Integrating Digital Base Pedagogy in Teacher Education Training: The Need for a Paradigm Shift

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Abstract

The protection of students, staff and educational facilities are particularly important. Precautions are necessary to prevent the potential spread of COVID-19 in school settings. Therefore, closure of educational institutions in Nigeria by Government can prevent the entry and spread of COVID-19 by students and staff that may have been exposed to the virus. This paper focused on Covid-19 Disruptions to Educational Sector in Nigeria, Implication for Developing World and Intellectual, and Researches for Achieving the New Sustainable Development. To put this disease outbreak in perspective, we will first provide some history of corona viruses, identify the effect of schools closure as a result of Covid 19 and identify ways to limit educational disruptions as a result of pandemic diseases. It’s recommended to have a flexibly adjustable plans, government need to address the digital divide the required infrastructure and connectivity to reach the remotest and poorest communities, also radio and television stations should recognize their key role in supporting national education goals by presenting educational programs. Open, distance and online learning is encourage in maintaining connection with other students and ensuring continuity of curriculum based study. Government should also work with telecommunication companies to apply zero-rate policies which can facilitate learning materials to be downloaded. Ministries of education should have a much clearer understanding of the gaps and challenges in connectivity, hardware, and integration of digital tools in the curriculum in order to fill the gaps. Government should find a way to provide meals using the school buildings...
in an organized fashion, community buildings or networks, or, if needed, distribute directly to the families.

**Keywords:** Disruptions, Educational Sector, Implication, Developing, Intellectual.

**Introduction**

With the rapid expansion of knowledge and the challenges teaching and learning is facing in our society, the need for teachers to incorporate modern technologies (digital technology) becomes necessary. These challenges tend to ask teachers to continuously retrain themselves and acquire new knowledge and skills while maintaining their jobs (Carlson & Gadio, 2002). This however, placed more demand on teachers to learn how to use these modern technologies in their teaching because they can provide more flexible and effective ways of connecting both teachers and learners to the global teacher community.

Digital pedagogy is the use of contemporary digital technologies in teaching and learning. This has its origins in distance learning which took the form of correspondence courses delivered by mail during the early twentieth century. Digital pedagogy looks critically at digital tools as potential means for teaching and learning Brier (2014). Digital pedagogy considers digital content and space as valuable sites for information and knowledge, in addition to traditional medium such as books or classroom. With the current rise in use and high application of technologies, pre-service and in-service teachers undergoing teacher education training should be provided with learning opportunities that help them to understand and practice the skills of pedagogic planning and the evaluation of the educative possibilities using technological tools available. Digital technologies are electronic tools, systems, devices and resources that generates, store or process data. Well known examples include social media, online games, multimedia and mobile phones. Digital learning is any type of learning that uses technology. It can happen across all curriculum learning areas.

**Teacher training in Nigeria**

Education all over the world is seen as a process of transmitting the cultural heritage, stabilizing the present and improving or changing the future of the people. The school system in this regard is generally accepted as a major agent of education. This factor makes the teacher central in the task of education. Today, teacher education is considered to be the foundation for quality and relevance in education at all levels (Osokoya, 2010).
Historically, the first teacher training institution in Nigeria was founded by the Church Missionary Society in 1859. The school established in Abeokuta and named “The training Institution” was moved to Lagos in 1867 when the missionaries were expelled from the town (Fafunwa 1991). The first teacher training in northern Nigeria was Nasarawa College founded by the colonial government in 1909. The main concern of the mission’s teacher training institution was to produce school masters who are to graduate to classroom teachers, catechists, deacons and priests. Therefore the subjects taught in the teacher training at the period included: the newtestament criticism, Christian faith, school method and management, preaching and theology, hygiene, geography, history, English among others (Fafunwa 1991).

The operation of teacher education in the period was heavily criticized by the Phelps Stokes Commission Report of 1922 for its irrelevant and poorly conceived curriculum, inadequate supervisory system and the high rate of teacher-pupil ratio. In 1929, Mr. E.R.J. Hussey, the first director of education, re-organised the teacher training system in Nigeria along the suggestions given by the Phelps Stokes Report. Meanwhile, he centralised the control of education in Nigeria by merging the existing two departments of education in the northern and Southern provinces. He thereafter created two types of teacher training institution namely.

- The Elementary Training Centre (ETC). This is a two year course leading to Teachers Grade III certificate for lower primary school teachers and;
  - The Higher Elementary Training College H.E.T.C. also lasting for another two years and leading to Teachers Grade II Certificate.
- Another historical landmark in the development of teacher education in Nigeria was the establishment of Yaba Higher College by the British Colonial Administration in 1932. The College ran a three-year diploma teacher education programme from its inception. Unfortunately, the Yaba Higher College suffered immensely during the Second World War. Its campus and medical school were acquired by the army for war purposes. The college was finally absorbed by University College Ibadan in 1947. Teacher education programme in Nigeria was further enhanced when the University College Ibadan, founded in 1948 introduced a one-year diploma course in education as from 1957/58 session.

Today, teacher education is much improved than it was before independence and few decades thereafter. The National Policy on Education, published in 1977 and revised in 1981, 1998 and 2004 clearly articulates the importance attached to teacher education and affirms that “no education system can rise above the quality of its teachers”. The Policy gives the goals of teacher education as:
• Producing highly motivated, conscientious and efficient classroom teachers for all levels of our education system.
• Encouraging the spirit of enquiry and creativity in teachers
• Helping teachers to fit into the social life of the community and the society at large to enhance their commitment to national goals.
• Providing teachers with the intellectual and professional background adequate for their assignment and to make them adaptable to changing conditions.
• Enhancing teacher’s commitment to the teaching profession.

The Policy makes it mandatory for all teachers in Nigeria to be trained and stipulate Nigeria Certificate of Education (NCE) as the minimum qualification to the profession. The policy also provides that “teacher education shall continue to take cognizance of changes in methodology and in the curriculum” and that teachers shall be regularly exposed to innovations in their profession. It further recognizes the need for in-service training “as an integral part of continuing teacher education”.

The statutory responsibility for teacher education in Nigeria today is vested in College of Education, Institutes of Education, Polytechnics, National Teachers Institute (by distance) and University Faculties of Education. The Polytechnics and Colleges of Education award the Nigeria Certificate in Education (NCE) which is a sub-degree but professionally demanding diploma obtainable after three years of fulltime study. The admission requirements for the NCE programme are Senior Secondary Certificate or its equivalent with passes in five subjects including English language. The curriculum for NCE teachers is well designed to produce teachers exposed to a breadth of studies covering all that is required to make them competent professionals. New courses such as computer education, mathematics and General English have been made compulsory for all NCE students.

The National Teacher’s Institute (NTI) was established in 1976 by Decree No. 7 of 1976 to offer upgrading programmes for teachers through distance learning. Over the years NTI has been providing in-service training for teachers during school holidays and week-ends for the award of NCE, B.Ed and Post Graduate Diploma in Education (PGDE) certificates.

Institutes of Education in the various universities have also been involved through distance learning and part-time courses the training of teachers for N.C.E. B.Ed AND PGDE Certificates. Faculties of Education prepare preservice teachers for Bsc.Ed. B.A. Ed. and M.Ed degrees. There are four major requirements for the degree programme in the Nigerian universities, namely: - General studies, Educational studies, Studies related to the students’ intended field of teaching, Teaching practice
Digital Literacy
Due to changes in the educational landscape, more specifically to the increased evolution and use of new technologies among students and teachers (e.g. portable technologies in which users can interact through different applications, such as social networks and media technologies, among other resources) the idea of literacy have completely change. In this technological world that even baby at the age of two can operate handsets and many of such tools. Most students are nowadays carried away by handsets, laptops and many technologies that they can spent hours on social media and related technology apps than books, teachers need to be informed and confident in their use of such technologies. Modern technologies are essential tools for teaching and learning because these tools may be used for content delivery and creation, student engagement, communication, and assessments in an online, blended, or in-class setting. To use these tools effectively and efficiently, teachers need visions of the technologies’ potential, opportunities to apply them, training and just-in-time support, and time to experiment. Research indicates that ICT can change the way teachers teach and that it is especially useful in supporting more student-centered approaches to instruction and in developing the higher order skills and promoting collaborative activities (Haddad, 2003). Digital technology facilitated learning has great potential to enhance students’ motivation, and supports information gathering and presentation (Blumenfeld et al., 1991).

The Use of Digital Pedagogy in Classroom
Digital pedagogy is about knowing when and how to use technology for learning and how to incorporate digital tools to enhance discovery and problem solving, engage learners, and improve the learning experience (Fontaine, 2000). It is important to acknowledge that students are already interested and engaged in using technology, this creates many amazing opportunities for schools and teachers to benefit from integrating some forms of technology in the classroom and to make teaching and learning more effective. Digital tools can include open educational resources such as e-books, tablets, smart phones, learning management systems, Massive Open Online Courses (MOOCs), visual tools and video or digital storytelling. Integrating these tools in teacher education training may results in the following benefits in the classroom Dialogic practice is that in which students are active, engaged and empowered participants in a conversation from which learning emerges. For example, learners working on a maths modelling programme can start to have conversations about what they see on a computer screen without having to rely on terminology that they may not yet have (look at ‘that’, what happens if you do ‘this’?) The teacher can then add the appropriate language into the conversation as the project develops.
**It Improves engagement**
When digital tool is integrated into lessons, students are expected to be more interested in the subjects they are studying. These tools may provide different opportunities to make learning more fun and enjoyable in terms of teaching same things in new ways. For instance, delivering teaching by taking students on virtual field trips and using other online learning resources. These digital tools can encourage a more active participation in the learning process which is hardly achieved through a traditional lecture environment.

**It Improves knowledge retention**
Students who are engaged and interested in things they are studying, are expected to have better knowledge retention. As mentioned before, digital tool can help to encourage active participation in the classroom which also is a very important factor for increased knowledge retention. Different forms of technology can be used to experiment with and decide what works best for students in terms of retaining their knowledge.

**It encourages individual learning**
No one learns in the same way because of different learning styles and different abilities. Modern technology provides great opportunities for making learning more effective for everyone with different needs. For example, students can learn at their own speed, review difficult concepts or skip ahead if they need to. Digital tools can provide more opportunities for struggling or disabled students. Access to the Internet gives students access to a broad range of resources to conduct research in different ways, which in turn can increase the engagement.

**It encourages collaboration**
Students can practice collaboration skills by getting involved in different online activities. Technology can encourage collaboration with students in the same classroom, same school and even with other classrooms around the world.

**Students can learn useful life skills through technology**
By using technology in the classroom, both teachers and students can develop skills essential for the 21st century. Students can gain the skills they will need to be successful in the future. Modern learning is about collaborating with others, solving complex problems, critical thinking, developing different forms of communication and leadership skills, and improving motivation and productivity. Technology can help develop many practical skills, including creating presentations, learning to differentiate reliable from unreliable sources on the Internet, maintaining proper online etiquette, and writing emails. These are very important skills that can be developed in the classroom.
Benefits for teachers
With countless online resources, technology can help improve teaching. Teachers can use different apps or trusted online resources to enhance the traditional ways of teaching and to keep students more engaged. Virtual lesson plans, grading software and online assessments can help teachers save a lot of time. This valuable time can be used for working with students who are struggling. Having virtual learning environments in schools enhances collaboration and knowledge sharing between teachers. One of the best ways to develop teachers’ ICT skills and promote ICT-pedagogy integration in their teaching is the provision of ICT-based training environments where on-demand access to materials, peers, and networks of experts where expertise and advices can be obtained and active discussion can take place in relation to technology or pedagogy. In this regard, the approach of using ICT to support teachers’ ongoing professional development and networking can be very effective as long as organized support is provided (Pacey, 1999).

Discussions and Conclusions
The analysis of this pedagogic approach in Digital base teacher training indicates that there are possibilities and challenges in adopting ICT in teacher training and professional development. Digital is already a large part of students’ lives outside of the classroom so incorporating into their education makes sense, and doing so doesn’t have to be limited to lecturing while using a power point presentation but rather the use all digital tools that have impact on the students live. With planning and creativity, digital technology can be used to create meaningful learning experiences which will serve both students and instructors well. Technology has a role to play as a powerful teaching tool. In this paper a case for digital pedagogy in teacher education is made as more than approaches or instructional strategies in teacher education settings. Considering that the nature of the pedagogical relationship between teacher educator and student demands a commitment to the growth of that student, pedagogy demands digital tools. Governments and teacher training institutions needs to recognize the importance of integrating digital tools in education and teacher training. Before and after new technology tools are introduced to your classroom, seek feedback from colleagues and students about their efficacy. Remember, as you would tell your students, failure is part of learning. Bear in mind that not every technology tool will work for your subject and students, and different cohorts may have varying responses to using technology. However, there are many benefits to be gained from trying new approaches to teaching and integrating digitals into the classroom. One should continue to try new ways to deliver learning outcomes, this will keep teaching interesting for instructors and open new opportunities for learning for both teachers and students. Once digital tool is well integrated into students’ experiences these tools makes sense
inside and outside the classroom. And when students leave the classroom to return to, or enter, the workplace (got a job) they will enter a world where adapting to use technological/digital tools as an integral part of their professional lives is now necessary.

References
Webanwhere retrieved from https://www.webanywhere.co.uk/blog/2016/02/top-6-benefits-technology-classroom/