

The Algerian University at the Crossroads of the Digital Age: Building a Constructive Model for Online Education and Breaking down Learning Barriers

الجامعة الجزائرية على مفترق طرق العصر الرقمي: بناء نموذج بناء للتعليم عبر

الإنترنت وكسر حواجز التعلم

✉ BENADDA Abdelouahid

abdelouahid.benadda@univ-relizane.dz

University of Relizane (Algérie)

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ABSTRACT:

ملخص البحث

At the rise of the digital age and globalization, the idea of personalized learning has grown to be the new tendency of the 21st century education. Digital Technology, today, is an integral part of every educational policy. In the Algerian context, major reforms are being propelled by the ministry of higher education to lay the adequate preparatory stages, namely incorporating digital technology in all aspect of the university daily routines. The objective is to encourage learners to question what they are learning with access to a universal database. The seemingly perfect fact, however, has been recorded with various reports of unrestricted access to the Internet leading students to deviate from the original path. Therefore, the current analytical work aims to reveal potential barriers that impede the effective implementation of digital education in the Algerian university environment.

Keywords: E-pedagogy, Digital technology, Tertiary education, Online education, University students

مع ظهور العصر الرقمي والعولمة، نمت فكرة التعلم الشخصي لتصبح الاتجاه الجديد للتعليم في القرن الحادي والعشرين. تعد التكنولوجيا الرقمية اليوم جزءاً لا يتجزأ من كل سياسة تعليمية. في السياق الجزائري، تدفع وزارة التعليم العالي إصلاحات كبيرة لوضع المراحل التحضيرية المناسبة، أي دمج التكنولوجيا الرقمية في جميع جوانب الروتين اليومي للجامعة. الهدف هو تشجيع المتعلمين على التساؤل عما يتعلمونه من خلال الوصول إلى قاعدة بيانات عالمية. الحقيقة التي تبدو مثالية تماماً، مع ذلك، تم تسجيل العديد من التقارير بشأن الوصول غير المقيد إلى الإنترنت الذي أدى إلى انحراف الطلاب عن المسار الأصلي. لذلك، يهدف العمل التحليلي الحالي إلى الكشف عن العوائق المحتملة التي تعيق التنفيذ الفعال للتربية الإلكترونية في البيئة التعليمية للجامعة الجزائرية.

الكلمات المفتاحية: التدريس الإلكتروني، التكنولوجيا الرقمية، الجامعة، ثقافة التعلم، المتعلمين.

1. Introduction:

The onset of technology, in the 21st century, has radically changed all aspects of the contemporary world. New concepts and approaches are, today, the new tendencies of this new digitized era. In the educational context, the previous approaches of teaching and learning have been subject to new versions where the former conventional methods have been rethought and revisited by scholars in a variety of studies that covered all the aspects and principle of this revolutionary shift from conventional delivery methods to up-to-date ones. The new tendency has given birth to teaching styles that adapt to the contemporary global requirements. Thus, technology advances and improved accessibility have enhanced the level of resources available to learners. The act of learning has become easier. Students are given access to almost infinite learning materials that complement their efforts in the classroom. Technology, now, helps students think more critically. It encourages them to question what they are learning with access to a universal database; the fact that impelled teachers to reconsider their traditional roles and adapt to the new generation of learners.

In a relentless world dominated by overwhelming globalization, education systems around the world are speeding up time to come up with the most appropriate strategies to adapt to the demands of this new era. It is, today, question of performing active teaching and learning through the most adequate techniques. Quality and degree of performance have turned out to be the key factors for improvement and academic attainment. Integrating such a process, the modern educational trends set high priorities for learning outcomes to prepare the 21st century generation learners to acquire more skills and competences.

Algeria, as an active asset in this global system, is affected by world events. Globalization has urged policy makers to study with absolute seriousness all potential perspectives in line with this new digitized era. The university, as a participating part in national development, is fully committed to providing tangible responses to the challenges of the third millennium and the digital age in higher education and its various components. It is a question of enhancing and strengthening the digital pedagogical capacities of academics and researchers at the University. The project actions seek to consolidate the digital infrastructure and update the skills of the university staff. The experience of the higher education institutions, during COVID-19 pandemic, has been a timely circumstance to leverage digital opportunity. It has focused an unprecedented spotlight on distance learning and the pedagogical practices that stem from it. With the emergence of the internationalization trend and the strict worldwide ranking of universities, it has become inevitable for the Algerian higher education institutions to escape the new global criteria of merit. Quality teaching and active research are the standards of success and excellency in the new age education. The contest facing Algerian universities lies not only in the imperative need to actively join in the knowledge global wave trend, but also in how to effectively assimilate information and communication technologies so as to narrow the pedagogical gap between learners and knowledge attainment.

Hence, this reflective work falls within the scope of the reorganization of the Algerian tertiary institutions in bridging the gap between the university learners and the learning process. It aims to uncover potential facilitators and barriers to effective implementation of eLearning in the Algerian educational setting. It lays the foundations for the promotion of a constructive model for online education and breaking down learning barriers.

2. Education in the 21st Century: A Literature Review

To gain a better insight into the successes and challenges of technology integration in education, it is quite necessary to delve into a theoretical framework that explores the concept of digital-age education, its characteristics, basic principles, and the most adequate methods of its implementation to ensure efficacious and constructive outcomes.

2.1 New-age Education Defined

As the world around is evolving very quickly, education needs to transform and adapt to this change. Education in the 21st century has been subject to a variety of studies and theorizations from the part of scholars and educationists. Actually, It has been related to different concepts, methods, and approaches. “ *This qualitative difference in the use of digital technologies – active, pedagogically beneficial vs. passive use*” (OECD, 2015) has been the new facet of instruction today. It is conceptualized in a form of “ *a learning strategy that employs technology to fulfil the entire curriculum and allows students to learn quickly and rapidly*” (Pacheco, et al, 2018). The new mission of instruction in the digital age is to inculcate 21st century literacy skills that “*increasingly reflect technology use and the abilities necessary to problem-solve, collaborate, and present information through multimedia*” (Pilgrim, et al, 2013). The changing and diversified learner profiles, increased learner mobility, and lifelong learning (Şahin & Alkan, 2016, cited in Saykili, 2019) caused the conventional educational systems to experience a real paradigm shift as well as “*to redesign their structures and operations keeping the potentials alongside the challenges brought about by the digital connective technologies*” (Glenn, 2008).

2.2 Learner Profiles in the Digital Age

The radical changes brought by the new globalization and the digital age have also made the learner profiles to change. Prensky (2001) argues:

Today’s students have not changed incrementally from those of the past. A really big discontinuity has taken place. This singularity is the arrival and rapid dissemination of digital technology in the last decades of the 20th century. (Prensky, 2001)

In fact, “*learners have already integrated digital tools in most of the things they do*” (Oblinger, 2008). The new-age learner, commonly, referred to as ‘*net generation*’ and ‘*millennial learners*’ require new forms of instruction delivery. They have acquired a remarkable capacity to handle technological devices. They have been engaged in “*an event which changes things so fundamentally that there is no going back*” (Prensky, 2008). The tools that learners use so skillfully in their daily lives are “*already reshaping learning styles and habits*” (Dede, 2005). Learners, today, are more willing than ever to create online learning communities and take active roles in these communities (Lonka, 2015). Adding to these new roles and learning styles, emerged the incessant need to adhere to the 21st century skills. Doyle (2016) illustrates these skills that he perceives as fundamental for learners to develop for ‘*citizenship in the digital age*’. They are composed of “*hard skills which imply tool utility skills including digital literacies and soft skills which refer to flexibility, adaptability and information processing*”.

The new generation of learners have exceeded the constraints of the classroom instruction setting to move to virtual platforms that have substituted the traditional learning environments.

2.3 The New Roles of the Teacher in the 21st Century Education

In the digital age, teachers face constant challenges, in their daily routines, with their learners. In fact, they unwittingly found themselves participating in new teaching and learning practices that swept away their traditional roles as teachers. Yet, their undeniable share remains the determining factors for the process of teaching and learning because they play central roles in the quality of the pedagogical process (Jan, 2017). The key feature hosted by the 21st century is *“the digitalization of the teaching and learning process as technologies remain an important component in the classroom for the teachers to create extraordinary learning* (Boholono, 2017).

Clearly, the needs of education in this digitized era are quite different from those of the past. The new approach to teaching is no longer based on the teacher centeredness but rather relevant to student-centered classroom design. In the 21st century classroom, students *“need teachers who have the ability to inspire, motivate, set high expectations, and coach students to success”* (Wormeli, 2014). Teachers have to adjust their classroom pedagogy from the traditional model of delivery of content to *“being facilitators of discovery and inquiry-based learning that fosters greater student engagement in content and promotes 21st century skills”* (Eduviews, 2008). Among the demanded competences that the teachers need to acquire, in this new educational landscape, are teaching competence, technological competence, professional competence and learning competence (Pineida, 2011).

It is necessary to point out that *“today’s teachers have to learn to communicate in the language and style of their students”* (Prensky, 2001) and *“to try new things, and work with students to find where learning is most comfortable for them to succeed”* (Lynch, 2018).

2.4 The Learning Environments in the Digital Age

The remarkable growth in advanced communication technologies as well as the provision of electronic and digital educational facilities have revolutionarized the teaching and learning strategies. Meeting the learning needs of both teachers and students is *“the cornerstone of successfully transforming our schools into 21st century learning environments”* (National Education Association, 2012). The conservative concept of schools as being structured as places for teaching has been challenged by the digital era and restructured as educational spaces for both students and teachers alike (Eduviews, 2008). Since today’s new generations of learners may learn in a variety of settings, such as outside of school settings and outdoor environments, the more modern concept of learning environment is currently used as *“a more accurate or preferred alternative to classroom, which has more limited and traditional connotations—a room with rows of desks and a chalkboard”* (The Glossary of Educational Reform, 2014). Thus, the new benchmark for the current education trend is to build a comprehensive and effective learning environment to be an important condition for the implementation of teaching and learning in the digital age.

3. Teaching with Technology in the Algerian Higher Education: Understanding Conceptual Conversion and Improvement in Practice

The present section deals with the reflective part of this work. It proposes to examine the current situation of the Algerian higher education reforms that sought to improve University practices and integrate into the newly adopted trends in this overwhelming era of globalization and overcoming digitization. It is question to inquire about the effective mechanisms for seamless integration of technology at the the level of different higher education institutions as well as the various challenges which can obstruct this process..

3.1 An Overview of the Issues of Technology Implementation in Algerian Tertiary Education

The past few decades of the 21st century have challenged educational policies globally, in general, and the stability of Algerian education in particular. Recently digital education has emerged as a major implement to enhance the education process with speedy diffusion of eLearning that has become a necessity rather than an optional delivery method to improve access to quality education. In fact, the COVID-19 pandemic has been a wake-up call resulting in a domino effect that has put all educational systems in a state of vulnerability in bringing to a standstill school schedules and dropping the leadership role of education to spread information and knowledge. The astonishing fact, today , is that educational institutions have become totally reliant on digital education for a quality learning and teaching process.

The Algerian Ministry of Higher Education and Scientific Research has initiated promising reform plans to keep up with the recent challenges of globalization and digitization by introducing digital technology at all levels of the tertiary education institutions. The initiative aimed to innovate the traditional methods of teaching, training and scientific research as well as to improve the academic outcomes of Algerian learners to function better in this new age educational trend. At first, the decision makers urged to adopt e-learning during the Coronavirus crisis in order to ensure a continuity in the process of academic work but, later, it has been adopted as a new method implemented to deliver education outside the confines of the traditional learning environment, thus, providing students with exciting opportunities to learn at a regular pace without any physical constraints.

Another step was to hearten all university active actors to participate in this movement and do their best to bring about this new process. A vast program of initiation and improvement of practices has been launched to train educators and administrative staff. The overall objective is to advance practices and, thus, instil learning and training cultures that can bear fruit over time.

The process of integrating digital education, in Algerian universities, has taken place in gradual phases that will give all institutions sufficient time to prepare the ground for effective implementation. In fact, the online learning method has, initially, been set to cover transversal modules in every domain. This new vision prompted university institutions to rely on the keys to success: (1) emphasizing teacher training and accompaniment during the launch stages, (2) sensitizing students and helping them to engage in the distance learning process, and (3) involve administration in the process of the follow-up and the support. (MESRS-CNEAD, December 2022)

3.2 Challenges Facing Technology Integration into the Algerian Universities

Having been put to contest by globalization, digitization, and internationalization trend realities, the Algerian higher education institutions have opted for technology integration; the fact that cannot take place without hindrances that would encounter the even progression of incorporation. Some of the practical barriers, facing the actual process at different levels of teaching and learning, may generate unforeseen apprehensions. The first major obstacle meets the institutional preparedness to host such a strategy. Actually, the shift from conventional course delivery methods to online education cannot occur without a prior predisposition from the part of the institution itself. Supportive institutional environments which provide the opportune settings that ensures solid platforms of exertion, confirm permanent availability of strong connectivity, and assess competence in using digital tools efficiently, are likely to reach the anticipated outcomes out of this shift paradigm. In the absence of strong institutional support, the project is deemed to potential failure. A second barrier encounters students' and teachers' perceived worthiness of online education. It is, actually, the persistent challenges that the university need to overcome before engaging any venture towards online transition. The still prevalent perception that the technological shift would never compete with the solid practicalities of traditional settings may instigate resistance to fully integrate the process. This hesitancy emanates from the actual interplay between teachers' preconceived beliefs and their current teaching practices. Complications related to teachers' digital literacy, insufficient professional, pedagogical, and technical aptitude to adjust to technological competency, confused teaching identities, and time commitment and compensation would not act in favour of a seamless instructional conversion. The third difficulty is meeting the students' readiness to embrace this newly adopted online practice. Indeed, throughout the previous COVID-19 experience of exposure to online learning, students found themselves facing a variety of barriers mainly related to issues of internet access, increased academic workload, lack of motivation to learn due to poor student-teacher interactions, lack of self-discipline, improper use of technological devices, and the poor quality of learning materials. The 21st century educational requirement, today, expect students to demonstrate skills including information literacy, technology skills and digital literacy, communication skills, creativity, problem solving, and collaboration. Many students are not prepared for this challenge as they have been nurtured for long years within a traditional teaching model based upon memorization and testing of knowledge.

Considering the interaction between teachers' preconceived beliefs about their traditional roles and currently implemented teaching practices, student readiness and adjustment to the anticipated new learning styles and study habits, institutional perceptions of the value of online learning, technical sustenance and administrative accompaniment, in addition to the changing academic roles between learners and teachers, will lead institutions of higher education to win the challenge and demonstrate their governance in the effective implementation of digital education and achieve the desired outcomes.

3.3 Laying the foundations for a Constructive Model for Online Education and Breaking down Learning Barriers

The advent of the third millennium has prompted educational institutions, worldwide, to adhere to the global wave of digitization. Likewise, the Algerian universities grounded the perception of instituting for a successful and seamless integration of technology in all their components. The objectives have been to guarantee quality teaching, an effective pedagogical accompaniment to students, and help researchers to generate a universal competitive literature that matches global standards. It is question, here, to

concretize a field project inflicted by the accelerated events of globalization and digitization. The real issue is to execute a thorough strategy to incorporate digital education into all the constituents of the Algerian tertiary education institutions so as allow the process to run smoothly, and, thus, avoid all complications that would impede the implementation course. Adopting a constructive model for online education, as an alternative model to traditional delivery methods that have failed to adjust to the requirements of education in the new era, requires the university to go beyond turning into teaching aids, rather than, acquiring explicit knowledge in the factual mechanisms of integrating technology to attain quality teaching and learning. University Teachers play an indispensable role in higher education. They are considered as inspiring models for student resilience and academic achievement. Being equipped teacher demands various perquisites. Past their subject content mastery, teachers have to acquire the needed competences, behaviours and techniques of the 21st century education skills to succeed in managing the teaching process effectively. Hence, they have to become motivating elements for student learning. Their new responsibility, in this new age, is to introduce a relevant content pedagogy capable of monitoring and guiding university learners towards an effective application of the taught 'know-how' into their daily lives. Once actively engaged in this smooth process of knowledge acquisition, students feel involved and moved through teachers' positive signals and ready to take part in the learning process to display autonomous behaviours to attain academically.

The effective integration of technology into the Algerian tertiary educational institutions, cannot emerge without an active effort to find operational solutions to the different issues impeding the seamless execution of the promising project. The first step should address both teachers' and students' perceptions and attitudes towards digital learning. Both should reconsider their attitudes and accept a change in their views on the adoption and use of technology. It is unconceivable to modernize the university equipments without shaping the minds of the key actors of online learning. Training and sensitizing are two effective tools to advance the process. University teachers and administrative staffs should be enrolled in pre- and in- service training to ensure an adequate assimilation of their real responsibilities and active roles in this technological shift paradigm. The acquisition of the 21st century skills has become a precedence for personal advancement. The second stage would automatically induce active work to prepare the learners for their novel roles in the hybrid learning system. Digital education has not only challenged the traditional roles of teachers, but also what it means to be a student in the digital age. The third stage induces the crafting of appropriate pedagogy, technology and content. It is absurd to operate a technological drift from a traditional learning environment to an online delivery model without ensuring solid foundations for adequate technology, flexible pedagogy and suitable accompanying educational content. All such factors connect to smooth out the technological transition and reinforce both teachers' and learners' readiness and willingness to integrate the innovative approach.

4. CONCLUSION

The digital innovations in the 21st century represent a tool of considerable importance in the context of higher education. It has made it possible to revolutionize and streamline the educational process. It has impacted on the learner, instructor and the learning environment. As far as the Algerian higher education institutions are concerned, digitization has become an operational model whose application should be considered seriously by policy makers and educational planners in order to be exploited at its full

potential. It cannot be conceived independently of the institutional context. Indeed, digital transformation can generate disruptions and modifications in the practices of Universities. It can cause resistance and reluctance from the part of the involved agents in this process. It is, therefore, essential to support this change and focus it on real needs with appropriate responses to the different apprehensions and reservations. The actual challenge for the Algerian tertiary educational system is to win the bet of reorganizing the different institutions in such a way to meet the global standards. The success of the whole process is the shared responsibility of all actors, be it policy makers, teachers, administrative and technical staff, and learners. Everyone must unite efforts to produce a suitable environment for the successful implementation of technology in institutions of higher education.

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