



IDENTIFICATION OF NEW TECHNOLOGY SKILLS REQUIRED BY TEACHERS OF OFFICE TECHNOLOGY AND MANAGEMENT FOR TEACHING IN POLYTECHNICS IN NORTH CENTRAL NIGERIA

Timya, Nimfel

*Department of Office Technology and Management,
Plateau State Polytechnic, Barkinladi*

Moris, Priscilla Wetnwan

*Department of Office Technology and Management,
Plateau State Polytechnic, Barkinladi*

Bewaran, Yongsunshikfu

*Department of Office Technology and Management,
Plateau State Polytechnic, Barkinladi*

Abstract

The study examined the new technology skills required by teachers of office technology and management for teaching in Polytechnics in North central Nigeria. One research question guided the study and the hypothesis of no significant difference was tested using the independent t-test at 0.05 level of significance. Descriptive survey design was adopted. The population of the study consisted of 85 teachers of office technology and management (OTM) drawn from Polytechnics in North central Nigeria. The entire population was adopted as the sample in view of the small size. The main instrument for data collection was a four point rating scale questionnaire. The data collected were analysed using mean and standard deviation. The mean was used to answer the research questions while the standard deviation was used to determine the closeness or otherwise of the responses from the mean. The findings revealed that OTM teachers highly required new technology skills in the use search engines, hypertext markup language, browsers on the World Wide Web, interactive multimedia packages, web 2.0 tools, Wi-Fi, short messaging services, and multimedia messaging service. The findings further revealed that there was no significant difference between the mean response of experienced and less experienced teachers of OTM on the new technology skills required for teaching in Polytechnics ($t_{80} = 0.215, P > 0.05$). It was concluded that new technology skill are critical for the production of competent OTM graduates who will fit perfectly in to the modern work trend. Based on the findings and conclusion of the study, it was recommended among others that authorities of Polytechnics must make it a point of duty to ensure regular retraining of OTM teachers on the use of new technologies for teaching.

Key words: *New Technology; Skill; Office Technology and Management*

Introduction

The role of new technologies in teaching and learning is rapidly becoming one of the most important and widely discussed issues in contemporary education as observed by Thierer (2000) in Onojetah (2014). Hence, educational professionals agreed that these



technologies have the prospects for improving teaching and learning as well as showing workforce opportunities. It is also evident as agreed by Amiaya (2016) that the traditional educational environments are not suitable for preparing learners to function or be productive in the workplace in today's society. Therefore, educational institutions that fail to incorporate new technologies cannot seriously claim to prepare their students for life in the 21st century knowledge-driven economy.

The paradigm shift in the knowledge-driven economy has necessitated rapid changes in production technologies which have shifted the demand from existing categories of personnel to other types, creating new jobs and occupations, eliminating or making those without new skills or knowledge obsolete. It is in view of the above that Ademola (2014) opines that the knowledge and skills which Office Technology and Management (OTM) teachers require at present must reflect the growing use of new technologies, so as to facilitate the graduation of professionals who can function effectively in a knowledge-driven economy.

Office Technology and Management (OTM) is a nomenclature that was used to replace the Secretarial Studies as it was formally called. The National Board for Technical Education (NBTE) in the year 2004 deemed it necessary to make some crucial adjustments in the former secretarial studies course, especially in the curriculum and course specification. Originally, this change was carried out by the Board to reflect the technological innovations that have transformed the modern business environment of the 21st century. Baba and Akarahu (2012) assert that OTM is used as a comprehensive term referring to aspects of the educational process involving, in addition to general education, the study of related technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of the economic and social life. They added that the design of the OTM programme components also appears to be in response to a global initiative with an objective that portends new academic direction in favour of new technologies for teaching in OTM. New technologies are especially invaluable in skill-related education programme such as OTM, where graduates are required to demonstrate skills and competencies demanded in a 21st century that is highly competitive and technology driven.

David and Gushi (2010) report that tremendous improvements in new technologies have certainly impacted the education sector in all societies. These improvements have been very pronounced and especially invaluable in OTM programmes. Similarly, Ekwue, Anyeabunam and Alfa (2016) opine that the increased use of new technologies in OTM makes teaching and learning increasingly flexible, multi-tasking and performance based. Since educational institutions exist for the purpose of teaching and learning, human and material resources are deployed for this purpose. New technologies are the material resources provided for teachers and students to optimize their productivity in the teaching and learning process.



Skill is the ability to do something well, usually gained through training or experience that is needed. This skill can be obtained through education, training or experience that will inculcate into the individual how to carry out or discharge his / her responsibilities very well with the new knowledge. Fadere (2004) in Inalegwu, (2016) saw skill as “expertness, aptitude and competences appropriate for a particular job, it has to do with expert knowledge and creative reasoning to a level of mastery”. In order to attain these skills, the individual needs to acquire basic training or knowledge levels related to the task to be performed whether through formal, informal or combination of the two. Boytziz (2010) defined skill as the ability to demonstrate a system and sequence of behavior that is functionally related to attaining a goal. Effective teaching of OTM in any learning environment requires the demonstration of various skills which invariably enables students to learn by improving their knowledge, competencies, attitudes and values. Teachers of OTM are vital in the implementation of required skills to the students through the acquisition and possession of required competencies.

Innovations in new technologies has created a glaring need for teachers to acquire more skills in order to bring up the caliber of graduates that will fit squarely into the modern challenging work trends. New technologies imply new exploration and application of concepts, principles and processes for the improvement of human life. Olayanju (2016) opines that new technologies are any set of productive techniques which offer a significant improvement (whether measured in terms of increased output or saving costs) over the established 'technology' for a given process in a specific historical context. Defined thus, what is seen as 'new' is obviously subject to continual redefinition, as successive changes in technology are undertaken. For OTM teachers to maintain high standard in knowledge dissemination, they must embrace the technicalities of new technologies. Osuala (2009) stressed the need for secretarial teachers to have a reasonable understanding of technologies. He lamented that not much has really been accomplished and not a great deal would be until the curriculum for business teachers include substantive learning in these areas.

However, Nwokocha and Onwuchekwa (2014) observe that despite the enthusiasm towards the use of new technology and the huge investments in the acquisition of these tools, the potential of increased instructional effectiveness and an economic financial investment, the use of new technologies seem to have little impact in the class room because some business education lecturers are showing signs of apathy towards new technologies. Similarly, Okoli and Wagbara (2016) observe that many of the teachers lack knowledge and skills to use new technologies and in addition are not enthusiastic about the changes due to inadequate training to meet up with technological flux. There is also the fear of the unknown which leads to resistant behavior (Chukwumerije, 2012). A critical question that comes to mind is how many teachers of OTM are competent enough to use the available new technologies and become receptive to change by knowing the strengths and limitations of



these technologies? How many of these teachers understand what can and cannot be achieved with new technologies to allow the realization of its maximum potentials?

Regrettably, a nationwide study by Okeke, Ezenwanfor and Umoru (2012) revealed a general low extent of utilization of new technology tools by OTM students and lecturers in Nigerian tertiary institutions. Nwosu and Mbeazue (2016) maintain that most of the teachers of OTM were not effectively taught with new technologies. Therefore, they had to be retrained in the proper use of new technologies in instructional delivery. He added that resistant to change especially by older teachers is one of the greatest handicaps affecting the proper utilization of new technologies in teaching and learning. Although there have been series of orientation, awareness campaign and sensitization for OTM teachers especially to acquire skills in the use of new technologies, the skills acquired by most of them fall short of what is required to be able to utilize new technologies in teaching (Omeje, 2009).

The problem of this study therefore is to identify the new technology skills required by OTM teachers for teaching in Polytechnics. This is in view of the consequences of professional obsolescence on the part of the teachers, increased graduate unemployment, poverty and youth restiveness as the effect of producing half-baked graduates on the economy is better be imagined.

Research Question

What are the new technology skills required by teachers of office technology and management for teaching in Polytechnics in North-central Nigeria?

Research Hypothesis

There is no significant difference in the mean response of experienced and less experienced teachers on the new technology skills required by teachers of office technology and management for teaching in Polytechnics in North-central Nigeria.

Methods

The study used the descriptive survey design with 85 office technology and management teachers drawn from eight accredited public Polytechnics in the six states of the North-central Nigeria. These Polytechnics include: Benue State Polytechnic, Ugbokolo; Federal Polytechnic, Idah; Kogi State Polytechnic, Lokoja; Federal Polytechnic, Offa; Kwara State Polytechnic, Ilorin; Federal Polytechnic, Nassarawa; Federal Polytechnic, Bida; and Plateau State Polytechnic, BarkinLadi. The entire study population was used for the study since the population was not too large. There was therefore no sampling. The instrument used was the New Technology Skills Required by Office Technology and Management Teachers Questionnaire (NTSROTMTQ). The questionnaire consisted of 20 items based on the purpose of the study and the research question. The instrument was validated by one Senior lecturer in the Department of Business Education, Kwara State



University Maletе and one Chief lecturer in the Department of Office Technology and Management, Federal Polytechnic, Bauchi. A pilot study was conducted at the Federal Polytechnic, Bauchi, in order to establish the reliability of the instrument. Cronbach Alpha was used to determine the reliability of the instrument which yielded a reliability coefficient of 0.81. Each of the items was assigned four response options of Highly Required (HR-4 points), Moderately Required (MR-3 points), Slightly Required (SR-2 points) and Not Required (NR-1 point). The data collected were analysed using the mean and standard deviation. The mean was used to answer the research questions while the standard deviation was used to determine the closeness or otherwise of the responses from the mean. Positive decision rule for this study was established at a mean of 2.50 and above while any mean less than that was regarded as negative. The null hypothesis stated was tested using the t-test at 0.05 level of significance. Hypothesis of no significant difference was accepted when the observed probability value was greater than or equal to 0.05 level of significance. Where the calculated probability value was less than 0.05 level of significance, the null hypothesis was rejected.

Research Question

What are the new technology competencies required by OTM teachers for teaching in Polytechnics in North-Central Nigeria?

Table 1: Mean and standard deviation of responses on the new technology skills required by OTM teachers for teaching in Polytechnics

S/N	Item Statements	\bar{X}	SD	Remark
1.	Ability to search for information using the search engines on the web	3.50	0.59	Highly Required
2.	Ability to use hypertext markup language (HTML) editors to create hypermedia web pages and educational web pages	3.54	0.55	Highly Required
3.	Ability to use browsers to support access and navigation on the world wide web	3.58	0.52	Highly Required
4.	Ability to mail teaching contents with attachment through the e-mail or list servers	3.05	0.68	Moderately Required
5.	Ability to create blogs and microblogs for publishing written materials	3.18	0.72	Moderately Required
6.	Ability to use collaborative sites and software such as wikis for content creation and editing	3.34	0.50	Moderately Required
7.	Ability to use social media platform such as Face book, YouTube, Twitter, Instagram etc. to post teaching contents.	3.26	0.49	Moderately Required
8.	Ability to use interactive multimedia and presentation application for teaching	3.76	0.51	Highly Required



9.	Ability to use interactive forms on the web to create feedback or ask questions	3.44	0.57	Moderately Required
10.	Ability to use Web 2.0 tools to interact and collaborate for teaching and learning purposes.	3.52	0.54	Highly Required
11.	Ability to use interactive on-line survey tools (SurveyMonkey, Zoomerang, etc.)	3.21	0.58	Moderately Required
12.	Ability to organize videoconferencing, Internet phone chat or discussion forums online (Skype, TeamSpeak, etc.)	3.09	0.67	Moderately Required
13.	Ability to create e-portfolio or digital portfolio using mobile phone	3.51	0.55	Highly Required
14.	Ability to use the Wi-Fi to gain access to teaching resources via internet	3.54	0.53	Highly Required
15.	Ability to use the short messaging service (SMS) and multimedia messaging service (MMS) for delivering of teaching content	3.65	0.57	Highly Required
16.	Ability to use cloud computing for storing and sharing files	3.29	0.56	Moderately Required
17.	Ability to use audience response systems (clickers, wireless learning calculator systems, etc.)	3.16	0.46	Moderately Required
18.	Ability to create live streaming audio and video files (webcasting)	3.33	0.69	Moderately Required
19.	Ability to create online digital audio and video files (podcasting or netcasting)	3.10	0.40	Moderately Required
20.	Ability to create online interactive audio and video instructions	3.06	0.67	Moderately Required
Weighted average		3.36	0.57	Moderately Required

Table 1 above showed the responses of OTM teachers in Polytechnics in North-Central Nigeria on the new technology skills required for teaching. The result revealed that all the new technology skill items outline were required for teaching by OTM teachers with a weighted mean of 3.36. However, ability to search for information using the search engines on the web (mean = 3.50), ability to use hypertext markup language (HTML) editors to create hypermedia web pages and educational web pages (mean = 3.54), ability to use browsers to support access and navigation on the world wide web (mean = 3.58), ability to use interactive multimedia and presentation application for teaching (mean = 3.76), ability to use Web 2.0 tools to interact and collaborate for teaching and learning purposes (mean = 3.52), ability to create e-portfolio or digital portfolio using mobile phone (mean = 3.51), ability to use the Wi-Fi to gain access to teaching resources via internet (mean = 3.54) and ability to use the short messaging service (SMS) and multimedia messaging service (MMS)



for delivering of teaching content(mean = 3.65) were considered to be highly required. The close range of the standard deviations showed that the respondents were not very far from each other in their responses.

Research Hypothesis

There is no significant difference in the mean response of experienced and less experienced teachers on the new technology skills required by teachers of Office Technology and Management for teaching in Polytechnics in North-central Nigeria.

Table 2: Summary of t-test of the difference between the mean responses of experienced and less experienced teachers of OTM on the new technology skills required for teaching in Polytechnics

Group	N	Mean	SDt-cal	Df	p-value	Decision
Experienced Teachers	44	3.29	0.29	0.215 80	0.829	Not Rejected
Less Experienced Teachers	38	3.27	0.35			

The data in Table 2 revealed that there are 44 experienced OTM teachers and 38 less experienced OTM teachers. The experienced and less experienced teachers' responses showed that new technology skills are required by OTM teachers for teaching in Polytechnics ($\bar{O} = 3.29$; $SD = 0.29$) and ($\bar{O} = 3.27$; $SD = 0.35$). Their responses are close to the mean as the standard deviations are very low. The table revealed that there was no significant difference between the mean response of experienced and less experienced teachers of OTM on the new technology skills needed for teaching in Polytechnics ($t_{80} = 0.215$, $P > 0.05$). Therefore, the null hypothesis that states that there is no significant difference between the mean response of experienced and less experienced teachers of OTM on the new technology skill required for teaching in Polytechnics in North-Central Nigeria was not rejected. This implied that experienced and less experienced OTM teachers did not differ in their responses regarding the new technology skills required for teaching in Polytechnics.

Discussion of Findings

The study revealed that OTM teachers highly required the ability to search for information using the search engines on the web, ability to use hypertext markup language (HTML) editors to create hypermedia web pages and educational web pages, ability to use browsers to support access and navigation on the world wide web, ability to use interactive multimedia and presentation application for teaching, ability to use Web 2.0 tools to interact and collaborate for teaching and learning purposes, ability to create e-portfolio or digital portfolio using mobile phone, ability to use the Wi-Fi to gain access to teaching resources via



internet and ability to use the short messaging service (SMS) and multimedia messaging service (MMS) for delivering of teaching content. The findings further revealed that there was no significant difference between the mean response of experienced and less experienced teachers of OTM on the new technology skills required for teaching in Polytechnics ($t_{80} = 0.215, P > 0.05$).

This finding is in line with Olayanju (2016) who observes that for OTM teachers to maintain high standard in knowledge dissemination, they must embrace the technicalities of new technologies. The need for new technology skills such as ability to use search engines, browser, multimedia presentation packages, Wi-Fi, web 2.0 tools, Social media applications are critical for effective teaching by OTM teacher. Similarly, Osuala (2009) stressed the need for secretarial teachers to have a reasonable understanding of new technologies. New technologies are especially invaluable in skill-related education programme such as OTM, where graduates are required to demonstrate skills and competencies demanded in a 21st century that is highly competitive and technology driven.

Conclusion

It is clear from the preceding discussion that new technology skill are inevitable for teaching and learning by teachers of OTM in Polytechnics. OTM teachers must therefore strive to acquire the relevant new technology skills aimed at improving the quality of the OTM graduates. A situation where OTM teachers are not skilled in the use of new technologies may spell doom for the graduates. This is because OTM students may graduate from school without adequate knowledge, skills, attitude and competencies needed for survival in the 21st century office which is technology driven.

Recommendations

Based on the findings and conclusion of the study, the following recommendations were made:

1. Authorities of Polytechnics must make it a point of duty to ensure regular retraining of OTM teachers on the use of new technologies for teaching. This can be achieved through workshops, conferences, seminars and other forms of formal or informal training opportunities.
2. Curriculum planners should ensure that the identified new technology skills are integrated into the curriculum for business teacher training and also that of OTM to ensure the acquisition of the skills by both teachers and students.
3. Management of Polytechnics should equally make adequate provision for new technology tools and ensure that the tools are adequate and functional for effective teaching and learning in OTM.



References

- Ademola, T. K. (2014). Paradigm shift in knowledge economy towards new technologies: Implication for business education curriculum in tertiary institutions. *Nigerian Journal of Business Education*, 2(1), 209-220.
- Amiaya, A. O. (2016). Availability and utilization of new technology for teaching office technology and management in Delta state polytechnics. *Nigerian Journal of Business Education*, 3(2), 64-72.
- Baba, E. I. & Akarahu, C. U. (2012). Adequacy of educational resources for office technology and management programme in polytechnics in Kogi State. *Business Education Journal*, 8(2), 198-208.
- Boytziz, C. A. (2010). *The Need for Modern Technology in the Training of Secretaries*. Chicago: South Western Publishing Company.
- Chukwumerije, U. (2012). Senate committee on education charge NCCE on quality teacher education in Nigeria. NCCE News. Special Edition, December. 2012. pg 16.
- David, J. G. & Gushi, I. (2010). Re-engineering teacher education for science technology education. *Journal of the Faculty of Education, Obafemi Awolowo University, Ile-Ife*, 3(2), 357-362.
- Ekwue, K. C., Ayaegbunam, M. N. & Alfa, O. (2016). Assessment of the usage of new technologies in the teaching and learning of business education programme in colleges of education in Delta state. *Nigerian Journal of Business Education*, 2(1). 111-118.
- Inalegwu, M. O. (2016). Influence of Word Processing and Shorthand Skills on Professional Secretaries' Functions in Modern Offices in North-West Geo-Political Zone, Nigeria. *Masters Degree Thesis*, Submitted to the Department of Vocational and Technical Education, Faculty of Education, Ahmadu Bello University, Zaria.
- Nwokocha, E. & Onwuchekwa, C. A. (2014). A survey on interactive whiteboard (IWB) usage and perception of business education lecturers and students. *Nigerian Journal of Business Education*, 4(2), 138-148.
- Nwosu, B. O. & Mbaezue, A. N. (2016). Power point competencies required by office technology and management lecturers in south-east geopolitical zone of Nigeria for efficient adaptation to emerging methodologies. *Nigerian Journal of Business Education*, 3(1). 205-215
- Okeke, A. U., Ezenwafor, J. I. & Umoru, T. A. (2012). Perception of business educators on the impact of ICT on student learning in tertiary institutions in Nigeria. *Global Awareness Society International 21st Annual Conference Proceedings, New York, USA*. May 2012. Retrieved from www.bloomu.edu on 10th September, 2018



- Okoli, B. E. &Wagbara, S. O. (2016). Use of new technologies in the instructional delivery of business education: The perceptions of business educators in tertiary institutions in Rivers state. *Nigerian Journal of Business Education*, 1(3), 99-110.
- Olayanju, U. T. (2016).The challenges of new technologies on secretarial profession. *Nigerian Journal of Business Education*, 3(2), 73-80.
- Omeje, T. S. (2009). An assessment of information and communication technology (ICT) skills required by secretarial studies teachers in tertiary institutions in Kogi state. *Business Education Journal*, 3(1), 81-94.
- Onojetah, S. O. (2014). Business education curriculum and integration of new technologies. *Nigerian Journal of Business Education*, 2(1), 132-148.
- Osuala, E. C. (2009). *Principles and Methods of Business and Computer Education*. Enugu: Cheston Agency Limited