

Virtual Classroom Management during COVID-19 in Nigeria: Insights from TPACK

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Abstract

This study explores virtual classroom management in the context of Nigeria, a developing country that faces challenges in adopting technology for teaching and learning activities. The COVID-19 pandemic exacerbated these challenges, causing a breakdown in physical teaching and learning activities. To address this, the study employs constructivism theory to examine virtual classroom management and strategies for effective implementation. The study uses a qualitative approach to review the concept of virtual classroom and virtual classroom management in Nigeria, strategies to manage the virtual classroom as well as the merits and demerits of virtual classroom learning. The findings highlight the challenges of virtual teaching and learning activities and suggest solutions such as in-service training, workshops, and seminars on digital leadership training for school leaders, teachers, and students. Additionally, parents are encouraged to support their children's learning by making their smartphones available and monitoring usage, while the government is advised to allocate more funds towards improving digital technology in secondary schools. Overall, the study underscores the importance of constructivism theory in guiding effective virtual classroom management in Nigeria.

Keywords: *Virtual classroom, Virtual Classroom-management, Covid-19*

Introduction

The teachers' digital competence includes technical know-how, efficiency and safe use of technology. This became a focal point for conveying instructions to students, especially during

the COVID-19 pandemic that required lockdowns to reduce and stop the spread of the pandemic between the years 2020 and 2021 globally. The need to continue teaching despite the lockdown forced teachers to teach students virtually which calls for skills and knowledge to be mastered by professionals. The outcome created an additional window of opportunity to demonstrate how simple it is to offer instructions online. The need for teachers to be digitally proficient has become critical for efficiency, creative and innovative learning to have a greatest impact. This will make it possible for everyone to benefit fully from the digital economy to which experts are slowly adjusting to. The educational sector is not excluded, teachers' digital abilities are crucial to comprehend new technologies, adapt and engage with the development of virtual classrooms systems (Karunaweera, 2021). This also involves the use of digital technology (DT) to teach the students to resolve a variety of issues that arises in both their academics and personal lives.

Workshops and training are the two methods for carrying out activities that improve digital competency. This can also be accomplished by outlining how information and communication technologies can be used by teachers to accomplish jobs easily. It is equally important for promoting schools, publishing works and providing the knowledge needed to interact with the expansion of artificial, virtual and digital systems (Konig, 2020). In practice, teacher digital competence helps to facilitate learning and acquiring digital chances, carry out the process of improving and innovating teaching in accordance with needs of the digital era, and contribute to professional development in line with societal change. For the purpose of connecting with the students, this new teaching method or virtual classroom uses mobile devices interfaced with internet connectivity, desktop, computers, laptops, software applications, mobile phones Apps, WhatsApp, Facebook, Zoom) and interactive (Suwartono, Aniuranti, 2018). Thus, teachers digital competence means a formalized systems of applicability of digital tools to achieve knowledge and understanding of the various subjects matter that are being taught which is necessary for students attainment of self- development, self- realization and academic performance (Amie, Organ & Omunakwe, 2020). Teachers might encourage further study using internet resources in this era of information and knowledge explosion in order to raise the standard of instructions. The ability of teachers to lead and direct students learning in terms of cognitive, behavioural, and emotional balance as well as to fulfil learning objectives, is therefore of utmost, importance. This means that students could learn more in an online environment if the teacher is more technological knowledgeable.

In addition, using virtual tools to deliver instructions and learning after the COVID-19 pandemic could help achieve objective 4 of the sustainable development goals “Providing education is vital to creating a peaceful and successful world, since education offers individual the knowledge and skills, they need to be healthy, acquire jobs, and cultivate tolerance” the goals provision adds. 2020 (United Nations). The implication of this is that teacher’s digital proficiency can improve quality education, which would equal to the accomplishment of Un Sustainable Development Goal N0 .4.

Teachers Digital Competence

Teachers' digital competency has become increasingly crucial in the twenty-first century for improving educational quality, as global digital revolution has impacted both the learning environment and the learner, negatively affecting the development of curricular and instructional strategies. Because the transformation process must always begin with the teacher, the teacher is an essential component in the process of integrating technology with learning in the classroom. European Union (as described in Gomez Pablos, Matarranz, Casado Aranda & Otto (as described in Gomez, of work, and for Aranda, & Otto, 2022)” the safe, interactive, critical and responsible use of digital technology for learning, for easy of work and participation in society”. Given that it holds the key to the future economy and income drive, digital competence is one of the important competencies that citizens in general and teachers in particular must master in the modern society. Thus, the National plan for digital skills recognizes information and data literacy, communication and collaboration, digital content creation, safety, and problem solving as essential future competencies for teachers to perform its duties well (MINECO, 2021). It is important to note that the educational context has recently given digital competence a significant amount of attention. This is due to the fact that using technology has become imperative in daily life, indicating that many citizens’ professional progress now rely on the effective and suitable use of digitalization processes (Hjukse, 2020).

Why Teachers Need to Be Digitally Competent

Teachers must start to see digital literacy as a tool that will help them to fulfil the needs of the 21st century, students and raise the bar of instructions through giving students the mentality and skills they need to succeed in the present and in the future (Iheanayinchuku, 2018). This necessity for teachers to be digitally proficient exists despite the fact that access to professional

development and lack of incentives for training remain a major roadblock to the quality of teaching and outputs in today's competitive world.

As stated by the World Economic Forum in the year 2017 annual general meeting, the goal of digital competency training for teachers is to provide them with the tools they needed to be innovative and creative in order to remain relevant, stimulate creativity and develop scientific understanding: to help them develop values and global skills, gain digital intelligence on how technology can be used as a pedagogical tool, learn how to personalized can have an inclusive learning- teaching environment. Additionally, in order to use technology to guide and control the teaching learning processes and help students to develop their own digital competencies teachers must be digitally proficient in order to support digital technology in a variety of ways. (Catasus, Romeu &Colas, 2020) identify other goals to include: enhancing learning and motivating students to meet learning objectives, teacher's mastery of systems, websites, and tools, demonstrating to learners the proper use of technology through didactic practises, and encouraging teacher's active participation, particularly in the learning aspects of transferring knowledge technology and skills to students.

Utilizing technology will not only make learning enriching for students but also improves the teaching process. A teacher that is computer literate can use many apps and resources at his disposal to deliver more thorough instruction, thus, creating lesson plans and delivery methods that are most suited and caters for individual differences in students, similarly, teachers can use technology to prove information based on student's requirements. Teachers who are digitally inclined can offer vital advice to those who create educational technology on pedagogical approaches on particular subject (Muharhasian, Bariroh, Mulawarmah, Abadi 2022). This will help to unproved both the quality and quality of information that can be used for instructional purposes.

In addition, it offers teachers the platforms that makes communication and collaboration easier, thus, creating opportunity for learning fresh significant topics, thereby, fostering innovation in ways that are previously unthinkable (Anekwe, 2017). Also, it will give opportunity to teachers who possess digital skills to be more equipped and to deliver flexible, value-based-education to students in the digital age (Huang 2018), spend less time by utilizing a variety of resources, empty various strategies to create a more welcoming and fun atmosphere which inspires

students (Ravv, 2020). Being digitally competent enables teachers to engage students more actively and effectively in their learning.

Digital competence as an Essential Tools in Virtually Teaching

Although the research on the effectiveness of virtual classroom is very limited, especially with regards to challenges of addressing students learning difficulties, while in the face-to-face classroom, teachers are able while in the face-to-face classroom, teaches are able to guild students on the sport when they are facing challenges in completing the fast. However, the traditional learning approaches cannot just complete with some of the efficiencies that technology offers, considering the popularity use of smart phones and other wireless technology devices, thus it makes sense for educational institutes to make effective use of integrating technology into the classroom.

To put it in another way, the teacher needs to help students become used to the web-based learning environment, which includes the use of various tools for interaction between the students and having group discussions. Most of the students awarded the interaction and ability to build problem-solving skills high mark (Yagci cited in Liew Liu & Tail, 2021). Additionally, Janssen, Konings, Merrienboer who were cited by Ran and Gandi in 2022 stated that digital competence is a crucial tool in virtual teaching since it aids on seamlessly demonstrating self-efficacy; making educated decision on the most appropriate technologies for subject areas; learning about and with digital technologies; and specialized and advance competence for job and artistic expression; for general knowledge and foundational abilities.

TPACK Theory

This paper is anchored on the TPACK theory. The leading proponent of the idea were Koehler and Mishra (2009) based on their framework on TPACK. This focuses on technology knowledge (TK), pedagogical knowledge (PK) and content knowledge (CK) and offers a productive approach to many dilemmas that teachers face in implementing educational technology in their classrooms. Therefore, by differentiating among the three types of knowledge, the TPACK framework outline how content (what is being taught) and pedagogy (how the teacher imparts the content) must form the foundation for any effective technology integration with education. The three types of knowledge- TK, PK and CK are combined and recombined in various ways within the TPACK framework. TPACK has remained such a

powerful principled for over a decade because the present constituents allow the room for a range of specific educational circumstances. This means any effective implementation of technology in the classroom requires acknowledgement of the dynamic, transactional relationship among content, pedagogy, and technology- all within the framework different schools, classroom, and cultures. Factors to always consider include individual indicator, the students grade level, the class demographics, and different approach to the integration process (Koehler & Mishra, 2009).

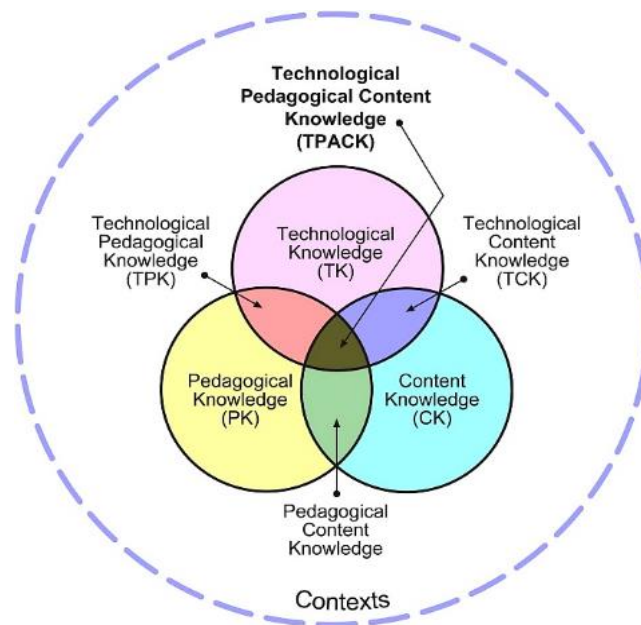


Figure 1: TPACK framework Educational Technology

The learning process, according to TPACK, places the teacher in a primary role wherein he or she leads the teaching and learning process in the school using his or her digital competence through drill and practice with technology devices. Therefore, the learner’s role is that of thinking or doing as directed by teachers. TPACK has been criticized just like every other theory for instance the use of technology will be discouraged if a teacher receives insufficient post-training support, internet connectivity, unstable power supplies and a lack of inspiration for leveraging technology to generate worthwhile tasks are further difficulties (Rani & Gandhi, 2022). More so, teacher is being put in a strong position, these difficulties could be overcome through the use of solar connectivity, use of mobile phones since TPACK, places teacher in a primary role to lead the teaching and learning process in the school using the digital competence through drill and practice with technology devices.

Adapted Model

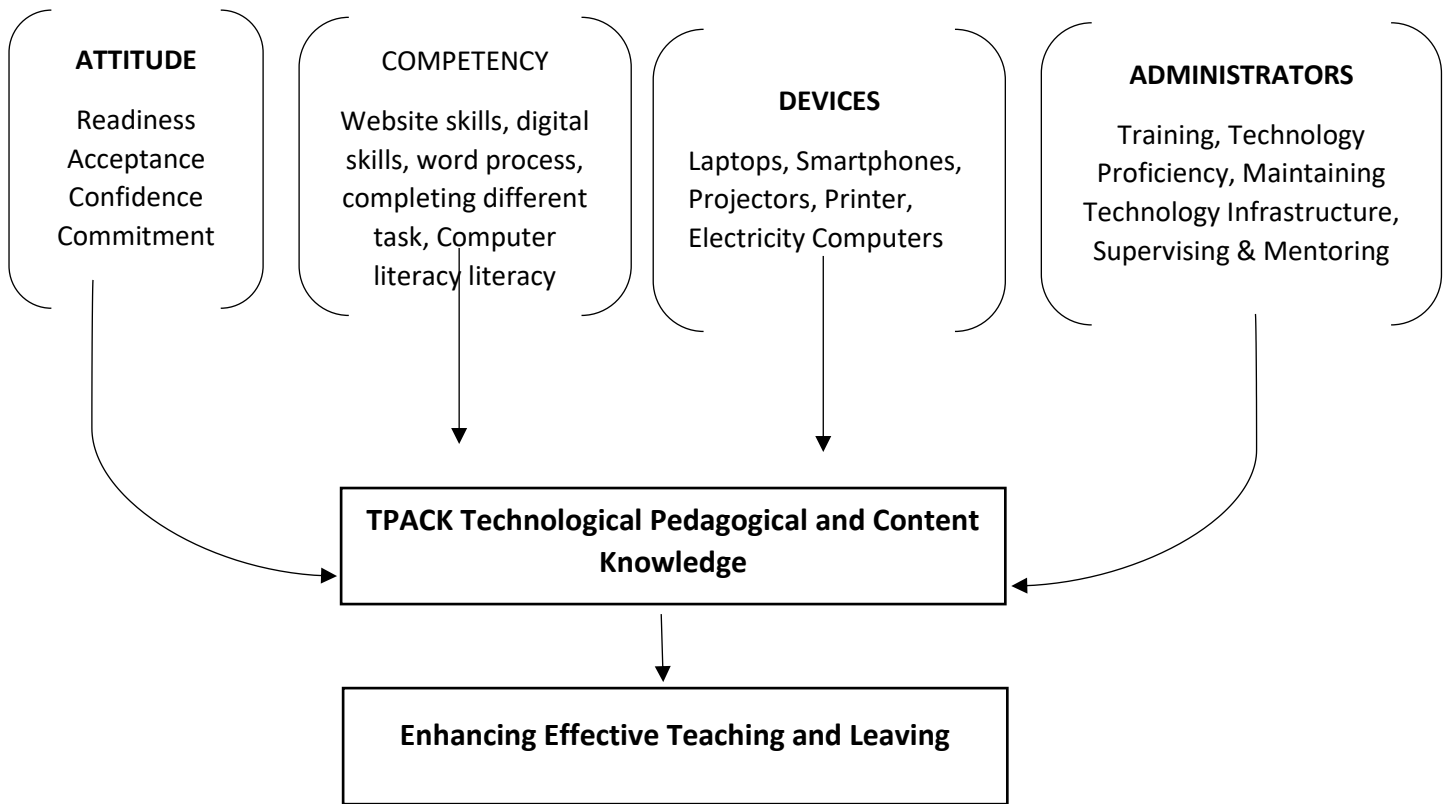


Figure I: Illustrates the conceptual framework for integrating technology into teaching and learning, employing attitudes, competency, devices and administrator’s responsibilities are indicated. Several elements, such as preparation, commitment to recognize the charges utility, trust in the changes potential to succeed and acceptability, all affect how well a change like digital technology is received. Training and continual practice in digital skills, word processing, online abilities for carrying out various tasks, and computer literacy are ways to develop competence. Laptops, a projector, cell phones, printers, Android phones, electricity are some examples of devices Administrators now play such a crucial role that they have no choice but to be technology vibrant. They are expected to provide an example for their teachers through training, retention, upkeep of their technology infrastructures and technological practices. The combination of attitude, competency, technology and administrative duties results in TPACK which will justify the final goal of improving teaching to both Teachers and Students

Conclusion

For teachers to perform efficiently and effectively in future virtual classroom teaching and assist young minds to develop the capacity to leverage a sustainable future, it is urgently necessary to enhance their digital abilities. Based on the forgoing, the researchers draw the conclusion that information and data literacy, computer media literacy, digital content creation and programming knowledge of data, security, problem solving and critical thinking skills and information data literacy can all be use to access a teacher's level of digital competency. To enhance learning and teaching, teachers must be proficient in computer systems, websites, and tools, they are to serve as role models for students regarding how to use technology in a responsible manner, as well as effectively impart knowledge and technological skills to students

Suggestions

Based on the scholars' views as reviewed in this study, the followings are some of the recommendations proffered:

1. For teachers to stay current in digital technology and be relevant in the constantly evolving virtual classroom environment they should be encouraged to pursue additional training that could further improve their digital competency in information and data literacy, computer media literacy, digital content creation and programming, data security knowledge, problem solving and critical thinking skills. Training should be planned and accommodating to all teachers to participate
2. Teachers must constantly demonstrate their ability to motivate the students and stimulate learning, be proficient with computer systems, websites, and tools set an example for the proper use of technology in the classroom and encourage students' active participation while imparting knowledge and skills to them.
3. Governments needs to find a means of lowering cost of internet connectivity to make it accessible, so that teachers can assist students to prepare for a brighter future. They should set up infrastructures in schools to make it easier for teachers to use digital tools during instructions and for students to learn how to use it to explore and become lifelong learners. Government should provide incentives for teachers to access professional development organized training opportunities.

4. The educational technology curriculum has to be overhauled to integrate the real word applications of technology for the present and future.

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