



ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor: 5.2
IJAR 2019; SP4: 300-302

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(Special Issue- 4)
One Day National Seminar
“DIGITALIZATION OF HIGHER EDUCATION”
(2nd March, 2019)

Impact of digitalization on higher education

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Abstract

We are running into the 21st century where technology knows no bounds. This is the phase of radical development where technology is taking over every niche and corner. Smartphones, laptops, and tablets are no more unknown words. During this phase the education system is evolving for the sake of betterment, as this generation's students are not born to be confined by the limits of simple learning; their curiosity is vast and cannot be catered with educational systems that were designed earlier. If we kept on teaching our children the way we taught them yesterday, we would deprive them of their tomorrow. Our old educational system lacks the capability to stand a chance in the 21st century. So, we are compelled to use digitization in our educational system.

Keywords: Digitalization, Higher Education

Introduction

“Digitization is the integration of digital technologies into everyday life by the digitization of everything that can be digitized.” It is a new phase of learning with Online Classes, Online Exams, Digital Textbooks and so on. With a high increase in the student population in recent times, pedagogy is being compromised. Because of that, online resources are being developed in a way that makes them always available to teachers to educate the masses. Which, in turn, improves the quality of education and increases the number of literate students. After the United States and China, India has been rated as the third largest internet consumer. The core existence of online education platforms is being possible with the internet. Most schools and colleges in India make use of the internet and they basically use it for conducting online exams and quizzes. Therefore, this “Quality Studying” is going to be a leading path towards future prosperity.

Augmented Reality / 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. Augmented, virtual, and mixed reality 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. Apps such as Universe can transport students to ancient Greece, while Cospaces allows students to share their virtual creations with the world. Wilkes University online adjunct professor and independent educational technologist Kathy Schrock concludes virtual reality has the potential to increase visual literacy, technology literacy, and attention to audience. The idea of combining AR/VR/MR is highly anticipated. Take, for example, the privately-owned company Magic Leap. Even though it has yet to really sell anything, Magic Leap is already valued at four and a half billion dollars! This speaks to the projected endless possibilities of technology transforming classrooms.

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Classroom Set of Devices

Schools are moving away from BYOD, or bring your own device, and students no longer have to go to the technology lab for access to a computer or laptop. Recent years have shown an increase in classroom sets of computers that was made possible in part by federal funding. Title I schools have received funds via The Every Student Succeeds Act, and several grants and donations have outfitted classrooms all over the country with iPads and laptops for each student. Google Chrome books account for over half of the devices in US classrooms. In 2014, more than three million Chrome books were used in educational institutions. As that number continues to grow, so does the need for increased focus on programs that teach digital citizenship skills. Today's pervasive online environment poses exciting possibilities, ones that necessitate students are properly educated on cyber safety and individual responsibility.

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 onboarding 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 are understanding 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.

Artificial Intelligence

The use of AI in higher education has already proven useful. Australia's Deakin University used IBM Watson to create a virtual student advisory service that was available 24-hours a day, seven days a week. Watson's virtual advisors fielded more than 30,000 questions in the first trimester, freeing up the actual advisors to handle more advanced issues. Another use for AI includes chatbots. Because chatbots are equipped with Natural Language Progression, as found in Siri, they have the human capability of answer questions about homework, helping students through a paperwork process like financial aid or paying bills, and easing the workload of the people who would normally serve these roles. Other applications of AI in education include personalizing learning (which is discussed in more detail below), evaluating the quality of curriculum and content, and facilitating one-on-one tutoring with the use of Intelligent Tutoring Systems. Technology doesn't aim to replace teachers, only to complement them.

Personalized Learning

We are able to personalize learning more 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. Adaptive learning technology collects information about student behavior as they're answering questions, and then subsequently uses that information to provide instant feedback in order to adjust the learning experience accordingly. Educational tools with adaptive SEQUENCE continually analyze student data in real-time and make split second decisions based on that data. It automatically changes what comes next in a sequence, be it altered content or a different order of skills, in response to how student a student is performing. Another learning platform, Osmosis, was created by doctors for doctors and has revolutionized the way medical students' study: "Using evidence-based educational concepts such as questions, flashcards, and videos, images correlated with memory anchors, adaptive spaced repetition, collaborative learning and gamification, Osmosis maximizes learning and retention." Such personalization is turning education into a "choose-your-own-adventure" method of learning, capitalizing on student interest and engagement.

Gamification

Playing and learning collide when classrooms utilize gaming as an instructional tool. Gaming technology makes learning difficult subject matter more exciting and interactive. As the technology progresses, it is quickly being used to enhance educational games in every discipline. Drexel University's Senior Vice President of Online Learning, Susan Aldridge, credits these games with mirroring real life issues, requiring students to use a valuable skillset to solve them: "These virtual game worlds provide a unique opportunity to apply new knowledge and make mission-critical decisions, while identifying obstacles, considering multiple perspectives and rehearsing various responses." Because these games are designed to provide immediate feedback, students are intrinsically motivated to keep playing them, honing skills throughout.

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.

Conclusion

Digitization has no doubt changed our education system, but we cannot say that it has diminished the value of our old-time classroom learning. Neither do we want something so priceless to turn into dust. The best part about the digitization of education in the 21st century is that it is combined with the aspects of both; classroom learning and online learning methods. Walking hand in hand both act as a support system to each other, which gives a stronghold to our modern students. Digitization in education has also proved to be the right method for saving resources. Online

examination platforms have restricted the frivolous usage of paper, directly confining the cutting down of trees. This way the digitization of education industry in the 21st century proves to be a boon to our society.

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