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Influence of Information and Communication Technology Tools on the Teaching and Learning of Office Technology in Polytechnics in South – East Nigeria

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ABSTRACT
The study was carried out to examine the Influence of Information and Communication Technology Tools on Students' Acquisition of Office Technology Skills in Polytechnics in South-East Nigeria. Specifically, the study ascertained the influence of computer technology on; extent to which printer technology influences students' acquisition of Office Technology Skills in Polytechnics in South-East Nigeria; and gender differential on the extent internet technology influences students' acquisition of office technology skills in Polytechnics in South-East Nigeria. Data were collected with the aid of questionnaire from 347 final year HND students of Office Technology and Management (OTM) proportionately selected from 1389 OTM students in six Polytechnics located in the South-East Nigeria. Mean score analysis and Z-test were used to achieve the objectives of the study. The result indicated that out of the 19 computer skill areas understudied, 17 had significant influence on students' acquisition of Office Technology Skills with the exception of formatting cells in office documents (M= 1.95) and creating a worksheet database by themselves (M = 1.89). The result also revealed that all forms of use of printer technology influenced office technology skills acquisition. The Z-test of gender difference in the influence of computers for the acquisition of office technology skills revealed that no significant difference existed in the mean responses of male and female students on the extent of usage of computers for influencing the acquisition of office technology skills.The study concludes that student's use of Information and Communication technology tools influenced their office technology skills acquisition. Hence, it is recommended that Tertiary institutions should make ICT tools very significant unit of the course content in Office Technology and Management.

***Keywords*:** ICTs, Teaching, Office technology, Learning, Polytechnic, South-east

Introduction

The office is defined by the purpose it is designed to serve. Thus, it provides facilities for internal and external communication and coordinates activities of different departments of the organisation (Akarahu, 2010). It exists for the purpose of performing various clerical duties and transactions which may range from financial, personnel, legal, to information and data processing. The core activities in an office include collecting information; processing information; storing information; coordinating information and distributing information (Littlefield, *et al.,* 2001). They added that office has assumed many other responsibilities, such as safeguarding assets, personnel management, and procurement of assets which are incidental to the primary function.

Filing, meetings, telephone handling, mail handling were previously performed manually in the office, but presently the traditional role of the office has change significantly with the advancement in Information and Communication Technology (ICT). This transformation has brought home increasing deployment of computers, cameras, automated machines, cabinets which has since increased efficiency of work in the office. Today, a single ICT device undertakes jobs previously meant for several men, delivering at the speed of light and with utmost precision.

In the light of the above, Ritchie and Brindley (2005), conceived ICTs as the array of primarily digital technologies designed to collect, organise, store, process and communicate information internally and externally to an organisation. These technologies include Mobile Phone, Point-Of-Sale systems, Stand-alone Personal Computer System (PCs), networked environments, internet and information management software (Sing, 2002). It includes equipment like telephones, computers, printers, scanners, routers, modems, communication lines used to influence communication between

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employers and employees, businesses and customers, and inter-business communications across physical boundaries. Some of the most useful ICT tools in the office are the computer system, printer, electronic data interchange, internet, and customized project management software. While the computer is an electronic device that accepts data presented to it, processes the data, carries out logical operations and supplies the required result in the desired form, a printer is a peripheral which produces a text or graphics of documents stored in electronic form, usually on physical print media such as paper or transparencies (Allen, 2013).

By this development, students need to be office technology compliant, possessing the knowledge, skill and aptitude necessary to use and operate the office technology. Office technology is a product of Information and Communication technology which is widely adopted in managing business information in the office (Peter, 2010). It is the new nomenclature for secretarial studies and offered in Polytechnics. Its focus is on office administration. The programme is essentially designed to enable students acquire office technology skills by exposing them to the use and application of office technology especially ICT tools as obtain in the office today. In line with the view of the need for skill acquisition that Federal Republic of Nigeria (FRN, 2004) stipulates in section one, sub-section 7(d) of National Policy on education, the "acquisition of appropriate skills and the development of mind physical and social abilities and competencies as equipment for an individual to live and contribute to the development of the society". Further, in compliance with this National education goal, the National Board for Technical Education (NBTE, 2004) recognised the importance of ICT and incorporated it in the curriculum for office Technology and Management Programme.
Office Technology and Management programme is offered in all the Polytechnics in Nigeria including those in the South-East. It is believed that future Polytechnic students would face bigger challenges adjusting to the constant influx in office technology. Hence, students and lecturers become dynamic as they embrace new office technologies, acquiring their relevant skills.

The influx of office automations and technology has posed some challenges to office secretaries and workers, as it demands from them sufficient acquisition of the new skills to be able to operate and use the modern office automations and technology. Exposing students to the various office technology tools has become necessary to enable them acquire the desired knowledge, skill and attitude to utilise the office technology in the performance of office tasks. This desire is yet to be met as most graduates of the Office Technology and Management programme lack the prerequisite skills in office technology and management for their employability. Those that were able to secure employment have found it difficult to function competently as secretaries and office workers due to poor ICT skills. This situation has given rise to growing concern by employers of labour. The poor level of office technology skill acquisition among graduates of Office Technology and Management and by extension, the low productivity at the workplace is alarming.

The solution to the aforementioned inadequacies lies in adequately understanding the performance gap in the use of office technology vis-à-vis the influence of ICTs in the teaching and learning of the course. Against this background, the study was carried out to ascertain how the phenomenon manifests and its form of manifestation.

Objectives of the Study

i. To ascertain the extent to which computer technology influences students' acquisition of Office Technology Skills in Polytechnics in South-East Nigeria;
ii. To determine the extent to which printer technology influences students' acquisition of Office Technology Skills in Polytechnics in South-East Nigeria;
iii. To determine gender differential on the extent internet technology influences students' acquisition of office technology skills in Polytechnics in South-East Nigeria.

Methodology

The area of the study was South-East Geo-political zone of Nigeria, also known as South-Eastern Nigeria. It is a cultural region and a linguistic area in Nigeria that is defined by Igbo culture and language. The region is surrounded by a host of large rivers. The south-East geo-political zone consists of Abia, Anambra, Ebonyi, Enugu and Imo States located on the eastern side of the River Niger. They are predominantly Christians and are agrarian in nature. They produce palm oil as cash crops and other food crops such as cassava. More than 40 million people inhabit the South Eastern

zone with a population density ranging from 1000 per square mile in high density areas and 350 per square mile in low density areas. It has an area of 15,800 to 16,000 square miles. There are six Polytechnics in the South-East. These are Federal Polytechnic, Nekede, Federal Polytechnic, Oko, Federal Polytechnic,Uwana, Institute of Management and Technology, Enugu, Abia State Polytechnic, Aba, and Imo State Polytechnic, Umuagwo. All the six Polytechnics offer Office Technology and Management programme.

The population of the study was 1389 final year Higher National Diploma (HND) male and female students offering Office Technology and Management in the six Polytechnics located in South-East Nigeria. The choice of final year students of HND is based on the fact that they had been sufficiently exposed to these skills and are capable of responding objectively to the study. They were made up of students from three Federal Polytechnics and three state Polytechnics. Stratified sampling technique was used to select four out of six polytechnics for the study. These four Polytechnics with the total population of 347 final year HND students offering OTM constituted the sample size for the study and made up of 147 male and 200 female students chosen through simple random sampling technique. The sample size was determined using Yaro Yamen method which also constituted 25% of the total population of the students under investigation. Objectives I and II were achieved using mean score analysis, while objective III was achieved using Z-test.

Result and Discussion

Influence of Computer Technology on the Acquisition of Office Technology Skills

Table 1 shows the distribution of students' responses by the extent to which computer technology influences students acquisition of office technology skills. The result indicated that out of the 19 computer skill areas understudied, 17 had significant influence on students' acquisition of Office Technology Skills with the exception of formatting cells in office documents (M= 1.95) and creating a worksheet database by themselves (M = 1.89). However, by the overall grand mean of 2.69 which was above the cut-off mean scores, the study found that computer technology influences students' acquisition of office technology skills. On the one hand, the average standard deviation value of 0.98 revealed that the students were heterogenous in their responses, expressing the result as being subjective.

The findings uphold the view of Rick (2013), that personal computers have helped workers in business to perform their jobs more efficiently. The importance of computers in business includes money saved for various business activities. For example, a small business can maintain a database of customers in its computer. The business can then send coupons or special promotions to these customers by email. Companies also save on paper costs when interacting through their computers. Also, a small manufacturing company can automate part of its production line with computers. The automation process would help the manufacturer cut back on labor costs. Computers also help the businessman save time. For example, a businessman can write a report, do a spell check, edit it and distribute the report in just a few hours-even long distance. Rick (2013) further noted that Computers in business allow for greater interaction among employees, agencies, clients and customers. Managers can conduct conference calls, show training videos and even conduct webinars or web-based seminars online with computers. This inter-connectivity between businesses, clients or customers can even be administered internationally.

Influence of Printer Technology on the Acquisition of Office Technology Skills

Table 2 is the distribution of students' responses by the extent to which Printer Technology influences the Acquisition of Office Technology Skills. The result shows all the items understudied had mean responses above 2.50 the cut-off mean, and thus implied that the use of printer technology influenced office technology skills acquisition.

These findings supports Nuel (2012), view that printers have grown in sophistication and functions over the years and have become an integral part of office technology. Multi function printers seem to be very effective in meeting a lot of office functions and duties. He added that we print everything from resumes to garage sales flyers in today's busy world. Most people would be at quite a loss if, for example, they did not have access to their printer for even just a few short days. Further Nuel observed that printers and printer technology have advanced in recent years to level

never imagined, printing very high quality photos and images that had never been in the past. Printer makes our lives easier and more convenient, allowing us to do more and be more creative.

Table 1: Distribution of Students' responses by the extent to which Computer Technology influences the Acquisition of Office Technology Skills

	Computer Technology Tool and Acquisition of Office Technology Skills	**Mean**	**Std. Dev**
1	Creating new office documents by myself influences my skills in office technology.	2.68*	1.02
2	Saving new office documents by myself influences my skills in office technology.	2.90*	0.86
3	Formatting cells in office documents by myself influences my skills in office technology.	1.95	0.93
4	Creating a worksheet database by myself influences my skills in office technology.	1.89	0.78
5	Using text editing by myself influences my skills in office technology.	3.65*	0.74
6	Moving documents from one location to another by myself influences my skills in office technology.	1.90	0.85
7	Merging documents from one location to another by myself influences my skills in office technology.	2.55*	0.99
8	Pasting documents by myself influences my skills in office technology.	2.80*	1.07
9	Cutting documents by myself influences my skills in office technology.	2.84*	1.08
10	Copying documents by myself influences my skills in office technology.	2.66*	1.01
11	Inserting documents by myself influences my skills in office technology.	2.78*	1.11
12	Editing work in a computer by myself influences my skills in office technology.	2.72*	1.00
13	Assigning file names to documents by myself influences my skills in office technology.	2.79*	1.11
14	Editing documents by myself influences my skills in office technology.	2.80*	0.97
15	Formatting documents by myself influences my skills in office technology.	3.03*	0.99
16	Drawing charts using my computer system by myself influences my skills in office technology.	2.94*	0.97
17	Preparing documents using Microsoft excel by myself influences my skills in office technology.	2.84*	1.08
18	Preparing documents using Microsoft word by myself influences my skills in office technology.	2.66*	1.01
19	Accessing the internet through my computer system by myself influences my skills in office technology.	2.78*	1.11
	Grand Mean	**2.69***	**0.98**

Source: Field survey data, 2015 M $\geq$ 2.5* (Great Extent); M< 2.5 (Small Extent)

Table 2: Distribution of Students responses on the extent to which Printer Technology influences the Acquisition of Office Technology Skills

	Printer Technology Tool and Acquisition of Office Technology Skills	**Mean**	**Std. Dev.**
I	Installing a new printer in my computer by myself influences my skills in office technology.	2.81*	0.92
ii	Activating the printer by myself influences my skills in office technology.	2.75*	0.86
iii	Printing out copies by myself influences my skills in office technology.	2.65*	0.89
iv	Working with printers by myself influences my skills in office technology.	2.88*	0.92
v	Printing my documents by myself influences my skills in office technology.	2.76*	0.99
vi	Scanning my documents by myself influences my skills in office technology.	2.75*	0.96
vii	Photocopying my documents by myself influences my skills in office technology.	3.47*	0.79
viii	Setting the margins of paper for printing by myself influences my skills in office technology.	2.65*	0.89
ix	Printing with any paper size by myself influences my skills in office technology.	2.88*	0.92
	Grand Mean	**2.84***	**0.90**

Source: Field survey data, 2015 M $\geq$ 2.5* (Great Extent); M< 2.5 (Small Extent)

The printer of today can scan, copy, produce high quality colour photos and even store data in on board memory. Further the findings affirm Allen (2013) observation that an increasing number of organizations are turning to MFPs for work group printing. The reason being that MFPs do much more than just print documents. Their bundled capabilities allow copying, scanning and faxing all

within a single unit. This supports the need for OTM students to acquire office technology skills to enable them become compliant to this office technology.

Influence of computers on the acquisition of office technology skills as perceived by male and female

Table (3) is the Z-test of gender difference in the influence of computers for the acquisition of office technology skills. The result showed that the p-values on all the items exceeded 0.05, implying that no significant difference was found in the mean responses of male and female students on the extent of usage of computers for influencing the acquisition of office technology skills. Thus, the null hypothesis was accepted. The standard deviation values also expressed the respondents' divergence of views as to whether computers influence the acquisition of office technology skills. Meanwhile, the result strongly confirms the generally held view that we live in computer era where people irrespective of age, sex and background are increasingly acquiring computer knowledge and skills needed to adapt and become productive. By this development, both male and female show interest in learning and applying computer knowledge and skills.

Table 3: Gender difference in the influence of computers for the acquisition of office technology skills at P ≤0.05

S/N	Computer Technology Tool and Acquisition of Office Technology Skills	Gender	Mean	SD	Tcal	P ≤0.05
1	Creating new office documents by myself influences my skills in office technology.	Male Female	2.06 2.78	1.14 0.97	-6.26	0.67
2	Saving new office documents by myself influences my skills in office technology.	Male Female	1.90 2.62	1.02 0.98	-6.57	0.53
3	Formatting cells in office documents by myself influences my skills in office technology.	Male Female	1.99 2.56	1.20 1.10	-4.52	0.53
4	Creating a worksheet database by myself influences my skills in office technology.	Male Female	1.85 2.48	0.99 0.98	-5.84	0.59
5	Using text editing by myself influences my skills in office technology.	Male Female	2.51 3.40	1.46 0.97	-6.78	0.88
6	Moving documents from one location to another by myself influences my skills in office technology.	Male Female	2.07 2.32	1.15 1.13	-1.98	0.79
7	Merging documents from one location to another by myself influences my skills in office technology.	Male Female	1.92 2.29	1.05 1.10	-3.18	0.54
8	Pasting documents by myself influences my skills in office technology.	Male Female	2.04 2.18	1.17 1.15	-1.06	0.96
9	Cutting documents by myself influences my skills in office technology.	Male Female	1.89 2.19	1.03 1.07	-2.56	0.58
10	Copying documents by myself influences my skills in office technology.	Male Female	2.54 2.78	1.38 1.36	-1.63	0.77
11	Inserting documents by myself influences my skills in office technology.	Male Female	2.07 2.32	1.15 1.13	-1.98	0.79
12	Editing work in a computer by myself influences my skills in office technology.	Male Female	1.92 2.29	1.05 1.10	-3.18	0.54
13	Assigning file names to documents by myself influences my skills in office technology.	Male Female	2.04 2.18	1.17 1.15	-1.06	0.96
14	Editing documents by myself influences my skills in office technology.	Male Female	1.89 2.19	1.03 1.07	-2.56	0.58
15	Formatting documents by myself influences my skills in office technology.	Male Female	2.54 2.83	1.38 1.36	-1.97	0.66
16	Drawing charts using my computer system by myself influences my skills in office technology.	Male Female	2.07 2.32	1.15 1.13	-1.94	0.76
17	Preparing documents using microsoft excel by myself influences my skills in office technology.	Male Female	1.92 2.29	1.05 1.10	-3.18	0.64
18	Preparing documents using microsoft word by myself influences my skills in office technology.	Male Female	2.04 2.18	1.17 1.15	-1.06	0.96
19	Accessing the internet through my computer system by myself influences my skills in office technology.	Male Female	1.89 2.19	1.03 1.07	-2.56	0.58

Source: Field survey data, 2015

Conclusion and Recommendations

The study concludes that student's use of Information and Communication technology tools influences their office technology skills acquisition, with the exception of formatting cells in office documents and in creating a worksheet database by themselves. The use of all the printer technologies understudied influenced office technology skills acquisition. Male and female students did not significantly differ in their views on the use of computers for influencing the acquisition of office technology skills. Hence, it is recommended that:

- Tertiary institutions should make ICT tools very significant unit of the course content in Office Technology and Managemen.
- Electronic data interchange technology should be made a unit of the course content in the curriculum for Office Technology and Management.
- Project management should be taught the students in polytechnics together with the software used for project management.
- More practice and guidance should be offered the students by lecturers to help them become efficient in the use of the internet for official purposes beyond social uses.
- Printers and its associated applications, such as scanning, photocopying and wireless applications should be introduced to the students during instruction in office technology.

References

Akarahu, C. U., 2010. Improving Office Education in the Technological Era. In: Akinola, C. I. et al., (Ed.), *Book of Readings of the 21st Annual Conference of the Association of Business Educators of Nigeria,* pp. 69-74.

Allen, J., 2013. What is the Role of Printers in a Digital World? Available at http://www.biztechmagazine.com/article/2013/01/what-role-printers-digital-world. Retrieved on 15th March, 2014.

Federal Government Nigeria (FRN), 2004. *National Policy on Education.* Abuja: Government Press.

Littlefield, C. L., F.M. Rachel, and D. L. Caruth, (2001). *Office and Administrative Management: Systems Analysis, Data Processing, and Office Services*. London: Prentice-Hall Englewood Cliffs.

National Board for Technical Education (2004). Abuja. *Office Technology and Management Curriculum and Course Specifications.* UNESCO.

Nuel, J., 2012. *The Important Role Printers Play in Our Lives*. Available at Directequipment.com.html. Retrieved on the 20th of August, 2014.

Peter, C. B., 2010. Technology in Office Education: Challenges and Implications for Secretaries and Business Educators. In: Akinola, C. I. et al., (Ed.) *Book of Readings of the 21st Annual Conference of the Association of Business Educators of Nigeria,* pp. 11-16.

Rick, S., *2013. Importance of Computers in Business. Demand Media.* Available at *mallbusiness.chron.com/importance-computers-business-4012.html. Retrieved on 12th June, 2014.*

Ritchie and Brindly (2005). The Role of ICT within Small and Medium Enterprises in Gauteng. Available at https://www.researchgate.net/.../5037325. Retrieved on 7th August, 2014.

Sing, T. F., 2002. Impact of Information and Communication Technology (ICT) on Office Demand in Singapore CBD. Presentation to *Association for Project Management* (APM).