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**A COMPARATIVE CONSIDERATION OF INNOVATIVE DIGITAL
TEACHING/LEARNING METHODS PRE-AND POST-PANDEMIC IN TWO
UNIVERSITIES IN ITALY AND NIGERIA**

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ABSTRACT

This paper presents a descriptive analysis and comparison of higher education policies at the State and organisational levels, methods and effectiveness of digital learning in Italy and Nigeria due to the changes occasioned by the COVID-19 pandemic. It is a reflection of the Adult Education Academy (AEA) 2021 experience that was focused on the consideration of the status pre-and post-pandemic along the mega, meso and micro dimensions in a bid to create an optimal learning environment, encourage innovative teaching methods in both countries and learn lessons. From a comparative perspective, the purpose of this paper is to explore the practices and strategies implemented by the two universities in Italy and Nigeria to address the challenges caused by the pandemic. Some practical teaching/learning methods will be proposed to prepare institutions for the new normal.

KEY WORDS

digital learning; adult education; COVID-19 pandemic; innovative methods



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**UMA ANÁLISE COMPARADA DOS MÉTODOS DIGITAIS INOVADORES DE
ENSINO E APRENDIZAGEM PRÉ- E PÓS-PANDEMIA EM DUAS
UNIVERSIDADES EM ITÁLIA E NA NIGÉRIA**

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RESUMO

Este artigo apresenta uma análise descritiva e comparada das políticas de ensino superior ao nível estatal e organizacional, dos métodos e eficácia da aprendizagem digital em Itália e Nigéria, devido às mudanças originadas pela pandemia COVID-19. É um reflexo da experiência de 2021 da Adult Education Academy (AEA), que se centrou na análise do período pré- e pós-pandemia nas dimensões mega, meso e micro, no intuito de criar um ambiente de aprendizagem propício, encorajar o uso de métodos de ensino inovadores nos dois países e aprender com essas mudanças. Numa análise comparada, a finalidade deste artigo é explorar as práticas e estratégias implementadas por duas universidades em Itália e na Nigéria para abordar os desafios provocados pela pandemia. Serão propostos alguns métodos de ensino/aprendizagem que podem preparar as instituições para o novo normal.

PALAVRAS-CHAVE

aprendizagem digital; educação de adultos; pandemia COVID-19; métodos inovadores



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UN ANÁLISIS COMPARATIVO DE MÉTODOS DIGITALES INNOVADORES DE ENSEÑANZA Y APRENDIZAJE ANTES Y POST-PANDEMIA EN DOS UNIVERSIDADES EN ITALIA Y NIGERIA

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RESUMEN

Este artículo presenta un análisis descriptivo y comparativo de las políticas de educación superior al nivel estatal y organizacional, los métodos y la efectividad del aprendizaje digital en Italia y Nigeria, debido a los cambios provocados por la pandemia del COVID-19. Es un reflejo de la experiencia de la Academia de Educación de Adultos (AEA) 2021, que se centró en analizar el estado previo y posterior a la pandemia en las dimensiones mega, meso y micro para crear un entorno de aprendizaje favorable, fomentar métodos de enseñanza innovadores en ambos países y aprender con esos cambios. Desde un análisis comparativo, el propósito de este artículo es explorar las prácticas y estrategias implementadas por dos universidades en Italia y Nigeria para enfrentar los desafíos causados por la pandemia. Se propondrán algunos métodos prácticos de enseñanza/aprendizaje que pueden preparar las instituciones para la nueva normalidad.

PALABRAS-CLAVE

aprendizaje digital; educación de adultos; pandemia COVID-19; métodos innovadores



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A Comparative Consideration of Innovative Digital Teaching/Learning Methods Pre-and Post-Pandemic in Two Universities in Italy and Nigeria

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INTRODUCTION

This research primarily focuses on the impact of COVID-19 on teaching and learning in two higher institutions in two countries and how the pandemic can be used as a starting point to promote digitalised learning. This is the first time the world is experiencing such widespread lockdown due to a pandemic; therefore, no one was fully prepared for the consequences, nor were commensurate infrastructures developed to handle this type of event. The COVID-19 pandemic, like any other pandemic, has forced us to view the world differently in every area of our lives, especially in the education sector. United Nations Educational, Scientific and Cultural Organization (UNESCO) (2020) statistics revealed that over 1,500,000,000 learners in different levels of education around the world were unable to attend in-person schooling because of the lockdown, starting in March 2020, as a result of containment measures to stem the spread of the virus. All aspects of human life were affected, especially the education sector, as it led to the suspension of stationary didactic classes in schools and colleges (Kentiba, 2020). One overarching fallout is that the pandemic has forced everyone to embrace technology use in education. Institutions scrambled to seek alternative teaching/learning method by going virtual with varying degrees of success. Many resorted to online teaching/learning, no matter how unprepared they may be for it. Learning thus shifted from the classroom to Zoom, personal to virtual and from seminars to webinars. Pokhrel and Chhetri (2021) call it 'Education in Emergency' through various online platforms, and they agree that institutions were compelled to adopt a system that they were not prepared for. Teachers have been pressured to expeditiously migrate to online teaching from the traditional face-to-face mode, and this transition level of success is dependent on several factors. This unavoidable change in academia could lead to less than stellar academic practices and pedagogical principles at the infinite belief in technology to solve all academic problems without considering the repercussions.

The assumption was that access to technology would lead to instructional use and achievement of goals, according to Cuban (2004); however, it has otherwise exposed differences within the educational sector in different parts of the world. Most teachers and learners are first-time users of technology-based teaching/learning, and the chasm between the developed and developing countries exposes the differences in the depth of preparedness (Maity, Sahu, & Sen, 2020). The rapid shift from traditional classroom engagement to virtual learning has also exposed the gap in policies and theories to support online teaching/learning.

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Prior to the pandemic, only a few institutions were using online methods; just a few sections of universities (such as Distance Learning Institutes) were using virtual learning, but now it is being integrated into mainstream education, increasing blended learning exponentially. For academic continuity, higher education institutions have had no recourse but to use virtual learning due to the lockdown and social distancing rules. Learning outside campus settings has thus precipitated an increase in the use of online resources, changing academic practices in such a way that we can now truly practice adult education, encouraging the flexibility that defines adult education practice. There have obviously been challenges, but also a dearth of research in the fora to support practices because of the novelty of the occurrence.

The challenges that higher education institutions (HEIs) have had to confront because of the forced digitalisation of learning and teaching processes were at the heart of the Comparative Group Work's (CGW) discussions during the Adult Education Academy (AEA): the Online Intensive Programme (February, 2021) of Erasmus INTALL project². Emerging from the AEA experience, the purpose of this paper is to present a comparison between two cases: one in Italy and one in Nigeria.

The purpose of this research is to discuss and document the trajectory of teaching/learning strategies in selected universities in two countries, as necessitated by the COVID-19 pandemic, from a comparative perspective.

The overarching question has been the extent to which the pandemic will shape the future of teaching/learning because it will undoubtedly have an effect. This calls for innovative teaching methods, especially those delivered online. There is scant evidence to show the extent to which teachers and learners are benefiting from online engagement, and all these concerns about innovative teaching/learning practices pre-and post-pandemic open up dialogue and comparison in the two countries about their Higher Education online policies and practices.

The subsequent chapters contain the following. Chapter 2 addresses the theoretical framework; Chapter 3 discusses the purpose of the study; Chapter 4 gives an overview of the comparison between the two institutions, supported by statistics; Chapter 5 discusses the research findings; and the concluding chapter 6 ends with recommendations.

THEORETICAL FRAMEWORK

The study borrows from the social constructionism school of thought (Vygotsky, Dewey, Piaget, Papert) as the most relevant theory to the study. The theory has elements of behaviourism and cognitivism embedded in it (as no single theory suffices for all situations). The theory sees teaching/learning as a complex social phenomenon between teachers and learners. If learning is problem-solving, then the construction of a solution to the problem must be the basis of the learning process. According to Vygotsky (1978), the teacher creates the social environment in which the learner constructs or assembles knowledge for problem-solving along with others. Dewey (1938) muted the idea that learning is by doing, collaborating and reflecting with others. The use of reflection is now a pedagogical cornerstone for an interactive discussion to replace straight lecturing online or in face-to-face situations (Picciano, 2017). Dewey's (1938) contribution is fundamental to the development of education in the 21st century, and his philosophy remains relevant in the use of technology and the promotion of lifelong learning, as he

² <https://www.hw.uni-wuerzburg.de/intall/home/>

was one of the first to emphasise the need to incorporate technology into education. Papert (1993) added the element of integrating computer technology into problem solving, as applied in some instructional designs, which modernises the theory and makes it relevant as a theory to support this study.

This study used social constructionism as a basic theoretical concept. The subject of the study was the link between the study and society. This particular theory was adopted for the study because it is the most comprehensive and combines all the elements of other schools of thought, making it the most relevant for the study. It emphasises the subject of human socialisation as a basis of interaction in education and the nature of the interpersonal relationship in the context of teaching/learning.

Of particular relevance is another theory, the online collaborative learning (OCL) theory proposed by Harasim (2012). She describes OCL as a new theory of learning that focuses on collaborative learning, knowledge building and internet use as a means to reshape formal, non-formal and informal education for the knowledge age (Harasim, 2012, p. 81). It is obvious that the element of adult education runs through the theory of social constructionism. Currently, social constructivism theory is actualised by the use of active and innovative teaching methods in education (brainstorming, case study, group teaching methods, etc.).

The theory of connectivism by Siemens (2005) is seen as a suitable theory for the digital age. He posits that learning is achieved by forming connections between previous and new knowledge and recognising the gaps in the knowledge. He upholds that technology will enable and encourage learners to seek information autonomously. The theory equally agrees that learning may not be a totally internal process, and students must explore connections with others and embrace the ability to connect knowledge, ideas and understanding on their own, all with the use of technology.

These theories are all relevant to the study in their contributions. They underpin the belief that the learner must be at the center of learning, and that a conducive learning environment must be created, and that technology should be used to support the teaching method.

INNOVATIVE TEACHING/LEARNING

Bildfell (2015) defined innovative teaching practices as an intentional series of student-focused actions an invested educator can take to stimulate students' ability to meaningfully and creatively engage with the material in order to stimulate interest and advance their knowledge. This supports her assertion that innovation does not necessarily require novelty. Innovative teaching, according to Sachou (2013), is about the student and their learning. He believes teaching should be more focused on facilitation rather than instruction, as well as creating a conducive environment for learning. Teachers are not innovative simply because they use technology. Sachou (2013) is of the opinion that innovative teaching can be achieved with or without technology, although teaching and technology can be combined to support effective learning; technology is to be embedded into the curriculum and pedagogy rather than being the focus of learning.



PRACTICAL TEACHING/LEARNING METHODS TO PREPARE INSTITUTIONS FOR EFFECTIVE DIGITAL LEARNING

Online teaching/learning is still in its infancy, but ensuring the continuation of education can only benefit the economy in the future. There will already be a lacuna in human capital as a result of the extended graduation of the current crop of students. Thus, there is a growing need to create and encourage innovative teaching methods and optimal learning environments. Teachers are expected to use diverse and innovative teaching methods as dictated by the pandemic. According to the TEP-NESG (2020), teachers have concentrated on specific tools during the pandemic: Zoom (65%), Social-Media (56%), Android/iOS Application (48%), Television (35%), Radio (25%), GoogleClassroom (4%), Edmodo (3%), Microsoft Teams (1%), School Books (1%) and Cisco WebX (1%). Popular innovative approaches by educators globally also include the use of the flipped classroom, project-based and cooperative learning and gamification, among others. Mynbayeva, Sadvakassova and Akshalova (2017) suggest that modern teachers should constantly improve their didactic skills and develop and select novel teaching methods and technologies in order to be effective.

Agbele and Oyelade (2020) list the virtues of online education as being student-centred and flexible in location and time; it is also the only method that is appropriate during the global pandemic crisis. This is because of its ability to enable the modification of procedures and processes based on the needs of the students. Other benefits are its varied learning resources, wide reach and because it encourages self-study. In the new age of digital technologies and knowledge, Mynbayeva et al. (2017) ask pertinent questions—What are the necessary changes in didactics and teaching methods, and how are we adapting? Has teaching/learning changed significantly over time, and what are the innovative methods of teaching? At the macro level, they approach the internationalisation of education and introduction of digital technologies³, and examined the teacher/learner dynamics. They see changes in the pedagogy from the 20th to the 21st centuries as what they dubbed the **internetisation** of society and penetration of digital technologies into education; Teräs, Suoranta, Teräs and Curcher (2020) refer to it as **technologisation** and OECD (2016) call it **digitalisation**. Podlasy (1996) insists that teaching methods set the pace of development of the didactic system, as the speed of learning is dependent on the method used.

PURPOSE AND METHODOLOGY OF THE STUDY

This comparative study of two higher education institutions in Nigeria and Italy is mainly to investigate the factors that determined the differences and the similarities between the novel teaching practices used in the University of Lagos, Nigeria (Unilag), and the University of Padova, Italy, as a result of the pandemic, and what measures are put in place to cope with the paradigm shift to online teaching/learning.

Representatives of these two universities participated in the online comparative group work process during the AEA 2021, where, after a broad debate on the challenges, initiatives and practices adopted by the universities during the pandemic, different

³ Internationalization is between the two countries, thus placed at the macro level.

categories of comparison emerged, but only two of them were selected for this paper: policies (at meso and mega levels) and teaching methods (micro level)⁴.

On the basis of Egetenmeyer's model (2017), the transnational character of comparison helped the authors to focus on the context of the comparison process, according to what particular research questions were defined and answered. In fact, according to Egetenmeyer (2017), contexts of comparison useful for answering specific research questions should be the focus of comparative adult education research, instead of using predefined contexts (e. g. states) of comparison. This new vision encourages researchers to adopt an interdisciplinary approach. On the basis of this theoretical input, the authors carried out the analysis of similarities and differences between the two case studies and the ensuing interpretations, as well as the categories of comparison.

RESEARCH QUESTIONS

It is hoped that the formulated research questions will help narrow the focus of teaching/learning methods and address the shifting orientation and individual experiences of the process.

The study is guided by five research questions about practices in the two higher education institutions:

1. What are the currently available digitally innovative teaching/learning methods?
2. How will users rate the success level of virtual learning so far within the universities?
3. Which are the supporting policies (at the mega and meso levels)?
4. What are
 - a. the challenges, and
 - b. coping strategiesby users within the universities?
5. What is the way forward?

3.2. STUDY CONTEXT

Two case-study universities (University of Padova in Italy and University of Lagos in Nigeria) were part of the context of comparison. The Italian higher education system is provided by private, and above all by public universities. As 'institutions of high culture', they provide scientific structures aimed at teaching and scientific research. Public (67), private (29) and online (11) universities (recognised and accredited) confer academic qualifications (Bachelor's, Master's and Doctoral degrees).

The Italian university has experienced important changes due to Law 240/2010, which has strongly changed the organisation of universities by transforming training

⁴ The three analytical levels - MEGA, MESO and MICRO were used generically to indicate large, medium and small scale. In the context of the research, MEGA refers to the federal government equivalent. MESO is the local government, university or department level, while the MICRO is at the individual (student or teacher) level. Within the global perspective, MACRO was used at the comparative level between the institutions in the two countries.



courses in cycles, promoting the quality of higher education, and the shifting the focus from teaching to learning. The Ministry of University and Research (MUR) is the state body that defines the general national laws for the universities, but the Italian universities have organisational and didactic autonomy. Therefore, there are some differences among Italian universities in terms of internal policies and actions.

The university of Padua is a public university founded in 1222, one of the oldest in the world. It counts thirty different departments and seven schools. There are about 65,000 students, 4,460 professors with different professional statuses, and 2,370 administrative staff. In general, the dominant policy is oriented towards innovation, research and internationalisation.

In Nigeria, higher education (public and private) is overseen by the federal government at the mega level and accredited by the Nigerian Universities Commission (NUC) at the macro level, which provides policies to be implemented at the meso and micro levels. There are currently 43 Public, 79 Private, and 48 state universities by ownership, which are government approved in Nigeria, and 9 distance Learning institutes, all accredited and degree awarding and practising online teaching/learning. The National Policy on Education (NPE, 2013) has remained unchanged in the past, and it provides overall educational policies for implementation throughout the nation. The states only administer state universities, but all education systems are still ultimately under the central—federal government. This implies a uniform function of all the universities and autonomy is thus restricted.

The University of Lagos (Unilag) is a public university founded in 1962. It is one of the five first-generation universities in the country. As of 2018, it has 12 faculties, 55,000 students, 1,736 academic staff and 552 administrative staff. The first semester, upon resumption after the lockdown was conducted online, and students at the 100- and 200-year levels were examined online, while their counterparts at the 300-year level and above came in for in-person examinations on campus, where COVID-19 protocols were fully observed.

COMPARISON

STATE OF HIGHER EDUCATION POLICIES

Part of the objectives of the national policy on education in Nigeria is to make teaching more attractive and achieve education for all (EFA) goals. For tertiary education, it is to provide accessible and affordable quality learning opportunities in formal and informal education in response to the needs and interests of all Nigerians. The federal government (FG) formulates the national policy on education, finances, maintains standards, controls quality and harmonises policies in all the states of the federation, among other functions. The national policy on education further outlines the need to have flexible learning modes as one of the key strategies and mentions that open and distance education are to support equity goals. These goals, however, have not been updated to reflect the current pandemic situation and its effect on education practices.

In Italy, after the Bologna process (1999), the aim of Italian universities, guided by institutional (meso) and national (mega) policies, has been part of the innovative processes of higher education. This means recognising in the ensuing years the

importance of the European Commission's recommendations (2011, 2013), which encourage university teachers to experiment with new teaching and learner-centred strategies, enhancing the de-privatisation of teaching and the development of communities of teachers capable of reflecting and discussing practices. This process, year by year, has promoted changes within the traditional academic systems, where different formats of delivering courses had been implemented (blended, online education, MOOC), but the outbreak of COVID-19 showed the differences among the Italian universities and how much effort was to be invested in terms of faculty professional development and investment of resources. In fact, even if the technologies were part of the universities' systems, a lot of teachers needed to be trained in the use of technologies and in the learning of teaching strategies for online learning environments. Also, the pandemic phenomenon showed a different level of resources investment among Italian universities, resulting in varying levels of reactions and initiatives at the beginning.

Policies in Nigeria at the mega level is handled by the federal government (FG) who controls education centrally. However, the FG has yet to address policies that are specific to the current situation. As the highest level of authority, the FG is central to the processes of education, with budgetary financial support. However, the budget allocation to education over the years has been abysmal. At 6.48% of the initial 2020 budget, for example, it falls far short of UNESCO's recommended 15–30% for any committed and serious academic engagement. The National Universities Council (NUC) at the macro level, as the highest body, ensures compliance and monitors universities for quality assurance. The states and HEIs, at the meso level, implement the policies, while at the micro level, the lecturers have the final say on which method of interaction to use in the classroom.

In Italy, around the university system, there are different bodies with the functions of providing consultation and assessment, but at the macro level, the Ministry of the University and Research (MUR) is the political body that promotes the national program of research (PNR). This programme was created in Italy through legislative decree n° 204/1998. Its purpose is to guide Italian research policies with the support of state administration and the coordination of the MUR. The last PNR was approved in December 2020. It presents a dynamic and multi-year (2021–2027) document of planning towards the achievement of sustainable development goals (SDGs) of United Nations (UN), the priorities of the European Commission, the objective of cohesion policy 2021–2027, and the initiatives of Next Generation EU. Through this policy, tertiary education aims to pursue the system's priorities related to inclusion, interdisciplinary research, person-centredness in the innovation process, exchange of knowledge competences between the world of research and the world of work, support for new researchers in the transfer of knowledge, internationalisation of research, coordination of national, European and international research and exploration of new fields of research. Although Italian universities (meso level) are guided by these policies, they are public (few are private) bodies endowed with scientific, didactic, organisational, financial and administrative autonomy, within the framework of the principles established by the constitution, and by the laws of the Italian state. This means that the level of services for the students can be quite different in Italian universities. In fact, during the COVID-19 pandemic, some universities immediately reacted with a new internal organisation to provide responses to students' needs and to guarantee the attendance of learning paths; some others needed much more time to re-organise themselves and their resources. Consequently, the different management and resources investment affected the teaching processes at the micro level differently. This shows a slight difference in policy statements between the two countries.



Selwyn (2010) submits that the technological choices made during the COVID-19 pandemic will impact micro-level teaching and learning experiences and meso-level organisational relations, to create wider and unpredicted macro-level societal impacts. Policies are instrumental to educational goal attainment. However, the gap between educational policies and goal attainment has plagued the system for years, which further stymies human capital development. Apart from poor implementation strategies, the lack of clarity in up-to-date policies to address current situations like the pandemic is another challenge for the education system to adequately address the rapid shift to virtual teaching/learning. Thomas (2020) affirms that third world countries are facing policy paralysis in handling the sudden shifting in educational planning, management and organisation during the pandemic, due to their fractured technical infrastructure, academic incompetency and lack of resources. Policy makers seemed to have simply assumed that once ICT was used regularly in class, learning would be achieved, a proposition debunked by Cuban (2004), who appreciates the overarching complexity. OECD (2016), however, sees huge potential in some pedagogic models that integrate ICT to improve education and urge teachers to try innovative technology-supported models for better outcomes overall.

Although the traditional mode of teaching/learning still prevails, practices and strategies are being implemented to cope with new challenges. However, many institutions have been trying to switch to the online mode with varying degrees of success; scholars have equally queried the quality of online learning (Haythornthwaite et al., 2017; Maity et al., 2020). Arora and Srinivasan (2020) in higher education institutions in the Ghaziabad region of India assessed 341 teachers' responses to the adoption rate of virtual classes (one set of respondents adopted virtual classrooms, while the other set did not). Among those who adopted the virtual mode, the mean of actual benefits was significantly less than the mean of expected benefits. Marcelo and Yot-Domínguez (2019) used survey and semi-structured interviews with teachers in Spain to reveal that teaching-learning processes continue to be mostly teacher-centred, and the most frequent uses of digital technologies were assimilative.

According to Maity et al. (2020), even though the current crop of students were known as 'digital natives' due to their apparent ease and familiarity with digital technology, their level of preparedness for the e-learning environment remains in question.

METHODS PRE AND POST PANDEMIC AT UNIVERSITY OF LAGOS AND PADOVA

Prior to the pandemic, there was a universal preponderance of face-to-face, in-person engagement in most HEIs between teacher/learner; but now, everyone is migrating to virtual learning in Nigerian institutions. Initially, lecturers used telephonic means, WhatsApp and e-mail, but continued to expand their repertoire as the lockdown continued (Mishra, Gupta, & Shree, 2020). Also, in Italy, in general, before the pandemic, face-to-face teaching was the dominant format of didactics, even though some universities adopted other platforms for their blended/online courses. Since the European Recommendation (2006/2018), the attention on the use of technology in the teaching and learning process has been increasing within the Italian educational and training systems, but at different levels in each university or school.

At the University of Padova, some courses were blended before the pandemic, and within the faculty's development programme, based on a large investment for teaching innovation, a lot of digital workshops on the use of the Moodle platform and other tools were provided that enabled many teachers and students to become familiar with the use of such technologies. However, during the pandemic, many others needed support and training to face the online challenges of teaching. This general digitalisation process has been intensively supported, and during the different state's decrees on pandemic regulations, the university reacted in an impressive way: a) creating virtual spaces and tools for all online courses, exams and thesis discussion; b) adapting classrooms and technological tools for providing Hyflex didactics; c) reinforcing the internet; d) guaranteeing the social distance within the university's buildings; e) providing an app for students and a software for teachers to monitor the traceability of students within the university; f) maintaining constant communication through personal e-mails, courses' platform and university website, with the staff and the students for sharing pandemic situation and university organisation.

Nigeria had the additional extension of the lockdown going *pari passu* with the closure of universities, due to the academic union—Association of Senior Staff of Universities (ASSU) strike. As of the 19th of March, 2020, the Federal Ministry of Education in Nigeria had approved the closure of schools and tertiary institutions (Agbele & Oyelade, 2020; Nlebem, 2020) because of the pandemic, but they remained closed for a longer period due to the Union's strike action. Any meaningful online engagement by public universities in Nigeria is thus still fresh.

At the micro level, universities in Nigeria were left to their own devices to use their resources to operate online activities. This may have given an undue advantage to the privately owned universities, which are funded by students' fees. The government subsidises students' fees in public universities, but then leaves the final decision to the management of the university, which further explains differences within policy implementation strategies among the universities at this level. The University of Lagos, in Nigeria, like most other public institutions, began with free and easy-to-handle platforms like Telegram, Zoom (the free version of the Zoom that lasts for a limited amount of time) and other free and user-friendly apps, while students responded by email. The university has since introduced the LMS (after trying Moodle) platform and allowed the use of more sophisticated low-and high-tech tools (Zoom, GoogleClassroom, WebX, YouTube, Skype, Radio, etc.) for synchronous and asynchronous learner engagement. Lecturers must, however, conduct all activities through the university's LMS platform (individual contact with the students, physical or digital, outside the platform is forbidden). This is so that educational activities can be properly documented and monitored for quality assurance. Lecturers' apprehension with the new approach was mitigated by rigorous training; unfortunately, only teachers were being trained, and students have not yet had the corresponding privilege⁵.

In Italy, parallel to the lockdown, the government established (Decree, March 2, 2020) that all teaching and training activities at all levels of education would be guaranteed by March 5, 2020. The University of Padova, like other Italian universities, responded promptly to the emergency with the rector's decrees that established some guidelines and the provision of digital platforms to support distance learning for all courses. It was a significant organisational and didactic change that inevitably led to rethinking not only virtual spaces for teaching, but also forced teachers to reflect on their teaching/learning perspectives, as

⁵ Only staff has been offered training so far and none for the students as yet, but we must remember they are Gen Z and most are familiar with technology.



well as on the review of their methods and tools. The most important advantage for the University of Padova has been not only to have implemented the faculty development programme of 2016 that provides three levels of training every year, as well as four sessions of workshops on interactive and innovative pedagogical and technological approaches, but also to have created a faculty learning community (a group of change agents) that, in the period of lockdown, organised meetings and sessions for providing support for those who needed it. In the same vein, the governance of the university reinforced training on online methods and tools for all faculties.

The staff of the digital learning centre equally organised different daily digital workshops, providing support for teaching at any time and for synchronous and asynchronous approaches. In addition, there was a large financial investment and human resources, and many tools have been largely and freely used by faculty and students, thanks to institutional conventions like Moodle, Zoom, Padlet, Wooclap, TopHat, Powtoon, Kaltura and GSuite. The institutional contracts with the providers of the tools have guaranteed multiple tools' functionalities and data safety. The Digital Learning Centre registered several tools between March and September 2020, as indicated in Table 1, showing proof of the sharp increase in the number of people who used technological tools and services.

Table 1
Online inter-activities at the University of Padova⁶

Activity	Number
Courses	3,200
Hours of online teaching	60,000
Videorecording through Kaltura	50,000
People on Zoom	49,000
People on Moodle	76,000

The necessity to learn how to use technology was considered for students as well, because they must learn how to use the tools actively for interacting, providing and receiving feedback, participating in small/pair group activities, rather than a space for passive lectures or material repository.

The research was carried out to obtain the current opinion of the students and staff of the Nigerian university on their experience with the new teaching/learning mode. Students and lecturers were asked six questions about their handling of the situation and reaction to the new mode of interaction. Time only permitted a survey of the Faculty of Education at the University of Lagos (Nigeria). But the faculty is a mini replica of all the university courses, as it consists of six departments that mirror the other faculties (Business Administration, Humanities and Arts, as well as the Sciences). In response to a mini-online survey carried out among 94 students across the departments on the outcome of the online teaching/learning experience within the past semester, 48 (51.1%) claimed they were taught with the Zoom, which replicated their usual classroom activities, and was the closest to their being physically present. About 4.3% used

⁶ Digital Learning Center of the University of Padova, data presented during the annual conference "*Affrontare il presente, pensando al futuro*", Padova, 17th December, 2020.

Microsoft Teams, 9 (9.6%) used Google Meet, while 33% were exposed to the university LMS Platform, consisting of the use of PowerPoint slides presentation, WhatsApp, Telegram, etc. Some 2 (2.1%) of the respondents did not receive the online provision and managed to get photocopied notes from the lecturer. The 33 lecturers who responded to the online poll equally corroborated students' responses, with 22 (66.7%) admitting using Zoom, 3 (9.1%) Microsoft Teams, 1 (3.1%) Telegram and 7 (21.1) Google Meet. There was often a combination of some of the tools. The available Zoom for present use is limited to a maximum of 300 students at a time, as the university is using the complementary version and is still working on full subscription, as at the time of this research. But the PowerPoint is now branded by the university; consequently, it can have the university name and logo on it. Students are yet to be trained on how to use the online facilities, whereas the professors have undergone several trainings on the use of the different platforms.

CHALLENGES OF ONLINE METHOD (VIRTUAL LEARNING)

Infrastructural issues

Earlier on, after the national lockdown in Nigeria, the president of ASSU stated that the Nigerian education system is not yet prepared for virtual learning (Nlebem, 2020). This is in view of the fact that electricity problems still abound, among other infrastructural challenges, data costs, limited internet access or poor internet quality, among others. Because of the pandemic, the Italian government established the same rules for the entire territory, providing some extra financial resources to guarantee devices for students, if necessary. However, not all the regions were really ready to face that unexpected event. In fact, in some cases, the pandemic soon showed the weakness of the infrastructure and the socio-economic differences among territories, where often there were some network connection problems or some families could not afford broadband internet (Istat, 2020)⁷; or where some universities took time to transition from face-to face to online teaching, because of the lack of appropriate digital programs and tools or teachers' and students' digital literacy. In comparison, the Nigerian government has failed to increase educational funding to institutions and has also not changed policies. They have merely instructed institutions to shift to online mode and strictly adhere to COVID protocols, and HEIs are largely left to fend for themselves. Some have depended on the largesse of sponsors to make up for the shortfall.

From the Nigerian perspective, the majority of the students who responded to the online poll in the Nigerian University rated the success of the online teaching experiment as very low to medium. This was due to challenges like network problems and power outage, poor teacher/learner interaction, devices issues, lack of data and reduced assimilation; some calculation courses were not well explained, and students experienced noise interference because of lack of management skills for online learning (unmute, indecent exposure, noise, etc.). The entire experience generally exposed all parties' lack of skills and resources. Some lecturers uploaded instructional material without further explanation. Also, domestic activities interfere the study atmosphere at

⁷ <https://www.istat.it/it/>



home making it not as conducive as being in school. Learning independently posed a challenge for some: distractions and less understanding of course materials, expensive data costs, lack of access to smart devices or computer, inability to operate the software and lack of training of students to prepare them for online engagement. On the lecturers' side, majority rated the success of online teaching from medium to high. Challenges encountered were similar to the students' problems, mostly related to network issues (in terms of availability, connectivity and stability) and data cost, which disrupts the flow of activities and poor student engagement.

The glaring lacuna is that the majority of learners in most countries do not have access to digital devices or the internet; this calls for government support through policies and infrastructure to enable various forms of online education that will enhance institutional capacities and resources to redirect focus on alternative teaching/learning methods for continued academic engagement. Learning from home can also be problematic due to distractions (from background noise and family members' activities) or the need to do household chores. Again, online classes may be problematic in certain subjects where the content is abstract, as many concepts exist that require real face-to-face interaction for complete understanding. Mishra et al. (2020) even added that relying on online interaction is detrimental to the health of the eyes and general body health too.

Teachers' technological and pedagogical know-how

One of the challenges of virtual education in Nigeria, according to Agbele and Oyelade (2020), is the lack of technical know-how on the part of the teachers and students, as well as the fact that it is expensive, time consuming, lack of stable electricity, poverty, slow learners, difficulty of assessment, poor internet connectivity, along with the lack of conducive environment for learning at home, all mirroring the findings of this research. For pedagogy, Nlebem (2020) echoes virtual teaching/learning challenges as the lack of prior digital skills, non-familiarity with platforms, low student responsiveness, technical difficulties, low online attendance rates, difficulty of assessment and limited teachers' ability to ensure compliance, among others, all again similar to what is going on in the respondents' experiences.

In Italy, even if few universities had some blended or online experiences, the transformation due to the COVID-19 forced a large number of teachers to enter into a relationship with virtual realities for the first time, facing not only the lack of digital competences, but also the issue of integrating technological skills and pedagogical knowledge (Ranieri, Raffaghelli, & Pezzati, 2018). In fact, online teaching should go beyond the consideration of the content or of the pedagogical assumptions, because the effective integration of technology in a specific educational and training context is based on a careful alignment of content, pedagogy and the potential of the technology itself. It is a process that foresees a teacher's competence in all three domains: content, pedagogy and technology (Thompson & Mishra, 2007). Therefore, the quick transformation in a digitalisation process was not enough in many cases, because the use of technology and the transfer of face-to-face approach to online teaching has hardly been effective. This shows how the role of the teachers has further complexity, as they not only have to refer to their disciplinary skills and knowledge, but they also have to be able to support students in their new learning path, to manage, through new methods and group dynamics mediated by the use of technological devices.

University support

At the University of Padova, many teachers, during the training courses, shared the common issues that they have faced: cases of students with low engagement and interests, the difficulty to manage online large groups of students, or the exam sessions and the assessment process. The university, in response to these issues, provided a platform for the exams and some video tutorials as a way to control assessment processes and to create online interactive lectures with large groups of students.

There is equally a lack of training for online users, along with economic constraints. Nlebem (2020) cites statistics that 40.1% of Nigerians live below the national poverty threshold of N137, 340 per annum, which is less than 1 dollar a day; thus, many can hardly afford the necessary technological tools (laptop, smart phones or data expenses) for online education. Although the University of Padova reacted in a positive way to the pandemic challenge, according to ISTAT data (2019), 25% of households in Italy still do not have full access to internet services, with a large gap between Northern and Southern Italy. The same gap is registered relatively to both infrastructure deficiencies and the inadequate skills of the users.

Distance communication and inclusiveness

Another challenge is that observing comprehension responses through body language is easier to gauge in person than on an online platform. It will also be difficult to give particular attention to weak students through the online mode or to mentor them, especially where individual contact between teacher/learner is highly restricted (Maity et al., 2020). In Italy, the pandemic promoted an unprecedented acceleration of digitalisation in the educational system. The university adaptations have allowed the continuation of almost all the academic activities, and the platforms they adopted (Table 2) for synchronous friendly use show that they prefer to maintain real contact with their students despite the distance, facing in some ways also the inclusion issue. In fact, the synchronous approach requires designing systems that ensure maximum accessibility to platforms and content. It is a dimension that needs more reflection and intentional actions and policies to really guarantee inclusive education (Arduini & Chiusaroli, 2020).

Table 2
Tools at Italian Universities

Tools	Percentages
Microsoft Teams	53,5%
Moodle	36,6%
Alternative platforms and software (e.g., Blackboard, Kaltura, Kiro, Zoom, etc.)	33,8%
Google Meet	21,1%
Google Classroom	4,2%
Google Drive	4,2%



To further promote inclusion during the pandemic, the University of Padova provided some specific systems capable of ensuring maximum accessibility to platforms and content. Taking into account the main aspects of accessibility to e-learning systems was an important issue; students with disabilities were supported through the use of specific technological support and materials. In general, the accessibility aspect emerged strongly during the pandemic, showing many possible problems that people with disabilities may encounter in the context of distance learning. In particular, it suggests how to make these new ways of accessing education inclusive without leaving anyone behind.

Although teachers and learners adopted available digital tools that will ensure the continuation of academics, there is the need to shift from the quick-fix pedagogical, political, economic and socially mandated crisis-driven solutions and ponder long-term panacea investments in education. Technologisation can hardly solve all educational problems, as generally believed.

Lall and Singh's (2020) study found that students were not averse to online classes, as this made their study times more flexible. The students, however, disliked the lack of co-curricular activities. Many were satisfied with the content and procedure and preferred their lecture delivery to be done with Microsoft PowerPoint with audio recording. The anonymity that online learning affords may even encourage active participation (Garrison & Anderson, 2003; Haythornthwaite et al., 2017; Swan, 2006). This is because physical appearance, seating arrangement, size of class, geographic location and current space locations are all not of prominent importance when communication is largely by text, even when there is visibility. Learning is thus conducted more in line with the andragogical principles of adult learning (Knowles, 1984), and learners become more independent and less teacher-focused (Garrison & Anderson, 2003). Care must be taken, however, that the same anonymity and invisibility do not render the adult learner non-participants, especially in larger groups. At the University of Padova, the invisibility of students during synchronous teaching has been indicated as a further challenge for the teachers, because a turned off camera increases the student-teacher distance, and the 'real presence' and the participation cannot be monitored. The question is if they are the same students who would not participate anyway during the face-to-face lessons. This is an aspect that requires more reflection on teaching methods and strategies adopted, and on a transparent learning contract with students as well.

Currently, learners are forced to build academic and technical knowledge simultaneously as they navigate unfamiliar territories to attain increased levels of competences (Mynbayeva et al., 2017). Coping mechanisms of learners include 'grinning and bearing it', increasing or changing the data subscription provider and having to relocate positions for better reception. Complaints also include having more material to read and understand, while some simply rely on 'divine' intervention. Coping strategies by lecturers have also included changing the internet provider, targeting less congested periods for classes and even reducing lecture time to help conserve student data, along with the use of more blended learning. Overall, there were numerous challenges for both the teaching/learning as well as the evaluation processes. The university has also arranged to provide free internet for students during examinations for its smooth conduct.

Many students felt that going back to physical classes was the solution. Other suggestions include allotting more time to online tests and exams; stronger network provided for free; provision of data, computer and training; better explanation by lecturers, not abandoning students to work with uploaded material on their own and staggering classes to avoid congestion. The lecturers further suggested the provision of

a more stable network service, the university should pay for the full licence of Zoom and other necessary software, provide free internet that is 5G and above and encourage more use of blended learning. More importantly, students should also be equally targeted for commensurate rigorous training for online engagement.

DISCUSSION

The pandemic has exposed the gaping chasm between the traditional and modern, more technology-based methods of teaching/learning in higher education and the urgent need to adapt innovative distance education strategies as a matter of necessity and urgency. There are obvious similarities in both countries as well as diverse reactions to online engagement and practices. Everyone was equally hit by the changes caused by the pandemic lockdown and the need to quickly transition into a different mode of teaching/learning engagement, approaches have also been different.

Both countries were steeped in traditional face-to-face teaching/learning methods and found the sudden shift to online learning disconcerting to begin with, but the rallying time differed. While their Italian counterpart seemed to recover a bit quicker, the initial protracted union strike further affected the Nigerian side and indicated less preparation for the paradigm shift. The Italian educational system's prompt reaction, and in a specific way at the university of Padova, to the educational issues provoked by the pandemic has been primarily due to the strong traditional consideration at the macro, meso and micro levels of the educational systems' role in society and for the new generations. The similarities between the two countries can be explained in that both Nigeria and Italy, as developing nations may experience similar socio-political and economic characteristics, although the culture may differ. These differences may also stem from their educational policies and implementation strategies.

1. Research question 1 asked about the currently available and digitally innovative methods. Both sides used similar digitally innovative tools like Zoom, MicrosoftTeams, GoogleMeet and Moodle; Italy used more of MicrosoftTeams, Moodle, Kaltura, Powtoon, Wooclap, Padlet and TopHat, whereas Unilag relied more on the more user-friendly, less sophisticated and more pocket-friendly tools. The choices of the tools mirrored both the availability of resources and the nature of the policies within the two analysed cases. The University of Padova's mission has been the continuity of the educational and training services during the pandemic, just like in Nigeria. Therefore, both the governance (meso level) and the teachers (micro level), despite the challenges, have shown their commitment and made efforts to contribute to successful digitalisation. This positive reaction reflects the traditional student-oriented culture of the universities. Unilag's challenges with online provision could not be divorced from the policies at the mega and meso levels. However, the university is trying to manage available resources, along with aggressive training of the lecturers by the Centre for Information and Technology Systems (CITS). Management may, however, be somewhat handicapped by the inability to afford full subscription of the more sophisticated online tools like Microsoft Teams and Zoom.



2. Research question 2 rated the success rate. Both sides rated the success rate as between minimal to fledgling and work-in-progress. The human element is similar in both sides also; so are economic constraints, which render fewer people access to online education.
3. Research question 3 asked about policies. The differences in policies in the two countries also stem from Italy raising new policies to address the new normal, while Nigeria's education system has yet to come up with specific policies to address the new teaching/learning mode, apart from the existing policies. Thus, the differences between the two institutions would be in policy statements as well as resource base. However, Unilag is also in the process of passing its own policy responsive to online teaching/learning. It is equally notable that both countries differ in terms of the administration of education. While Nigeria is managed centrally, Italy allows more autonomy of the states and institutions, which will enable individual regions to formulate, adapt and implement their own policies and programmes.
4. Research question 4 asked about the challenges. The challenges were similar in both countries, as the infrastructure was hardly set up to handle full online engagement; thus, both still struggle to adapt to the new method. Despite the general and emergency educational policies promoted in Italy, the pandemic has shown an old and unsolved Italian problem: the differences of the infrastructures between the North and the South of the country. This is a political issue that has also impacted the educational systems in the emergency. The case of the University of Padova as a Northern system shows what can be the differences among the Italian territories. In Nigeria, the federal government is at the helm of affairs, which equally gives a political slant to the situation, as different government regimes may show different levels of commitment to education generally. (The effect of politics on the education system is the same in both countries.) The yawning gap between the rich and poor is made more obvious in both countries as a result of the pandemic and enforced online engagement, as many are unable to afford the necessary tools to manage online teaching/learning.

The coping strategies have also differed as Italy seemed to be approaching the change with better provision of facilities, training and general optimism. Nigeria has more fundamental issues. The unstable electricity supply affects any digitalisation prospects; so does the economic status, which makes it difficult for learners to access the facilities for online engagement (hardware, software, data, etc.). In general, both countries still struggle with similar issues with learning from home (domestic interference, lack of internet etiquette and internet connectivity, among others). However, the case of the University of Padova represents one of the more effective approaches adopted in Italy in terms of resources, training, methods and results. This factor is due to two important aspects: i) the implementation of faculty development programme since 2016, which supported teachers and government to be more reactive and prepared in terms of strategies; ii) the proactive policies have supported innovations and always tried to adopt knowledge management perspective to promote people's engagement in the actions and activities to face

challenges and changes, as it happened to face the unexpected pandemic event. Nigeria generally, still struggles, and was caught unaware, as online facilities are hardly developed to the level to handle the onslaught of the demands of online teaching/learning.

5. Research question 5 addressed the way forward. Differences are largely observable in the handling of online teaching/learning. The way forward is that there needs to be more government support in terms of strategic policies, free provision of internet connection, and more training for online engagement for the lecturers and students in the Nigerian situation. We must all accept that this change has come to stay and adapt to it. Moving forward, even when face-to-face interaction resumes, online engagement will continue; blended learning is the way forward.

CONCLUSION

This article targets students, researchers, practitioners and governments to highlight the future and reactionary post-pandemic teaching/learning strategies in higher education; alternative methods were suggested for stakeholders. Capacity building must be emphasised, and institutions must help the government formulate suitable short-and long-term policy interventions. All the stakeholders must concentrate on students' learning outcomes in order to use the appropriate methods most suited to the circumstance. Data package costs are high compared to average incomes; therefore, learners would benefit from free and strategically located study centres equipped to help give access and opportunity to those unable to meet with the required tools for online studies. Online teaching must be made more creative, innovative and interactive, along with user-friendly tools to enhance teaching/learning. Even the curriculum must be changed to reflect the shift in content knowledge and learning experience of students to enable them to think critically.

The onus is now more on teachers to prove the authenticity of academic work done, and if learning has actually taken place; thus, more training is necessary. This is because the pedagogy available and used for face-to-face learning may not be feasible for online engagement. Some of the cheap, easy-to-use online platforms can be continued (Telegram, the free version of Zoom and the Radio) while we get more familiar with the more sophisticated applications. We must ensure that innovation is not interpreted as the use of sophisticated tools but as successful interactions that make the learner the focus, and technology a support. We can also not totally ignore the need for in-person engagements—the future is for blended learning. It must be understood that, ultimately, we can never go back to the pre-pandemic situation, and that transition must be gradual; we must approach the future with lessons learnt and the fact that there will be lasting consequences in policy and practice in the education sector. There should also be more of this type of cross-exchange and fertilisation of ideas and educational experiences to enrich knowledge and enhance global unity.

There are several lessons to be learnt. First, the problems are universal, though they are felt in different degrees. Teachers are to make classes more learner-centred and ready to learn from the students, create a conducive atmosphere for learning, encourage student autonomy and always make classes interactive. The greatest lesson to take away from learning synchronously (Skype, Zoom) and asynchronously (LMS, Blackboard, etc.)



is that the online methods complement rather than replace face-to-face classroom engagement. Consequently, in the future, we will appreciate in-person engagement better and use the time more productively to discuss, evaluate and expatiate. Online teaching/learning will equally boost the practice of adult education.

The innovative method signifies a new way of interacting between teachers and learners. It is necessary to create more blended or hybrid learning opportunities conducted through electronic and online media, along with the usual face-to-face learning mode. This mode of learning eases teachers and learners into full online learning. It cushions the blow by infusing the traditional in-person method while still allowing the adult education element of ceding some control of time, pace, place and flexibility to the learners, which makes everyone more comfortable. The hybrid mode must be maintained in the interim to ease into full online teaching/learning.

This study should support decision-making by the government and university administration on teacher/learner engagements. Government and university administrators should focus on enabling policies that promote effective teaching and learning changes, and teachers and learners should focus on learning how to optimise online engagements. This study will equally add to paltry available research and literature on COVID-19 lockdown-inspired online teaching/learning in adult education.

AUTHORS CONTRIBUTION

Conceptualization: Bakare Tewo and Concetta Tino; Methodology: Concetta Tino; Formal Analysis: Bakare Tewo, Helen Opara, Concetta Tino; Resources: Bakare Tewo, Helen Opara, Concetta Tino and Monica Fedeli; Data Curation: Bakare Tewo and Concetta Tino; Writing – Original Draft Preparation: Bakare Tewo and Concetta Tino; Writing – Review & Editing: Bakare Tewo & Monica Fedeli.

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