

HIGH TECHNOLOGICAL COMPETENCE AS AN ESSENTIAL FACTOR IN THE TEACHING PROFESSION FOR POSTCOVID-19

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Abstract

This study examined the technological competence acquired in the teaching profession in the pre and post covid-19 era in Nigeria. The entire world has evolved in both good and bad ways during and after covid-19. This study also considered the available and utilized technologies deployed in the teaching profession before the emergence of the coronavirus pandemic in the world, during the pandemic lockdown and the closure of schools. This study further delved into the advancement of technology during and after the coronavirus pandemic and how competent or prepared Nigerian teachers are for its utilization. In addition, this study examined the benefits of these technologies for teaching and learning in the post covid-19 world. This study concluded that teachers needed to be highly technologically competent because it is a paramount factor for skills development, efficiency and effectiveness in their teaching profession in the post covid-19 era. It was therefore, recommended among others that the teaching profession should embrace the dynamic nature of the world in terms of skills development; government should inculcate the emerging technological skills in the teacher training curriculum at all levels; efforts should be made to ensure teachers in the field are trained and retrained in the use of updated technologies available for teaching and government should endeavour to set up a monitoring team for the availability and utilization of the technologies for teaching and learning in Nigeria schools.

Keywords: technologies, competence, factor, teaching profession, post covid-19

Introduction

The pandemic, Coronavirus emerged from China in December, 2019 and gradually moved to other parts of the world claiming lives, disrupting businesses and education. It came as a 'harsh blow' to the global world because it was an 'unexpected visitor' that in turn became the compass of the economy and the dictator of how individuals should live their lives. It was a pandemic that shut down every facets of activities including the education system, locally and globally. The emergence of coronavirus pandemic produced both positive and negative outcomes to the entire world. One of its positivity is that it brought about change in thinking and execution patterns in jobs, education, trading activities, health and the likes. On the other hand, its negativity is the closure of formal school activities for months which affected the in-time completion of students' academic session which left the school authorities with no other choice than to further think of a way out for knowledge continuation and expansion. The quest for more knowledge birthed the acceptance of online platforms such as Zoom, Gmail Meet and Microsoft Teams to transmit lessons to students outside the formal classroom settings. This ideology eliminated the fear of the unknown caused by coronavirus in the education sector.

The introduction and acceptance of online platforms for the continuation of educational activities came as a relief to students, teachers, parents, school authorities and the government. Although, there are lots of benefit accrued to the usage of the online platforms for teaching, notwithstanding, there are some challenges faced by teachers and students in its usage especially in the developing and underdeveloped nations. Some teachers do not have adequate knowledge on how to use the platforms for teaching likewise many of the students, some are not opportune to own an electronic gadget where the software can be functional, power outage is another challenge being faced by both teachers and students, lack of sufficient data to run online classes. In some cases, teachers lack the appropriate skills in summarizing their lessons within the stipulated frame of time and also giving room for questions and answers. These are some of the challenges faced in the teaching profession which is hindering its effectiveness and efficiency in the post-covid world. Therefore, it becomes imperative for teachers to acquire high technological competence in order to be effective in the teaching profession and survive the competition of the global world.

Technology is the application of technical knowledge for invention, recreation and their interrelation with life, society and environment. It also means the techniques, methods,

processes implanted in a machine for the production of goods and services. Technology is coined from two Greek words, tekne (technical) and logos (knowledge), which literally means the creation of basic tools, machines to cause change and transformation in the environment to meet human needs. Therefore, technology in education is the application of human tools to enhance teaching and learning. The application of technology in teaching and learning has made lessons to be thought-provoking, problem-solving and creative. Competence, on the other hand, is the quality and state of being able or fit to carry out a particular task. It is the ability to be efficient and effective in the performance of a task or job.

Technological competence became very essential in the teaching profession today especially during the emergence of the pandemic that struck the world. Education is reckoned as the top priority in basic human right because it serves as the foundation for building a sustainable national development. Technological competence in the teaching profession needs to be superimposed in a world of increasing complexity, uncertainty and fragility. The modern day Nigerian teacher may be faced with the challenges of inculcating technical proficiency in its profession in the post-covid world. This is due to the lack or inadequate technical training available for teachers before the pandemic. The pandemic has given a vivid picture or reason to chart a way forward in addressing educational issues bothering the transmission of knowledge which has been hampered due to school closure as a result of coronavirus.

Technologies Employed in the Teaching Profession Before the Advent of the Pandemic

The introduction of computer cannot be complete without reference to the father of computer, Charles Babbage in the 19th century when he invented the Analytical Machine which served as the forerunner to the present digital computers around the globe. The history of computers can be classified into three generations; the first generation computers (1937 - 1946) were the first electronic digital computers which consumed a lot of power, had no operating system and could only perform a single task. This led to the invention of the second generation computers (1947-1962) which were more reliable and faster than the former. It had operating system, programming languages were developed and availability of storage media, also printers were available for output. As a result of improvement and advancement of technology, the third generation of computers (1963- till date) were invented with integrated circuit. Computers became smaller, powerful, reliable, able to multitasks and run

many programs at the same time (Steitz, 2006). This generation of computers made computer easily accessible, ubiquitous and less power consuming.

The advantages attached to the knowledge of the use of computers made it necessary for the Federal Government of Nigeria to introduce computer literacy into the primary school curriculum through the National Policy on Education (1998 & 2004) in order to equip students with the technological competence required for the present and future (Taiwo, Taiwo & Adeniyi, 2014). In the same vein, computer education was introduced into the secondary school curriculum by the Federal Government of Nigeria through the National Council on Education in 1987, to bring about a computer literate society and to enable students appreciate and be able to use computers in various aspects of life and in future employment (Jegade & Owolabi, 2003). The relevance of computer in teaching and learning is to enhance and complement learning by widening the accessibility of information, communication and sharing of knowledge with experts in various fields, facilitating of thinking skills and problem-solving skills for teachers and students, these can only be achieved when teachers and students are computer literates (Ngwu, 2008).

Computer studies is no longer an alien in the school curriculum, which implies that even a primary school pupil can identify a computer and its part, which is a fundamental part in computer education. Of a truth, computers can be found in all schools but the challenging questions are, how many computers can we find in a school? how many students can operate the computer system? and how many teachers are computer literates in a school? These are the constraints in achieving the objectives of the computer studies curriculum set by the Nigerian Educational Research and Development Council in 2002. The coronavirus outbreak in the country overtly showcased that the teaching profession in Nigeria was totally backwards in use of information technologies for teaching and learning. The technology employed in the teaching profession before the outbreak of the virus was the use of computer with its other hardware parts for typing, printing, scanning, classroom instructional delivery and transferring of mails. The use of smartphones was not considered as an aid or tool to enhance teaching and learning until the advent of coronavirus, likewise the use of television and radio.

Advancement of Technologies in the Teaching Profession

The teaching profession was challenged in the pandemic period because learning was halted for the students due to the closure of schools. Teaching and learning now became

‘survival of the fittest’ in the world, that is, only schools highly digitalised were able to continue teaching. Schools in the developed countries were not affected by the pandemic lockdown because they have a high percentage of students and teachers who were digital literates compared to the developing countries. In Nigeria, for instance, school closure brought an abrupt end to teaching because schools were not equipped to combat such challenges. Nigerian schools are predominantly known for its conventional style of teaching especially in the basic and senior secondary schools, while few of the tertiary institutions operate distance learning. Prior to the pandemic, the knowledge of primary and secondary students in Nigeria were shallow in relation to online teaching and learning, they were only conversant with the physical look of a desktop computer and a laptop, which might be owned by their guardians or teachers. Majority of the students were not computer literate because they were not taught in schools, besides, most of their teachers do not have adequate knowledge on the usage of computer for varieties.

Technology in education refers to educational technology employed for teaching and learning. It surpasses the layman knowledge of the usage of computers, television and other electronic devices for learning. It entails the process involving ideas, devices, people, procedures for enhancing students learning (Association for Educational Communications and Technology, 1996). The introduction of educational technology has brought a drastic improvement in teaching and learning which has helped to supplement lessons, stimulate learners interest and made learning effective. Educational technology helps to build students cognitive thinking, enhances students problem-solving skills and increases student access to learning resources within and beyond the school.

In the world today, there have been advancement of educational technologies employed in the classroom; online teaching, class blogs, podcasting, social networking, interactive whiteboards and mobile devices (phones, laptops, iPads, etc.). These technologies make distance learning easier, aid teaching and learning, provides good visual aids for students, provide teachers with ease of presenting lessons, deliver information to students faster, widen the avenue of interaction and discussion among students, improves collaboration, stores lessons for students who were absent or need to recap the lessons taught in class. The advancement of technology does not encourage confinement of teachers and students in a geographical place or within the four walls of a school, this was evident during the pandemic. In addition, the invention of internet expanded the flow and transfer of knowledge globally. Through the internet, students can acquire any E-book of their choice,

connect to different people all over the world, blog or tweet information and it flows like wildfire.

BENEFITS OF TECHNOLOGICAL COMPETENCE IN TEACHING PROFESSION

The post-covid society has made it compulsory for the teaching profession in Nigeria to accommodate updated technologies in order to enhance productivity in schools. The closure of schools during the pandemic in the Western countries did not hamper the transmission of knowledge because the society was already technologically inclined, this was an advantage to the schools in such countries, even while in the state of lockdown, learning continued. It therefore becomes pertinent for the teaching profession in Nigeria to inculcate the utilization of technologies in teaching and learning in order to expand learning.

The introduction of Zoom for online classes became a big relief in the education system. it eliminated the fear of an abrupt end to teaching and learning. In Nigeria, for example, other avenues such as television, radio and WhatsApp were used to transmit knowledge to students. The adoption of online teaching or virtual learning increased the usage of computers and its likes in the school and society at large. Besides, enhancing the effectiveness of teaching and learning, being technologically competent as a teacher also augments the value of a teacher, it makes the teacher versatile, problem solvers and critical thinkers.

Application of technologies into the teaching profession enable interactive learning. It allows students to explore different opportunities that make learning fun and enjoyable. It helps to improve learners' engagement and participation in the learning process. Through the active participation of learners, their memory retention is enhanced because they have full interest in learning which would help in enhancing their memory capacity. Delivering lectures through gamification or virtual field trips can help arouse interest of learners.

Another advantage of application of technologies in the teaching profession is expansion of individual learning. Through, the availability of different opportunities in the internet world, individual's learning capacity can be expanded due to the different styles of learning and abilities at hand. Students learn and assimilate in different ways which technologies are able to offer in education. Internet access has provided a broad range of resources for students, even for disabled or struggling students. This expansion of learning birthed collaboration in education. Students and teachers from different parts of the world can connect together through the internet for research and development. Application of technologies in education encourages collaboration within the classroom and outside the four walls of a school,

collaboration in return helps to enhance the individual's capacity and makes learning effective.

In addition, work skills essential for the 21st century can be developed through the utilization of modern technologies in the education system. The use of technologies for teaching and learning help to build the future of the students through team work, problem solving, critical thinking, research, practical skills, communication skills and leadership skills. These are necessary skills that can be developed through the knowledge of technologies in the school system. Teachers can also use these technologies to enhance their traditional way of teaching by using different application software for teaching and grading, collaborating with other teachers to learn more in their field, engaging in virtual or physical training on the use of modern technologies and access to trusted online resources in their various fields.

Conclusively, application of technologies enables students to learn in new ways faster than the conventional style. The conventional style allows for rapt attention given to the teacher alone, that is, teacher-centred, but the use of technologies in learning expanded access to knowledge and made teaching learner-centred, which has become appealing and interesting to students. The use of technology has also helped in maintaining academic integrity through plagiarism detection. This has helped teachers to detect students that solely depend on online materials for cheating and to advise them against it. Technology has also made teachers and learners to have a fast grab on latest information which might not be available in textbooks or other printed materials. Online information is always available and updated regularly, which also spread fast through the internet all over the world to be integrated into the body of knowledge.

Conclusion

Incorporating technologies into teaching and learning makes learning efficient and effective, therefore, it is pertinent to ensure that teachers are regularly trained in the use of these technologies. Technologies are being updated on a regular basis, likewise schools must update teachers and students in order not to be faced with an abrupt end to learning for one reason or the other. Technologies allow for remote learning, schools can decide to have a blended form of teaching and learning, that is, both virtual and conventional styles of learning. Technology is a powerful tool that enriches teachers works, engages students and makes learning objectives achieved efficiently. The use of technologies also has some

disadvantages if not balanced well, the school must learn to balance its use in order not to hamper the effectiveness of learning.

Recommendations

1. The world is updating with its technologies; schools should endeavour to purchase necessary gadgets relevant for learning expansion.
2. There should be regular training of teachers to meet up with technology advancement.
3. Students should be taught on the use of educational technologies which can only be made possible through learning from an experienced teacher.
4. The curriculum should be updated to allow for in-depth and expansion of computer studies, not just theorizing it alone; practical must be involved.

References

- Association for Educational Communications and Technology. (1996). *The definition of educational technology: A summary*. In classic writings on instructional technology (Ed.) Donald P. Ely & Tjeerd Plomp. Libraries Unlimited.
- Jegede, P. O. & Owolabi, J. A. (2003). Computer education in Nigerian secondary schools: gaps between policy and practice. *Meridian: A Middle School Computer Technologies Journal*,6(2), 1-10.
- Ngwu, O. G. (2008). Relevance of computer studies in school curriculum. *Nigerian Academic Forum*, 14(1), 133-136.
- Steitz, B. (2006). *Brief history of computer*. Boston university. <https://www.people.bu.edu/baws/>
- Taiwo, O. A., Taiwo, S. A. & Adeniyi, E. O. (2014). An assessment of implementation of national computer education curriculum in Nigerian primary schools. *West East Institute International Academic Conference Proceedings*, 204-214.
- Teachnology. *The latest technology used in classroom today*. <https://www.teach-nology.com>

