

**Influence of Industrial Work Experience from Microsoft Word, Microsoft Excel,
and Office Technology on Federal Polytechnic, Kaduna State,**

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Abstract

The study was carried out to determine the Influence of Students' Industrial Work Experience Scheme (SIWES) on Microsoft Word and Microsoft Excel Skill acquisition of Office Technology and Management Students of Kaduna State Polytechnic, Nigeria. Quasi-experiment research design was used in the study. This was used because it works well for intact group of respondents. The study had two objectives, two research questions and two null hypotheses which were tested at 0.05 level of significance. The population of the study was forty-six (46) ND II students. The entire population of the 46 respondents were used as the sample size because of the size. The instrument for collecting the data was Office Technology and Management Computer Skill Diagnostic Test (OTMCST). The instrument was validated by three experts. One from the Department of Educational Psychology and Counselling and two from office and two management technology, Ahmadu Bello University, Zaria. **After a pilot study/test, a reliability coefficient index was 0.81.** Mean and standard deviation were used to answer the research questions. Simple Regression (SR) was used to test null hypotheses one and two. From the results, all the two hypotheses were rejected. The result showed that SIWES had influence on Microsoft word skill acquisition of Office Technology and Management students of Kaduna Polytechnic in Kaduna State Nigeria and also SIWES had influence on Microsoft excel skill of Office Technology and Management students. It was concluded that SIWES should use Microsoft word and Microsoft excel in their studies in Office Technology and Management students of Kaduna Polytechnic in Kaduna. Based on the findings. It was recommended that, Microsoft word and Microsoft excel should be utilized by students' during SIWES exercise to improve their skills in Office Technology and Management in Kaduna Polytechnic Nigeria.

Keywords: SIWES, Microsoft word, Microsoft excel office technology, management

Introduction

Students' Industrial Work Experience Scheme (SIWES) is mandatory for Office Technology and Management Students. OTM has undergone many changes. In the 70s and 80s, it was called secretarial studies where manual typewriters, duplicating machines were used and courses like typewriter and shorthand were taught at the higher institutions and graduates were made to practice typewriting and shorthand whenever they are sent for industrial attachment. Industrial Training Fund (ITF) (2011) stated that the level of industrial development in any society is directly linked to the quality of skilled manpower available to drive the production and service delivery processes. Nwankwo and Amaechule (2011) were of the opinion that, in

skills acquisition three stages are mandatory, these are: theoretical, practical and exposure to challenges. This implies that an important factor in skills acquisition process is exposure to practical situations where these skills are displayed and utilized.

It is in realization of the relationship between human resources' and economic development that the Nigerian government through ITF introduced the Students' Industrial Work Experience Scheme (SIWES) in 1973. The scheme was specifically designed to equip and provide Students of Polytechnics, Technical Colleges and other related tertiary institutions with the opportunity to acquire practical skills and experiences on the job before graduation (Umar, 2010) Advancement in technology has brought about change in virtually everything that is done in the world, office inclusive. The advent of computer and computer softwares have not only influenced the way things are done, but also accelerated the speed with which they are done. The introduction of packages like Microsoft Word, Excel, PowerPoint, Access, CorelDraw, and Publisher that are used for different purposes have not only affected the way offices run businesses, but also affected the curriculum of tertiary institutions.

Microsoft Word is a component of the Microsoft office suite of productivity software, but can also be purchased as a stand-alone product (Peter, 2009). He continued by saying Microsoft word brings one to its opening Edit Mode; it gives you a blank page to work on. It also provides a range of menus and icons that would make working in Microsoft word easy. The Office Technology and Management students see the material being typed on screen to enable them check for corrections and amendments. Microsoft Excel has to do with the use of spreadsheet skill which allows Office Technology and Management students to explore solution alternative processes that go beyond symbolic manipulations and provide students with a deeper understanding of concepts embedded in a problem. One unique use of spreadsheets is the ability to interactively model and simulate mathematical situations. OTM teachers can use spreadsheets to create experimental environments for discovering mathematical relationships. These experiments can assist students in their conceptualization of relationships among numerical, graphical and algebraic representations (Peter, 2009).

Office Technology and Management students who possess skills in Microsoft Word and Microsoft Excel were found to be effective and efficient in office occupation (Anthony, 2016). Polytechnics and allied institutions that run courses in this field cannot but include these latest innovations into their curriculum so that the students can fit properly into the world of work.

Statement of the Problem

The objectives of Industrial Training Fund (ITF) (2011) stated that the level of industrial development in any society is directly linked to the quality of skilled manpower available to drive the production and service delivery processes. It is in realization of the relationship between human resources' and economic development that the Nigerian government through ITF introduced the Students' Industrial Work Experience Scheme (SIWES) in 1973. The scheme was specifically designed to equip and provide Students of Polytechnics, Technical Colleges and other tertiary institution with the opportunity to acquire practical skills and experiences on the job before graduation (Umar, 2010).

But with all these efforts by the government, the programme was not functioning as expected and also not getting attention and the results required of it. This is because of several factors militating against its set goals. Such factors includes among others, corruption, inadequate funding, inadequate qualified lecturers, inadequate infrastructural facilities. The problems of this nature have dare consequence upon the schools where office technology programmes are being offered as it calls to question the availability of required OTM equipment in these areas that have been mentioned, because if these are not available, it will impact negatively in the quality of students being trained. Therefore, this study sought to determine the influence of SIWES on skill acquisition of Office Technology and Management students of Kaduna Polytechnic, Nigeria

Objectives of the Study

The main objective of this study was to examine the influence of SIWES in the skill acquisition of MMicrosoft Word and Microsoft Excel skill acquisition of Office Technology and Management students of Kaduna Polytechnic, Nigeria. The specific objectives are to:

- i. Determine the influence of SIWES on Microsoft Word skill of Office Technology and Management students of Kaduna Polytechnic, Nigeria.
- ii. Ascertain the influence of SIWES on Microsoft Excel skill of Office Technology and Management students of Kaduna Polytechnic, Nigeria

Research Questions

The study sought answers to the following research questions:

- i. What is the influence of SIWES on Microsoft Word skill acquisition of Office Technology and Management students of Kaduna Polytechnic, Nigeria?
- ii. What is the influence of SIWES on Microsoft Excel skill acquisition of Office Technology and Management students of Kaduna Polytechnic, Nigeria?

Research Hypotheses

The following null hypotheses were tested.

H0₁: SIWES has no significant influence on Microsoft Word skill of Office Technology and Management students of Kaduna Polytechnic, Nigeria.

H0₂ SIWES has no significant influence on Microsoft Excel skill of Office Technology and Management students of Kaduna Polytechnic, Nigeria.

Methodology

This study used quasi-experiment research design. The design allows outcomes for one group of students before and after their participation in SIWES programme to be compared, known as pre-test and post-test. The population of this study is forty six (46) students as at 2019/2020 academic session. It comprised of all the students who used the two skills, studying Office Technology and Management at National Diploma Two (ND II). Based on the ground that all the ND II OTM

students constitute the intact classes for the study. The total of 46 students served as sample for the study. Hence there is no sampling procedure followed. Emmett McGroarty (2017) stated that quasi-experimental design using intact classes is a one group pre-test – post-test design. Glen (2016) stated that when the population is equal or greater than 1000, 3% can be used as a sample, but when the population is less than 1000 the entire population can be used as a sample. The instrument used for collecting data was Office Technology and Management Computer Skill Diagnostic Test (OTMCST). This was used to pre-test the students’ skills in Microsoft Word and Microsoft Excel. The same test was conducted after the students’ participation in SIWES programme (post-test). The instrument was scored 100%, each question carried four marks. The instruments were subjected to validation. Murtala (2011) emphasized on the importance of establishing the validity of research instruments. Validation was two experts. One from G & C and two from Department of the Office and Technology. This agrees with the assertion of Abdullahi (2015) that validation of content of a research instrument by experts is both important and acceptable.

A pilot study was carried out using twenty (20) students of Office Technology and Management in Nuhu Bamali Polytechnic, Zaria who have embarked and are preparing to embark on SIWES programme to detect any ambiguity in the instruments. This was because they were not part of the study population and were accessible to the researcher. The Data collected from the Pilot study was statistically analyzed for the purpose of establishing the reliability of the instrument. Cronbach's reliability coefficient was used and a reliability of 0.81 was realized. According to Herman (2015), an instrument is considered reliable if its reliability coefficient lies between 0 and 1, and that the closer the calculated reliability coefficient is to zero, the less reliable is the instrument, and the closer the calculated reliability coefficient is to 1, the more reliable is the instrument. The researcher had collected letter of introduction from the Head of Department of Vocational and Technical Education, Faculty of Education, Ahmadu Bello University, Zaria, in order to gather necessary data needed for this research work.

The services of research assistants were employed for the administration of the test instrument. The researcher complied strictly with the ethics of research to avoid coercion and the respondents' privacy was respected. The researcher conducted pre-test and post-test with the OTM students. The pre-test was administered before the students’ participation in SIWES while the post-test was after participation in SIWES programme. The result of the test will determine the OTM skill acquired by the students. However, those who scores 0-49% for both pre-test and post-test will be regarded as not having adequate Computer skills. In order to answer the research questions, the descriptive statistics was used to calculate the mean. The null hypotheses one to two was tested using simple learners at 0.05 levels of significance. According to Osuala (2004), regression was used as the best statistical tools to test the influence between the dependent and independent variable. If the mean score is less than 2.5 it will be taken as a negative response, while 2.5 and above will be a positive response. For the analysis of null hypotheses one to two, where the r-value is less than the critical value ($r\text{-value} < r\text{-critical value}$), the null hypothesis was retained; on the other hand, if the r-value is greater than the critical value ($r\text{-value} > r\text{-critical value}$), the null hypothesis was rejected.

Result

Research Question One: What is the influence of SIWES on Microsoft world skill acquisition of Office Technology and Management students in Kaduna Polytechnic, Kaduna State?

Table 1: Analysis of mean scores of ND II students with Microsoft Word during SIWES

Variable	N	Mean	StdDev	MD
Microsoft Word skill before SIWES	25	36.6	10.436	33.6

Micro soft Word skill after SIWES	<u>25</u>	<u>70.20</u>	<u>16.772</u>
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Source: Field Work, 2020

The study analysis presented in Table 2 show that ND II students who were taught with Microsoft Word skills had a mean of 70.20 and a standard deviation of 16.772 against a SIWES with a mean of 36.6 and a standard deviation of 10.436 with a mean difference of 33.6

Research Question two: What is the influence of SIWES on Microsoft excel skill acquisition of Office Technology and Management students in Kaduna Polytechnic, Kaduna State?

Table 2: Analysis of mean scores of ND II students with Microsoft excel during SIWES

Variable	N	Mean	StdDev	MD
Microsoft Excel skill before SIWES	11	56.3	14.103	11.5
Microsoft Excel skill after SIWES	11	67.8	15.847	

Source: Field Work, 2020

The study analysis presented in Table 3 show that ND II students who were taught with Microsoft excel skill had a mean of 67.8 and a standard deviation of 15.847 against a SIWES with a mean of 56.3 and a standard deviation of 14.103 with a mean difference of 11.5.

Test of Null Hypotheses

The research hypotheses were tested using linear regression analysis.

HO₁: SIWES has no significant influence on Microsoft Word skill of Office Technology and Management students of Kaduna Polytechnic, Nigeria.

Table 3: Linear regression analysis showing influence of SIWES on Microsoft Word skill acquisition

Model	Coefficients	SE	T	Sig
Microsoft Word skill before SIWES	57.415	2.013	28.522	0.000
Microsoft Word skill after SIWES	1.426	0.268	5.321	0.006

R squared 0.587

R squared adjusted 0.571

As shown in Table 5, the findings of the study on regression analysis revealed that SIWES contributed 1.426 units to show its predictive influence on acquisition of Microsoft skills. It implies that one unit increase in the use of SIWES increases acquisition of Microsoft word skills by 1.426 (about 143%). The co-efficient of determination, R², which shows the total percentage contribution of the independent variable in the variation of the dependent, is 57.1 percent. This implies that all the activities related to SIWES significantly influenced the acquisition of Microsoft word skills by the p-values of 0.006, which is lower than α at 0.05 level of significance. The null hypothesis is rejected.

Hypothesis two: SIWES has no significant influence on Microsoft Excel skill of Office Technology and Management students of Kaduna Polytechnic, Nigeria.

Table 4: Linear regression analysis showing influence of SIWES on Microsoft Excel skill acquisition

Model	Coefficients	SE	T	Sig
Microsoft Excel Skill before SIWES	42.321	3.113	13.595	0.000
Microsoft Excel Skill after SIWES	0.226	1.660	1.633	0.006

R squared 0.452

R squared adjusted 0.440

As shown in Table 6, the findings of the study on regression analysis revealed that SIWES contributed 0.426 units to show its predictive influence on acquisition of Microsoft skills. It implies that one unit increase in the use of SIWES increases acquisition of Microsoft EXCEL skills by 0.226 (about 23%). The co-efficient of determination, R^2 , which shows the total percentage contribution of the independent variable in the variation of the dependent, is 44 percent. This implies that all the activities related to SIWESS significantly influenced the acquisition of Microsoft Excel skills by the p-values of 0.006, which is lower than α at 0.05 level of significance. The null hypothesis is rejected.

Discussion of Findings

From the data analysis, the following are the summary of the major findings:

1. The result of research question one and null hypothesis one revealed that SIWES had influence on Microsoft word skill acquisition of Office Technology and Management students of Kaduna Polytechnic in Kaduna State Nigeria.
2. The result of research question two and null hypothesis two revealed that SIWES had influence on Microsoft excel skill acquisition of Office Technology and Management students of Kaduna Polytechnic in Kaduna State Nigeria.

Conclusion

Based on the outcome of this research work, the researcher concluded that Microsoft word and Microsoft excel should continuously be used in Office Technology and Management students of Kaduna Polytechnic in Kaduna.

Recommendations

Based on the outcome of the study, the following recommendations were made:

1. Microsoft Word skill should continuously be applied in SIWES for Office Technology and Management students of Kaduna Polytechnic in Kaduna
2. Microsoft Excel skill should continuously be applied in SIWES for Office Technology and Management students of Kaduna Polytechnic in Kaduna
3. Skills acquisition in Office Technology and Management should continuously be used by students of Kaduna Polytechnic in Kaduna in SIWES.
4. Microsoft Word + Microsoft Excel should continuously be applied in SIWES for Office Technology and Management students of Kaduna Polytechnic in Kaduna

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