manage information efficiently, equipped with a comprehensive range of skills including managerial, technological and communication skills .
2. Equipping the students with the knowledge, competencies and specific skills that will enable them to successfully hold position as secretaries, mangers and administrative assistant in both public and private sectors of the economy.
3. Developing in the students an occupational intelligence that will make them versatile and adaptable to the changing situation in the world of work.
4. Preparing students for entrepreneurial competencies.
5. Developing the student's potentials for further academic and professional pursuit.

The ICT- based courses were designed to enrich the OTM curriculum so that it can meet the demands of modern business environment.

Polytechnic system was established by Federal Government of Nigeria to run National Diploma (ND) and Higher National Diploma (HND) programmes respectively. These programmes were designed to satisfy the nation's thirst for middle-level technical manpower, particularly in Technology, Vocations and Engineering (NPE, 2014).At the National Diploma level students are expected to undertake a four-month supervised industrial work experience scheme (SIWES). The scheme exposes students' to industry based skills necessary for a smooth transition from the classroom to the world of work. It affords students' of tertiary institutions the opportunity of becoming familiar 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 pre-condition for the award of Diploma and Degree certificates in specific disciplines in various institutions of learning (Osun State Polytechnic, Iree, 2015).

Federal Government of Nigeria introduced SIWES to various institutions of learning as a requisite for the award of certificates. It was designed to help students acquire the necessary practical experience and skills in their various fields of study. It was created in order to bridge the existing gap between the theory taught in the

classroom and the practical in the world of work. Also, it is aimed at exposing the students to the use of various machines and equipment, professional work methods and ways of safeguarding the work areas in industries among others. The programme was established basically to impart practical understanding to students with respect to their various disciplines. It is also intended that the students through a process of exposure to academic knowledge and practical application would understand the underlying principles and become better focused and acquire practical applications towards excellence in their disciplines. Awe and Adebisi (2014) believe that many returning students are worse in some skills than they were while in school. Also, they observed that many of the students simply go their own way for four months, returning with fake SIWES log books attesting to industrial training that took place in default.

The objectives of the student industrial training work experience scheme are as follows: To provide avenue for students to acquire industrial skills and experience in their approved coursesof study, to prepare student for industrial work situation after graduationand to enable students in Nigerian tertiary institutions to gain industrial skills and experience in their course of study. Furthermore, SIWES seeks to prepare students for work situation they are likely to meet after graduation, to expose studentsto work methods and techniques in handling equipment and machines that may not be available in the school. It also seeks to provide students with an opportunity to apply their theoretical knowledge in real work situation, thereby bridging the gap between classroom work and actual practice (ITF, 2004). In achieving these objectives, SIWES is expected to engender positive changes in the student which should be measurable in the classroom performance of the student in the aftermath of the SIWES period.

Performance in this research work refers to how well or badly Office Technology and Management students perform in ICT-based courses after SIWES. Influence is the effect on a particular situation and the way it develops (Oxford Advanced Learner's Dictionary, 2006) While the researchers understand that the word 'influence' can have both positive and negative connotations, influence in this research work refers to positive impact only.

Statement of the Problem

The introduction of SIWES was preceded by complaints from industrialists and employers of labour that graduates of higher institutions of learning lacked adequate practical knowledge for employment in industries and other organizations. The programme sought to bridge the gap between classroom and the world of work and to expose students to the practical aspects of their different professions. Since the programme took off, stakeholders have evidently endeavored to improve the situation by providing many of the requisite resources needed for the programme to achieve its objectives. However, complaints persist about the effectiveness of the programme especially in respect of Office Technology and Management programme. It has been claimed that competency in ICT-based secretarial skills is not seriously influenced by exposure to SIWES. Since considerable resources and time are being expended on SIWES, it is important to establish the effectiveness or otherwise of the the

programme in order to identify errors and effect corrections. The concern of this study is to assess the extent of the influence of SIWES on the academic performance of OTM students in the newly introduced ICT-based courses in Office Technology and Management programme, as perceived by relevant students and teachers.

Purpose of the Study

The major purpose of this study was to assess the influence of SIWES on the academic performance of OTM students in ICT-based courses. Specifically, the study sought to:

1. Determine the extent to which SIWES influences the performance of OTM students in Word Processing.
2. Establish the extent to which SIWES influences the performance of OTM students in Desktop Publishing.
3. Identify the extent to which SIWES influences the performance of OTM students in Webpage Design.

Research Questions

The following research questions guided the study:

1. To what extent does SIWES influence the academic performance of OTM students in Word processing?
2. What is the extent of SIWES influence on the academic performance of OTM students in Desktop Publishing?
3. To what extent does SIWES influence the academic performance of OTM students in Webpage Design?

Hypothesis

The following hypothesis was tested at 0.05 level of significance:

1. There is no significant difference in the mean ratings of students and teachers on the influence of SIWES on the academic performance of OTM students in ICT-based courses.

Methods

Descriptive survey research design was adopted because the study sought the opinions of respondents on the influence of SIWES on the academic performance of OTM students in ICT-based courses. The study was conducted in the two polytechnics offering Office Technology andManagement in Osun State namely: Osun State Polytechnic, Iree and Federal Polytechnic, Ede. The population comprised OTM teachers and 2015/2016 Academic Session ND II students of the institutions. The student population in Osun State Polytechnic, Iree is 62 while Federal Polytechnic, Ede 65, and totaling 127. The teachers' population comprised 11 in Osun State Polytechnic, Iree and 14 in Federal Polytechnic, Ede. The total student population was 127 while teachers were 25 totaling 152. The entire population was studied, no sample was drawn in line with the postulate of Akuezilo and Agu (2007) cited in Agboola and Ademiluyi (2010) that it is ideal to study the entire population whenever possible. The instrument was a 43-item structured questionnaire based on the formulated research questions and reviewed related literature. The questionnaire was divided into two sections. Section A sought the respondents' demographic data

while section B consisted of questions designed to extract information needed. The questionnaire was face - and content-validated by two experts. Pearson's Product Moment Correlation formula was used to determine the reliability of the instrument and it yielded a coefficient of 0.85. The instrument was designed to elicit the ratings of respondents on 5-point Likert rating scale as follows: Very Great Extent - 5 points, Great Extent - 4 points, Undecided -3 points, Small Extent - 2 points and Very Small Extent - 1 point.

152copies of the questionnaire were distributed by the researchers, out of which 134 were returned representing 88% of return. Mean and standard deviation were used to analyze the data collected. The research questions were adjudged on the following basis: 0.50 - 1.49 Very Small Extent (VSE), 1.50 - 2.49 Small Extent (SE), 2.50 - 3.49 Undecided (U), 3.50 - 4.49 Great Extent (GE), 4.50 - 5.00 Very Great Extent (VGE). The null hypothesis was tested at 0.05 level of significance using t-test statistic. The null hypothesis was to be rejected where t-calculated was equal to or greater than the critical value while the null hypothesis was accepted when t-calculated was less than the critical value.

RESULTS

Research Question 1

1. To what extent does SIWES influence the academic performance of OTM students in Word processing?

Table 1: Respondents' mean ratings on the influence of SIWES on the academic performance of OTM students in Word Processing

S/N	ITEMS	Mean	SD	Remarks
	SIWES influences the performance of OTM students in Word Processing in the following areas:			
1.	Typing of documents	4.6	2.3	VGE
2.	Saving of documents	4.3	2.1	GE
3.	Filling of documents	3.7	1.8	GE
4.	Retrieving of documents	3.6	1.7	GE
5.	Creating of new folders	3.9	1.9	GE
6.	Correctingerrors	4.2	1.9	GE
7.	Setting Margins	3.5	1.5	GE
8.	Editing documents	3.8	1.3	GE
9.	Proofreading	3.6	1.2	GE
10.	Using page breaker	4.1	2.0	GE
11.	Deleting documents	4.7	2.3	VGE
12.	Cut and paste documents	4.5	2.2	VGE
13.	Copy documents on CD and flash drive	3.9	1.8	GE

	Grand Mean	**4.03**	**GE**

Table 1 shows that respondent's assessed items 1, 11, and 12which had the mean ratings of 4.6, 4.7 and 4.5 respectively as very great extent. All the other items were assessed as great extent. The Grand mean was 4.03 which falls within the range of great extent, implying that SIWES influences the academic performance of OTM students in Word Processing in great extent.

Research Question 2

2. What is the extent of SIWES influence on the academic performance of OTM students in Desktop Publishing?

Table 2 Respondents' mean ratingson the extent of influence of SIWES on the academic performance ofOTM students in Desktop Publishing.

S/N	ITEMS	Mean	SD	Remarks
	SIWES influences the performance of OTM students in Desktop Publishing in the following areas:			
14.	Designing invitation cards	2.3	1.2	SE
15.	Designing greeting cards	3.6	1.5	GE
16.	Designing Handbills	2.4	1.3	SE
17.	Production of news bulletins	2.1	1.1	SE
18.	Production of magazines	1.9	0.9	SE
19.	Production of journals	1.7	0.8	SE
20.	Inserting pictures from various sources	2.0	1.1	SE
21.	Production of textbooks	2.1	1.1	SE
22.	Production of event programme	2.2	1.2	SE
23.	Using freehand drawing tools	2.4	1.2	SE
24.	Moving and changing the size of displayed graphics	2.2	1.0	SE
25.	Filling and shading using different colours	3.5	1.5	GE
26.	Manipulation of graphics	2.3	1.0	SE
27.	Designing flyers	2.4	1.2	SE
	Grand Mean	**2.36**		**SE**

Table 2shows that only items 15 and 25 which had the mean ratings of 3.6 and 3.5 are assessed as great extent. All the other items were assessed as small extent. The Grand mean was 2.36 which indicates that in the respondents' opinions, SIWES influences theacademic performance of OTM students in Desktop Publishing to a small extent.

Research Question 3

To what extent does SIWES influence the academic performance of OTM students in Webpage Design?

Table 3: Respondents' mean ratings on the influence of SIWES on the academicperformance of OTM students in Webpage Design

S/N	ITEMS	Mean	SD	Remarks
	SIWES influences the performance of OTM students in Webpage Design in the following areas:			
28.	Creating website	2.4	1.1	SE
29.	Accessing Information online	3.5	1.3	GE
30.	Downloading/uploading information from the web	2.2	1.1	SE
31.	Purchase/sell goods online (E-Commerce)	2.0	1.0	SE
32.	Creating Bookmarks	2.2	1.1	SE
33.	Creating thumbnails	2.0	0.9	SE
34.	Inserting image from file	3.7	1.4	GE
35	Inserting clip art	2.0	0.9	SE
36.	Cropping a graphic	2.1	1.1	SE
37.	Sends an attachment with an email	2.4	1.2	SE
38.	Publishing documents online	1.9	0.9	SE
39.	Sends/ replies email	2.3	1.1	SE
40.	Adding hyperlink to text/images	2.2	1.0	SE
41.	Adding and editing a table	3.6	1.3	GE
42.	Adding different colours to border	2.3	1.1	SE
43.	Adjusting table padding and spacing	1.8	0.9	SE
	Grand Mean	**2.41**		**SE**

Table 3 reveals that respondents assessed only items 29, 34 and 41 which had the mean ratings of 3.5, 3.7 and 3.6 respectively as great extent while all the remaining items were assessed as small extent. The Grand mean was 2.41 which falls within the range of small extent. Out of sixteen items only 3(%) were assessed as great extent. This indicates that SIWES influences the academic performance of OTM students in Webpage Design to a small extent.

Test of Hypothesis

Ho the mean ratings of students and teachers will not differ significantly on the influence of SIWES on the academic performance of OTM students in ICT-based courses.

Table 4: T-test result of students and teachers assessment on the influence of SIWES on the academic performance of OTM students in ICT-based courses.

GROUP	N	$\overline{X}$	SD	DF	t-cal	t-critical
Students	110	89.5	18.25			

				132 0.94 1.96
Teachers	24	94.2	19.74	

NotSignificant (P<0.05)

The analysis in table 4 shows that the t-calculated was 0.94 which is less than the t-critical of 1.96 at 0.05 level of significance. The null hypothesis was accepted as the t-calculated was less than the t-critical. The result indicates that students and teachers in OTM departments did not differ significantly in their mean responses regarding the influence of SIWES on the academic performance of OTM students in ICT courses.

Discussion of Findings

The study examined the influence of SIWES on the academic performance of OTM students in ICT-based courses. From the findings on research question 1, it is clear that SIWES influences the performance of OTM students in Word Processing course to a great extent. This is in consonance with the position of Aderonke (2013) that SIWES exposes students to the practical aspect of their profession thus enabling them to bridge the gap between theoretical and practical aspects of their profession. The findings also corroborate the view of Ugwuanyi and Ezema (2012) that SIWES exposes students to real world of work and enables them to put what they have learnt in classroom into practice in the world of work.

Results of research question 2 reveals that SIWES influences the performance of OTM students in Desktop Publishing to a small extent. The finding is in line with the views expressed by Awe and Adebisi (2014) that many returning ND (SIWES) students are worse in some skills than they were while in school. They stressed that many of the students simply go their own way for four months, returning with fake SIWES log book attesting to industrial training that took place in default.

Findings on research question 3 revealed that SIWES influences the performance of OTM students in Webpage Design to a small extent. The findings validate the views of Ajala (2011) and Fayemi (2012) that many of the ICT skills in the curriculum are not seriously in use in the industry; hence students cannot fully master them in the course of SIWES.

The result of the test hypothesis shows that the responses of the students and teachers did not differ significantly on the influence of SIWES on the academic performance of OTM students in ICT-based courses. This community of perception between students and teachers reinforces the finding of the study.

Conclusion

With the study conducted and the findings analyzed, the following conclusions are presented:

1. SIWES influences the academic performance of OTM students in Word Processing to agreat extent.

2. SIWES influences the academic performance of OTM students in Desktop Publishing to a small extent.
3. SIWES influences the academic performance of OTM students in Webpage Design to asmall extent.

Recommendations

Based on the findings of this study, the following recommendations are proffered:

1. In order to ensure smooth running of the programme, government should provide sufficient funds for the scheme so that the laudable objectives of SIWES may be actualized.
2. Legislations compelling public and private organizations to engage and pay students on SIWES should be enacted.
3. Proper monitoring should be given to the programme, this will enable it to achieve its objectives.
4. Institutions should be involved in student placement and supervision.
5. Seminars, workshops and conferences should be organized for all the stakeholders in the scheme regularly.

References

Ademiluyi, A. B., Bello, G. A. & Agwatu, C. O. (2015). Adequacy of the Resourcesavailable for ICT-based courses in Office Technology and Management programmes in Polytechnics in Osun State. Paper presented at the 5thAnnual National Conference of the Faculty of Information and Communication Technology, Osun State Polytechnic, Iree. 7th-11th.

Aderonke, O. A. (2013). Student Industrial Work Experience and the Dynamics of Sustainable Skills Acquisition and Utilization among Graduates in Nigeria. *Research Journal of International Studies*,3 (1), 130-136.

Agboola, J. O. & Ademiluyi, L. F. (2016). The Effectiveness of the One-Year Internship on the mastery of Secretarial Skills in Nigerian polytechnics. *African Journal of Technical and Vocational Education and Training*, 2(2), 130– 139.

Ajala, F. (2011). Modern Office Technology and the Secretary. *Journal of Business Education* 4(2), 13-19.

Awe, A. F. and Adebisi, G. A. ((2014). *Student Industrial Work Experience Scheme. A practical Approach.* Ibadan: Ejon Publishers.

Fayemi, L. O. (2012). The Secretary of the Future. Paper presented at a Workshop for Executive Assistants, Osun State Polytechnic, Iree.

Hornby, A.S (2006) *Oxford Advanced Learners Dictionary 6th Edition*. Oxford: Oxford University Press

ITF (2004). *Information Guideline for Student Industrial Work Experience Scheme.* Jos: Industrial Training Fund.

Jane, N. E. (2011). An Assessment of the use of ICT in the Teaching and Learning of Business Education in a Nigerian Federal University (University of Benin). Paper presented at the Annual National Conference of Association of Business Educators ofNigeria, University of Lagos October, 11th-15th.

National Board for Technical Education (2007). *National Diploma in Office Technology and Management Curriculum and Course specifications.* Kaduna: Atman Press.

National Policy on Education (2014) Lagos: Federal Government Press.

Njoku, A. S. (2012). Challenges Associated with the Transition of Secretarial Studies to Office Technology and Management. *Journal of Business Education,* 2(1), 86-94.

Ojohwoh, R. (2014). Emerging Challenges in the use of New Technologies in Implementing Office Technology and Management Programme in polytechnics. *Nigerian Journal of Association of Business Educators,* 1(3), 333-340.

Okoro, B. O. & Agholor, S. I. (2014). Information and Communication Technology: A tool for Effective Instructional delivery in Office Technology and Management. *Nigerian Journal of Business Education,* 1(3), 218-226.

Okpor, A. S. Ikechukwu, S. Hassan, N. (2012). Public Private Partnership for Skill Acquisition and Vocational Technical Education Development. *Mediterranean Journal of Social Sciences,* 3(4), 91-94.

Olakotan, A. J. (2014). *Teaching and Learning in Schools. A practical Guide.* Ibadan: Wisdom Publishers.

Osun State Polytechnic, Iree (2015). *Student Industrial Work Experience Handbook: A practical Approach.* Iree: Ospoly Ventures Ltd.

Ugwuanyi, C. F. and Ezema, J. O. (2012). Challenges of Students Industrial Work Experience Scheme in Library Information and Science.Retrieved from http://www.thefreelibrary.com on 5th October, 2017.