

**NEW TECHNOLOGIES IN EDUCATION: A PANACEA FOR
QUALITY EDUCATION IN OFFICE TECHNOLOGY AND
MANAGEMENT PROGRAMME IN NIGERIA POLYTECHNICS**

Veronica Olannye

*Department of Office Technology and Management.
Delta State Polytechnic, Ogwashi-Uku.*

Francisca N. Nwaodume

*Department of Office Technology and Management.
Delta State Polytechnic, Ogwashi-Uku.*

And

Solomon Okegbe

*Department of Office Technology and Management.
Delta State Polytechnic, Ozoro.*

Abstract

The global influx of various new technologies has virtually permeated all facets of life, particularly in education. This has resulted in the adoption of various innovative pedagogical approaches in the instructional delivery of the course contents of most educational programmes for effectiveness. Office Technology and Management Programme is a technological based programme of study, demanding the use of new technologies and suitable pedagogical approaches in the instructional delivery. It is in view of the above, that this paper is set to x-ray new technologies in education as a panacea for quality education in OTM programme in Nigeria Polytechnics. The paper therefore, addresses the various new technologies, their relevance, problems and prospects in OTM Programme. The paper concluded that the emergence and inclusion of new technologies is vital for functional teaching and learning in OTM programme and therefore should be utilized in the instructional process. It was recommended that adequate funds be allocated to polytechnics offering OTM programme to enable them procure and maintain relevant new technologies that could engender meaningful teaching and learning and that OTM teachers should constantly upgrade themselves technologically in order

to provide students with practical knowledge on these new technologies for global relevance.

Keywords: Education, New technologies, OTM, quality and relevance.

Education is an engine for the growth and progress of any society, for it not only imparts knowledge, skills and inculcates values, but also responsible for building human capital which breeds, drives and sets technological innovations and economic growth (Emeasoba, 2018). In Nigeria, education has contributed so much to national development and the achievement of political independence that the average Nigeria parent strongly believes in it as a potent instrument for preparing the youths and adults to become active participants in the realization of important social and economic objectives. Also, Adegbeson in Onyeson and Umoeshiet (2013), posited that education today, must have the effect of making it possible for a country to have a steady supply of highly creative citizens, who help to improve the living conditions of the general citizenry and to solve the existential problems that are thrown up from time to time. It is in recognition of the above that the Nigeria government has continued to make serious efforts towards providing the citizens with qualitative and functional education needed for social, economic and political development. Thus, the Federal Republic of Nigeria (2013) in her National Policy in Education (NPE) stated expressively, that one of the aims and objectives of education in the country is to equip the child with appropriate productive and functional skills, abilities and competencies, both in natural and physical dimension so as to be able to contribute meaningfully to the development of the society (Umoru and Oluwafemi, 2019). In order to fully realize the goals of education in Nigeria and gain from its contributions to the national economy, government have taken diverse quality measures to ensure that educational activities are learner-centered, practical, activity-based, experiential and IT supported, for maximum self-development and self-fulfillment, thus, ensuring the prevalence of quality education delivery at all levels. Quality education is the ability or degree to which an educational programme conforms to established standard and appropriateness and could be measured in terms of quality of inputs, quality of contents, quality of context and quality of output (Oladipo, Adeosub abd Oni, 2014).

Unarguably, one of the educational programme where high quality delivery of instructions is canvassed is Office Technology and Management, which is offered in polytechnics, colleges of technology and the universities. OTM is described as a programme of study designed to train students essentially on the utilization or application of technologies to office management processes. According to Okoye

(2013), one of the general objectives of OTM is to lead students to the understanding of the use and impact of computer-based communication technologies in a working environment. Office Technology and Management is therefore, a technologically based programme that demands the effective use of new technologies in the instructional process for quality and meaningful academic outcome. The term “new technologies according to UNESCO in Olise (2014), refers to the application of scientific knowledge, devices and systems to facilitate the information communication driven activities in the office, as well as in the educational sector, where these devices are utilized in the teaching and learning process. New technologies have been adjudged as one of the learning facilities/devices that are vital in the teaching/learning process and therefore recognized as one of the panacea for quality education in OTM education, since it makes teaching more practical, motivating and interesting. The above framework therefore, formed the bases for this study.

Office Technology and Management Programme

Office Technology and Management according to Fadare (2014), is a curriculum designed by National Board for Technical Education (NBTE) in 2004, to replace the secretarial studies programme which has been in operation since 1989. Fadare went further to stress, that the OTM course is designed to equip students with secretarial office skills for employment in various fields of endeavour. Moreso, in addition to the acquisition of vocational skills in OTM, the students are equipped with effective work competencies and socio-psychological work skills which are very essential to everyday interactions with others (NBTE, 2006). Baba and Akaraha in Zakka and Wetnwan (2018) are of the view that the review of secretarial studies in November 2014, was necessitated by the fact that the skills, attitude and knowledge previously acquired in the course of the study were inadequate to arm today’s graduates, office managers and office technologist with the competencies needed to adjust to the rapidly changing needs of the e-office. The current OTM curriculum is technology-driven. It systematically reflects the present trends currently witnessed in business office. OTM curriculum therefore focuses on exposing and training secretaries/office managers with internationally acceptable practice of the present day, using the modern technologies for processing, storing and dissemination of information to management. OTM programme therefore equip its recipients with relevant skills and knowledge that enables them compete favourably at the international business environment (Ojohwoh, 2014). The programme is competence-based programme that allows its recipients to be self-independent and be employer of labour. The design of OTM programme is a response to the global initiative in favour of new technologies.

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Presently, according to Esene, Ovbiagele and Olumese (2018), the new curriculum of OTM at the National Diploma (ND) and Higher National Diploma (HND), have been expanded to include new courses such as ICT I and II Office Application, Modern Office Technology, Desktop Publishing, Webpage Designe, Database Managemnt, Office Communication Skills, among others. The improvement and expansion of OTM curriculum and course specification therefore requires that lecturers should upgrade themselves to be able to face squarely the changes, occasioned by the expansion and the challenges imposed on the office educators and lecturers.

Objectives of Office Technology and Management Programme

According to Uteh and Ihuekwumere in Ovbiagele and Mgboyebi (2018), the National Board for Technical Education (NBTE) 2004, OTM programme is structured to achieve the following grand objectives:

- Equipping individuals with office secretarial skills.
- Creating general entrepreneurship awareness in the students with a view to inculcating in them the right knowledge for productive purpose and;
- Laying foundations for advance studies.

Ahukannah (2008), further added that owing to the development in information and communication technology, teachers in OTM are to equip students with the following competencies to ensure quality and also produce global graduates that can:

- Provide office documents and reports using word processing;
- Produce numerical information, using spreadsheets;
- Produce office information in graphic form;
- Manipulate, access and retrieve information from computer based system;
- Access a wealth of information in internet, through the knowledge of web and;
- Manipulate office tools, devices and modern technologies found in the virtual office.

New Technologies in Education: A Panacea for Quality Education in OTM

The Federal Government of Nigeria (FRN, 2013), in its national policy on education, emphasized the need to ensure the quality of education delivery at all levels and to promote functional education for skill acquisition, job creation and poverty alleviation. In order to actualize these goals of education in Nigeria and gain from its contribution to the national economy, there is the need for educational activities to be learner-centred and for teaching to be practical, activity-based, experiential, and I.T supported. The curriculum of OTM focus on combining office information technical skills with adequate and relevant business knowledge in solving organizational

problems: the target of which is to produce a hybrid of administrative professionals to respond to the demands of dynamic and intensely computerized work place, where modern technologies are now in use (Nwabuona, 2010). This implies that OTM students are expected to be equipped with relevant skills and competencies in information and communication technology and other electronic gadgets needed to function effectively in the global work environment. In realization of the above, it is expected that OTM students should be trained to acquire the required skills, attitude and knowledge needed for modern office management. New technologies should be effectively utilized in training institutions to match graduates with the current demands of modern organizations. This is in agreement with Okolocha and Ihionkhan (2015) and Umunadi (2017), who posited that studies, laboratories, resources centres and the total environment where vocational and technical education (OTM inclusive) is offered must be adequately equipped to reflect the actual working environment. The objectives of OTM programme therefore, can be achieved successfully when students of the programme are well tutored with new technologies. Since OTM education involves the study of technologies and related science and the acquisition of practical skills, including office technologies, the use of new technologies to teach becomes inevitable.

Modern technologies, originated from earlier terms such as Information Technology (I.T) and Information and Communication Technology (ICT), which deals with accessing, gathering, manipulating and making available or communicating information. New technologies have been conceptualized in different ways by various authors. Ellah and Amesi (2019), defined modern technologies as those contemporary instructional materials and devices, that are capable of processing, storing, printing, retrieving, communicating, connecting, transmitting, transferring, accessing, disseminating information in an accurate and faster manner to both the teacher, students and society that are useful in solving problems and that they are set of any productive electronic techniques which offers a significant improvement over the established technologies for a given process in a specific historic context. Amesi and Ugorgi (2019), defines new technologies as the modern tools (electronic tools) that are used to enhance teaching and learning at various levels of education and in offices where students are to be employed at the end of their academic programme. The authors equally averred that new technologies are also multimedia that combine sound, images, graphics and video. New technologies are also known as information and communication technology (ICT), electronic technologies and e-learning, used to facilitate and support teaching and learning, incorporating a variety of learning strategies and technologies. New technologies therefore, connote new innovations and application of concepts, principles and processes for the improvement of human life. New technologies in education are

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therefore computer related devices, tools and technological gadgets which make teaching and learning more practical, interesting, motivating and result oriented. Ordinarily, it is not easy to develop taxonomy of new technologies in business education (OTM inclusive), due to their diversity and evolution in structure and functions. Haag, Cummings and McCubbrey (2002), however, grouped new technologies into four categories, namely: new technologies for all the senses; new technologies for the wireless revolution; and new technologies for personal use. Moreso, Ojo and Akhademe (2016) and Umesi and Ugorji (2019) grouped new technologies into:

- **ICT Hardwares:** These include: computer, overhead projector, interactive white board, video and teleconferencing devices, television and satellites, multimedia computer, multimedia projector, video phone system, wireless application protocols “WAPS, GSM, Fax, Mobile phones, electronic books video tape recorder, filmstrip, audio visual technology, smart board, radio set, television” etcetera.

Computer: This is used to carry out various electronic activities in an office or organization and is also used for teaching and learning in educational sector.

Overhead Projector: This device is used to display the output of the system for better view and understanding during teaching and learning process.

Interactive White Board: The board is used to interactively teach students during teaching and learning process in the class room.

Video and Teleconferencing Devices: these devices are used to inter connect two or more students in Office Technology and Management during learning process.

Television and Satellites: These devices are used for entertainment in an office or organization.

Multimedia Computer: This device is also used for entertainment in an office or organization.

Video Phone System: This device is used for visual communication which means that the communicators will be seeing each other during communication.

Wireless Application Protocol (WAP): Is a communications protocol that is used for wireless data access through most mobile wireless networks.

- **ICT Software:** These include: Microsoft word, Microsoft PowerPoint, CorelDraw, Database (Microsoft Access), Microsoft Excel, Webpage, Chartroom, e-mail, internet, intranet, world-wide-web (www) etcetera.

Microsoft Word: This application is majorly used for typesetting and production of mailable document.

Microsoft PowerPoint: This application is used for presentations during teaching and learning in an organization or institution.

CorelDraw: This application is used for graphics design and development.

Database (Microsoft Access): This application is used for students and staff records keeping in the computer system.

Microsoft Excel: This application is used for electronic calculation computations in an office.

Webpage: This application is used for interactive website designs and development in an organization.

Chatroom: This application is majorly used for electronic communication with the used of other electronic devices like computer, phone etc.

E-Mail: This is known as electronic mail that enables transfer of information from one to another in an organization.

Internet: The Internet is a global wide area network that connects computer systems across the world.

Intranet: An intranet is a private network that can only be accessed by authorized users.

Relevance of New Technologies in OTM Programme

New technologies are indispensable tools in any educational system. In OTM education, the use of new technologies has the potentials of improving teacher's professional competencies and development, promoting the quality of instructions and meeting the needs of individual students. In the view of Abdulkadir (2019) and Ojohwoh (2014), the following reasons account for the necessity of using new technologies in OTM programme:

- 1. Promotes individual learning and research:** With new technologies, learners have the freedom to decide when learning takes place, time and pace for learning. Technology for education therefore, provides students with tools which can allow them to learn on their own. Individual learning is good, because a student will not feel shy or embarrassed when they fail to learn something. It also promotes individual research and this assists students to deeply learn about a specific topic of interest. The use of computer aided instruction tools equally help students stay in control of what they learn: a student can easily make mistakes and correct same without feeling embarrassed.
- 2. Makes educational material accessible:** New technologies in education make it feasible for/educational materials to be accessed easily by anyone around the world. Broadband internet technology has facilitated the growth of online education, which has helped students from developing countries in accessing valuable educational materials. Moreover, the working class who would like to upgrade on their academic

level, have found online education very flexible, because they can attend lessons during their free time after work or business activities of the day.

3. **Higher collaboration:** New learning technologies create sufficient ways for cordial collaboration among OTM students and teachers, irrespective of the distance between them. It makes collaboration among them easier and facilitative. The use of online environment makes teaching and learning easier and often more pleasurable and also affords them the opportunities to exchange instructional ideas without facial contact.
4. **Improves student's attitudes towards learning:** Since new technologies in education makes learning interesting and motivating, students do not easily get bored while learning. The integration of gamification technology in the classroom has improved students interest in learning. Students are encouraged to play educational videos and games to solve specific puzzles. For example, math games help students learn how to solve math problems.
5. **It enhances ICT skills and competencies development:** The adoption of new learning technologies in OTM programme, will help to develop and reinforce the ICT skills and competencies required in the information age by the OTM teachers and learners, in order to be abreast of the changing technological environment of the 21st century.
6. **Improves teaching skills:** Many online resources help to improve teaching. Teachers have access to use trusted online resources or apps to enhance the traditional ways of teaching in the classroom which promotes student's classroom engagement. Grading software, online assessment, and virtual lessons plans help save time for teachers and enhance the teaching skills (Agbagbue, 2019).

Problems Associated with the use of New Technologies in OTM Programme

The use of new technologies in OTM programme in Nigeria polytechnics have increased in the past few years, considering its impacts in the teaching and learning process. However, studies by various researchers; Agbagbue (2019), Ellah and Amesi (2019), Olise (2014) and Fadare (2014), indicated that the effective use of new technologies in OTM is still bedeviled by the following obstacles:

1. **Inadequate modern facilities and equipment:** Most polytechnics offering OTM programme, do not have well equipped computer laboratories, as well as other modern gadgets and devices for effective practical exposure that would help to impact useful skills and knowledge to the students. Most times, the available ones are not adequately maintained, secured or preserved for meaningful academic activities. It is a fact that learning would be less meaningful without the use of

teaching facilities and students would grope in darkness for long before they can get grasp of what the teacher says.

2. **Inappropriate teaching method:** Teachers in OTM programme in polytechnics, are expected to be well informed about the technologies used in offices and be proficient in demonstrating their usage to students during instructional delivery. Most teachers use only the lecture method. The delivery system of instructions, particularly in practical courses should be through the demonstration teaching methods in order to expose students on the use of modern technologies. The preparation of students should therefore be based on practical experiences rather than the theoretical aspects alone. Students who are taught practical contents in class alone can never develop skills and the competencies expected.
3. **Inadequate fund:** One of the obstacles bedeviling OTM programme is fund shortage. OTM programme in most Nigeria polytechnics are not adequately funded, inspite of the fact that the programme is capital intensive. When programmes are not well funded, learning facilities would be inadequate as there will be no fund to purchase necessary learning devices and equipment for practical instructions (Fadare, 2014).
4. **Dearth of well trained teachers and technicians in the laboratories:** Most Nigeria institutions lacked the services of well trained teachers and technicians. More often, the engaged teachers are not often re-trained to handle effectively, the emerging new technologies in education. Even some of the available ones are given temporary appointments and as such, quit the teaching jobs for greener pastures. Moreso, in some laboratories, there is the complete absence of trained technicians to repair damaged or service the available facilities. When equipment and available devices are not properly serviced and utilized, it gets damaged and become unusable. This impedes academic activities.
5. **Constant power failure:** Most technological devices used in OTM laboratories includes: the computer, projectors, smart boards, fax machines, internet service among others. These devices cannot be used for meaningful instructions, if adequate power supply is not provided. Constant power supply is therefore necessary in OTM programme. Unfortunately, as Umar in Fadare (2014) asserted, “the electricity supply has been erratic to allow for proper functioning of the electronic devices found in most laboratories in institutions of learning. This is a serious constraint on academic activities.
6. **Resistance to change:** According to Mgbagbue (2019), it has been noticed that some teachers still find it cumbersome to embrace the information age where technology facilitate teaching and learning. Consequently, the adoption and

utilization of technological innovations have been affected in education by the negative responsive exhibited by such educators. When teachers resists and refuse to adopt on modern trends in technology, as it relates to education, the recipients in such educational set up suffers and bears the consequences (academic decadence).

Prospects of New Technologies in OTM Programme

The continuous influx and existence of new technologies globally has brought a lot of changes in the educational sector, as well as in the office of today, thereby creating more opportunities for students, teachers in education and graduates of OTM programme working in various organizations through the utilization and applications of these new technologies, resulting in the following prospects as adduced by Agbagbue (2019) and Fadare (2014).

1. **Improves knowledge retention:** Students who listen attentively in classrooms as a result of technological innovation usage by their teachers, will retain more knowledge in the course of their engagement. The use of new technologies therefore would encourage active participation in the classroom, leading to increased knowledge retention and high quality of academic outcome.
2. **Students can learn useful life skills through technology:** The use of technology in the teaching and learning process helps both educators and their students to learn skills that are relevant for the 21st century office. Moreso, learning with new technologies entails solving complex problems, collaborating with other, critical thinking, developing leadership and communication skills and improving excellent academic outcome.
3. **Improves engagement of students in academic work:** Technological innovation improves students' engagement in classroom. Whenever technology is incorporated into teaching, students tend to be more attentive and interested in studying the subject or course. Therefore, technological innovation has a way of providing different opportunities that can make learning enjoyable, interesting and captivating, especially when educators use new ways to teach same things. Technology therefore, has the capacity to improve active participation in classroom which ordinarily could have been difficult, to achieve using the traditional method of teaching.
4. **Increases employment prospects for graduates:** OTM graduates who were effectively taught with new technologies while in schools are bound to develop the requisite office competencies and useful technological skills on graduation for efficient job performance when finally engaged at the workplace. Moreso, those with the requisite technological skills have the ample opportunities of being self-

reliant by establishing on their own. This is in line with the goals of tertiary education which emphasis, is on individual skill development for self-reliance.

5. **Attainment of organizational goals:** Every organization has a set of goals to attain and this demands that all employees know their duties and perform them effectively. Every employee is expected to be versatile in his/her area of discipline and this demands that all employees understand their duties and perform then effectively so that the objectives of the organization can be achieved. It is not proper to teach an employee what he/she is expected to do when employed in an organization, except the general office orientation on first engagement. The acquisition of managerial and technological competencies and skills would therefore, assist OTM graduate to contribute optimally in organizations and work collectively as a team in order to achieve the goals of the organization.

Conclusion

The present OTM curriculum as released by NBTE (2004) and NBTE (2011) is an improvement of the old secretarial studies curriculum. The new curriculum requires new technologies, the purpose of which is to place emphasis on exposures to modern trends, and acquisition of knowledge and skills required for the usage of sophisticated devices in business, which hold the key to Nigeria, becoming technological relevant, internationally competitive, economically prosperous and even politically stable. The Federal Republic of Nigeria (FRN) (2013) in her National Policy on Education (NPE) emphasized the need for functional, comprehensive and relevant education to meet the needs of the society. The programme of OTM, as x-rayed in this work, is a practical oriented programme and is based on the acquisition of office skills and competencies and therefore is in line with the goal of the National Policy on Education. However, to achieve these goals and simultaneously ensure high quality of academic output in OTM programme, the use of new technologies in the programme is of paramount importance, as it would enhance skill acquisition and meaningful academic work.

Recommendations

Having identified the components of these new technologies in education and their relevance and impact on academic activities, the following recommendations were made:

1. Government and various stakeholders in education should ensure that up-to-date new technologies and other technological equipment are adequately provided for OTM programme and there should be provision of standby generator to minimize the problems associated with power upsurge for adequate training of students.

2. Teachers should endeavour to constantly update their skills on the use of new office technologies and new methods of instructions for effective instructional delivery.
3. There should be adequate funding and maintenance of equipment, and other electronic devices in OTM programme.
4. The curriculum of OTM should be regularly checked in order to improve it due to the rapid global technological changes.

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