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**Emerging issues and challenges in digitalization of
higher education**

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Abstract

Globalization and technology have brought enormous changes in every sphere of life, especially in the field of education. The use of technology has become essential and inevitable. It has brought progressive benefits for the present and future. As the access to data and information proceeds to develop quickly, schools and colleges cannot be contented with the restricted information to be transmitted in a settled period of time. They ought to end up compatible to the ever growing information additionally be prepared with the technology to deal with this information. Information and Communication Technologies (ICTs) which incorporate Radio and TV, as well as more current computerized innovations such as Computers and the Web have been demonstrated as possibly capable apparatuses for higher educational changes and reforms. When used appropriately, diverse ICTs can offer assistance and access to information and education, strengthen the significance of higher education to the progressive and advanced working environments, and raise educational quality by making a difference in teaching and learning process. However, technology also poses certain challenges that need to be addressed effectively to keep pace with the rest of the world. Digitalization of higher education has significant suggestions for the whole education process particularly in dealing with key issues and challenges. This paper is an endeavor to take review of Digitalization of Higher Education and to address the issues and challenges in implementing it.

Keywords: Globalization, Higher Education, Digitalization, Educational Quality, Technology.

Introduction

The framework of Higher Education has developed exponentially within last five decades to meet the demands of quality education for all. Demand for skilled and competent labor is ever increasing in the modern worldwide society. An access to quality in higher education has emerged as determining factors of financial development and advancement. For increasing the access to higher education and improving its reach to the remotest parts of the nation, the commitment of open and distance learning amenities are commendable. In expansion, it satisfies the goals of lifelong learning at reasonable cost. The last two decades have seen the incorporation of advancement in digitalization of higher education systems around the world.

Education is a powerful instrument for social change and nation building. It is seen as tool for the mitigation of poverty, removing inequalities in education and for advancement of social harmony and strengthening of national unity. Additionally, it is seen imperative for increasing productivity, democracy, modernizing the nation, ethical and moral values and developing scientific attitude and Higher education plays an essential role in society by creating new knowledge, transmitting it to students and fostering innovation.

Digitization is the integration of digital technologies into everyday life by the digitization of everything that can be digitized. We are running into the 21st century where innovations and technology knows no bounds. This is the stage of radical improvement where technology and

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innovation is taking over each and every corner. Amid this stage, the education system is evolving for the purpose of improvement, as new generation's students are not born to be kept by the limits of simple learning; their interest is tremendous and cannot be catered with educational frameworks that were designed earlier. If we kept on educating our children the way we taught them yesterday, we would deprive them of their tomorrow. Our ancient educational system lacks the capability to stand a chance in the 21st century. So our educational system compelled to utilize digitalization. Digital learning is a complex phenomenon linked with many different interpretations in the existing literature. There is a growing interest in the field of computerized advances in education and learning.

Digitalization in Higher Education institutions is an issue that concerns many educational stakeholders. ICT skills are becoming increasingly relevant in every context, especially in the workplace, therefore one of the prime objectives for universities has become preparing future professionals to be able to deal with problems and search for solutions, including digital competence as a vital skill set. Different policies, initiatives and strategies are currently being proposed, addressing educational technology innovations in higher education.

Bocconi *et al.* argue that the students' use of digital learning resources is related to the teachers' digital competences. Wastiau *et al.* have also indicated that students have the highest frequency of digital learning technology use when taught by teachers who possess appropriate digital skills, who use the internet, including social media. Cheon *et al.* held that mobile learning can also play a significant role in education. These authors identified several potential benefits of mobile learning including cost savings, ubiquitous communications, study aids and location-based services. Kyndt *et al.* describes digital learning as an unplanned and implicit process with unpredictable results. This learning process has a self-evident character and takes place in the daily working situation. It is seen as the development of the individual through interaction with others. Digital learning often happens spontaneously and unconsciously without any a priori stated objectives in terms of learning outcomes. Moser & Axtell (2013) ^[7] conducted a study that successful users of the new media (and all the new and further options, gadgets and apps yet to come in the future) will be those who understand the important differences between face-to-face and digital communication. In this section, some of the external and internal issues and challenges in digitalization of higher education are introduced.

The external and internal issues and challenges of digitalization in higher education

Access

Early accounts of technology integration focused much of their interest on increasing the availability of computers in institutes. Many students do not have regular and reliable access to a computer. Inconsistent computer access makes it extremely difficult for instructors to integrate technology into existing lesson plans. Routine access to hardware (i.e., laptops or tablets), software (e.g., reading and writing software, internet browsers), and internet connection is a fundamental requirement.

Although impressive recent advances have been made, effective use of educational technologies for literacy may require more frequent instructional time on computers than

currently afforded by the ratio of students to computers. Intelligent tutoring systems such as those detailed in this book can individualize instruction to student progress within the system, but consistent 1:1 computer access is highly desirable given this pedagogical approach. With limited federal, state, and local funding, schools may often need to pursue unconventional funding options for obtaining classroom technologies. Budgets may be supplemented using crowd funding sites, some of which specifically target education funding

Digital Literacy

Another important challenge is the digital literacy of all stakeholders. Nowadays, students of higher education are not only young people between the ages of 18 and 25. Instead, the range of ages is widening, with young generations having generally more digital skills than older generations. Furthermore, although HEIs are by nature very dynamic and technologically advanced, their different audiences (students, alumni, faculty, administration, parents, industries, society, among others) have different backgrounds and have different behaviors with technology. The success of a digital strategy is strongly dependent on the ability of these different stakeholders to adapt to the emerging technologies and to make an efficient use of them.

Training

The National Education Association (NEA) includes expanding professional development in technology as one of their policy recommendations (NEA, 2008). According to NEA results (2008) teachers today report increasing confidence using classroom technology, operating software, and searching the internet, but given that technology is constantly changing, it is more important than ever those teachers stay up-to-date with their technological expertise. Without the necessary resources to provide continuous digital training, institutes will continue to cite inadequate professional development as a major barrier to technology implementation.

The specific type of training that is available to teachers is also an important consideration. For example, many institutions are purchasing iPads; however, the usefulness of iPads for education is not always immediately clear. One weakness of the iPad is the difficulty in typing using the touch keyboard, making it less ideal for activities requiring students to generate text, such as writing practice.

Support

The most essential form of support to teachers can change as the digital integration project matures. During the earlier phases of a project, teachers require more technical support just to use the new technology in higher education, which could be accomplished by hiring educational technology and information technology professionals. As teachers become more proficient in the technical skills required for the digitalization of higher education, their needs may shift to administrative and peer support to help develop and apply new uses for the technology in their studies. This type of support may be provided in professional learning communities through regular discussions regarding novel, domain-relevant uses of the digitalization.

Excessive use of technology in teaching and higher education learning

There is a major concern of digital divide to be created by excessive use of technology in teaching and higher education learning. As more and more classes use the digital technology those who do not have an access to the modern equipment, may fall behind. This problem is more acute in developing countries where the availability of internet resources is scanty and limited. Policy makers have to keep an eye on the widening digital divide and have to come up with solutions that would make higher education inclusive of all strata of society. In India, this digital divide is more widespread so actions have to be taken to make it less stressful to the future economic growth.

Personalized Learning

Students of higher education are able to personalize learning more rather than classroom learning now than ever. From school choice — public, private, charter, virtual — to the options available for *how* a student learns, education can be tailor-made to suit each individual. Blended learning gives more responsibility to the student, as it involves less direct instruction from the teacher and more discovery-based methods of learning. Blended learning is an example of how students can control certain elements of their learning by making decisions about things like where and at what pace they move through material. Adaptive learning is similar to blended in that it, too, allows students to make decisions about things like the timeframe and path of their learning.

Redesigned Learning Spaces

Walk into most classrooms across the country and it's unlikely you'll find rows of desk all pointing toward the front of the room. Educators have since realized their classrooms must mimic the workforce, which has inspired them to create collaborative-friendly spaces to facilitate student learning. The on boarding of technology has supported their endeavor. 21st century classrooms are SMART boards instead of chalkboards and pods of SMART desks instead of individual seating. Students are going on virtual field trips instead of merely reading from a text; they are creating media instead of just looking at it. The redesigned learning space is laden with integrated technology, which means students aren't just using these things, but they understand *how* to use them in order to achieve a specific goal. Moreover, some of these learning spaces aren't even in the classroom. Colleges and universities are creating more informal campus learning spaces because they understand the importance of creating and collaborating 24/7, not just when class is in session.

Financial and Technology Constraints of Higher Educational Institutions

Emerging Technologies are often expensive, which combined with the financial constraints that higher education institutions face today, may hinder its adoption. On the other hand, Higher Educational Institutions may not have the access to the technologies needed for a given strategy because the access to these technologies is not open or its maturity level is still not the ideal. Thus, for a digital strategy to be successful, it is necessary to ensure that the higher educational institution has the necessary resources for its implementation.

Meeting the New Expectations and Needs of Students

Students are increasingly demanding an improvement in the "basics" of their experience, with features such as digitization of administrative processes, unrestricted 24-hour access to all information and services using multiple platforms or digital curriculum. Choosing the right digital approach that meets the needs of students is therefore critical to improving one of the main drivers of digital transformation - the student experience.

Virtual Reality / Mixed Reality

Gone are the days where students are expected to sit quietly at their desks. Educational technology is succeeding in making learning collaborative and interactive. Virtual and mixed realities are examples of transformative technology that enhance teacher instruction while simultaneously creating immersive lessons that are fun and engaging for the student. Virtual reality has the capability of bringing the outside world into the classroom and vice versa.

Conclusion

To drive the digital transformation of teaching and learning within higher education institutions, it is paramount to understand the technology skills and knowledge of both teachers and students, to discover their respective needs, and to aim for a mutual understanding of both perspectives (bottom-up). Beyond that, a sustainable implementation of digital media can only succeed if the overall project 'Digital Transformation in Higher Education' is grounded. Moreover, new technology and new learning models are exciting and offer previously unthinkable possibilities to students, but they require constant IT support. As educational institutions continue to jump on the bandwagon and adopt these digital transformation trends, we must consider the current paradigm for technology instruction and move toward a team-based approach. As student expectations increase, responsiveness to those needs must increase as well.

References

1. Jaffer S, Ng'ambi D, Czerniewicz L. The role of ICTs in higher education in South Africa: one strategy for addressing teaching and learning challenges, 2007.
2. Sousa MR, Rocha A. Special section on emerging trends and challenges in digital learning. *University Access in the Information Society*, 2018, 17(4).
3. Kyndt E, Dochy F, Nijs H. Learning conditions for non-formal and informal workplace learning. *Journal of Workplace Learning*. 2009; 21(5):369-383.
4. Cheon J, Lee S, Crooks SM, Song J. An investigation of mobile learning readiness in higher education based on the theory of planned behavior. *Computers & Education*. 2012; 59(3):1054-1064.
5. Wastiau P, Blamire R, Kearney C, Quittre V, Van de Gaer E, Monseur C. The use of ICT in education: a survey of schools in *European Journal of Education*. 2013; 48:11-27.
6. Bocconi S, Kamylyis P, Punie Y. Framing ICT-enabled innovation for learning: the case of one-to-one learning initiatives in Europe. *European Journal of Education*. 2013, 48(1)
7. Moser KS, Axtell CM. The role of norms in virtual work: A review and agenda for future research. *Journal of Personal Psychology*. 2013; 12:1-6

8. Rodrigues LS. Challenges of digital transformation in higher education institutions: A brief discussion, 2017.
9. https://www.researchgate.net/publication/309268032_Digitization_of_Indian_Education_Process_A_Hope_or_Hype
10. <https://link.springer.com/article/10.1007/s10209-017-0572-6>
11. https://www.researchgate.net/publication/271834985_ICT_in_Higher_Education_in_India_Issues_and_Challenges
12. https://www.researchgate.net/publication/255610040_The_role_of ICTs_in_higher_education_in_South_Africa_One_strategy_for_addressing_teaching_and_learning_challenges
13. https://scholar.google.com/scholar_lookup?title=A%20MUVE%20towards%20PBL%20writing%3A%20effectiveness%20of%20a%20digital%20learning%20environment%20designed%20to%20improve%20elementary%20student%20writing&author=SJ.%20Warren&author=MJ.%20Dondlinger&author=SA.%20Barab&journal=J.%20Res.%20Technol.%20Educ.&volume=41&issue=1&pages=113-140&publication_year=2008
14. https://www.google.com/search?rlz=1C1CHBF_enIN817IN817&q=challenges+of+using+technology+in+higher+education&sa=X&ved=2ahUKEwj9lqHd2NngAhUKMY8KHSUXAyUQ1QIoBnoECAYQBw&biw=1366&bih=608
15. <https://files.eric.ed.gov/fulltext/ED577147.pdf>