Need For Digital Innovation , AI Technology and Teacher's education in Current Scenario

Anand Kumar[1] & Dr. Brajesh Srivastava[2]

[1]Assistant Professor (Political Science), Kashi Naresh Govt. P.G. College, Gyanpur, Bhadohi (UP)

[2]Assistant Professor (Economics), Kashi Naresh Govt. P.G. College, Gyanpur, Bhadohi (UP)

Abstract

The digital revolution offers new opportunities every day to innovate and transform higher education. In a world of constant and fast-paced change, higher education institutions are competing to innovate: they are constantly rethinking their educational methods, renovating their infrastructures and finding new ideas to offer better quality training to their students. The objective is often to expand nationally and internationally. For the last ten years or so, digital technology has been at the heart of the strategy implemented by universities around the world. This strategy has two objectives: to increase the attractiveness of universities and to promote student success. In the new educational circumstances, teachers need to be aware of themselves in the new ways to create a lot with students.

AI technologies are emerging as a key tool to enable and enhance digital transformation in higher ed. Chatbots, predictive analytics and adaptive learning systems are just a few examples, However, the use of AI also brings up important ethical questions that institutions must consider.

Keywords – Digital revolution, higher education and research, innovation, AI Technology.

Introduction

Innovation is a new idea, a new behaviour, i.e. innovation is to make education simple, useful, practical, interesting, creative, functional and relevant. In the modern era, there is a need for innovation in education system for the versatile all - round development of children, only then positive development, moral values and ideals are possible in children. Innovation depends on teachers in education system. Teachers can change the arrows of new teaching laws and teaching through innovation and can make children aware of their wish and talent. The traditional education system can be converted to the current environment through the use of innovation in teacher education.

Innovation is made up of two words, new and ethics. Nav means new and ethics means change. Thus, innovation is the opinion that renames the newness in previously prevalent methods and substances etc. Some new and useful are adopted under innovation. Changes in every object or action are the law of nature and the phases of development move forward only through change. Education is the power of social change, as well as the axis of economic development of the nation and the world. Children are the mainstays of the creation of the nation and the teacher who makes them a responsible citizen of family, society and nation is its important medium. The more active, effective, resourceful, committed and efficient as the teacher will be as effective and useful. Keeping this in mind and on the basis of the recommendations of the Yashpal Committee, the innovation of teachers has been given oppression. Innovation in teacher education has been used to improve the educational conditions.

A brief overview of important digital innovations in higher education in recent years.

1. MOOCs: an innovation democratizing access to higher education

MOOCs (Massive Online Open Classes) are online courses, open to all, offered by institutions of higher education around the world. These are free training that allows any student to participate without any conditions. A certification system is offered for some courses in return for a financial contribution. The course topics are often diverse, from mathematics to social sciences, personal development and health.

These courses, open to all, democratize access to knowledge. They are a godsend for students wishing to get knowledge on particular topics. For universities, it is an opportunity to gain more and more attractiveness and international influence with platforms that are often multilingual…

2. The digital educational resources engine: an innovation for accessibility to knowledge

It is a search engine launched by the Ministry of Higher Education and Research. It is intended for everyone: students, but also teachers, researchers, professionals and, more generally, the general public. It is a giant digital library that brings together about 30,000 educational resources that can be courses but also conferences and quizzes.

For students, it represents an additional tool for their academic work and personal culture. This innovation also helps to better value the work of teachers and researchers by making their work both more accessible and more visible.

3. Self-assessment tests: an educational innovation designed for participative teaching

Gradually, the lectures are giving way to more participative and interactive courses. The trend is thus towards educational approaches that involve students more in order to make them more active rather than passive. For this, small tests are blooming and are regularly organized in some amphitheaters: some use electronic devices, others augmented reality as is the case, for example, for the Votar app. Developed in 2013 by Stéphane Poinsard, Votar allows teachers to organize mini-tests. Each time the teacher asks a question, the student raises a colored card. The teacher takes a picture of the class presenting the colored cards: immediately, he/she receives the number of correct answers.

This digital innovation allows the students to self-assess and the teacher to verify that the students are following and have understood the notions of the course.

4. Computer simulation: an innovation for learning in real-life situations in the medical and paramedical field.

Computer simulation allows to virtually recreate clinical care cases. This educational tool is being developed in particular for future doctors, nurses, physiotherapists, etc. These computer simulations enable them to anticipate real-life cases they will encounter in their professional lives. These are real situations that train to react to serious or less serious pathologies without damaging the patient.

The CHU and the University of Angers are true pioneers in computer simulation: as early as 2008, they implemented this innovative tool in their training processes. In 2013, they will start using simulation for scenarios in intensive care and anesthesia. It is now also used in other fields, including oncology. It plays an integral part in teaching at the university level.

5. Dematerializing the credentials: the certification of diplomas using the blockchain

In university circles, the issue of fake diplomas is a real problem that is not without consequences for recruiters. When we talk about the blockchain, we often think of bitcoins, but the blockchain has many other uses. In particular, it makes it possible to certify diplomas in order to avoid any forgery of documents.

A blockchain is a database that contains all the transactions carried out since its creation. This database is secure and tamper-proof. In addition, anyone can freely check the validity of an item of information.

Finally, innovations in higher education involve students, teachers, the administration of institutions but also recruiters! The blockchain seems to have a bright future ahead of it. In addition to certifying diplomas,

it could also make it possible to certify research work and ensure its traceability: this would make research results more visible and enable independence from publication in scientific journals or textbooks and reduce the associated costs.

As we move forward through 2024, higher-education leaders face an array of pressing challenges shaped by technological, societal and economic factors. They must respond strategically and innovatively to thrive.

Today's digital era demands a rethinking of how we deliver education. Artificial intelligence and data analytics are reshaping teaching and learning, but institutions will need to do more than just adopt new tools. They must transform their approaches to support students throughout their educational journeys.

With the higher education landscape facing rapid change, here's what leaders can expect to tackle this year and beyond to meet the needs of the evolving educational sector.

Future-Proofing Higher Ed

With emerging technologies, economic shifts and evolving workforce needs, colleges and universities must constantly adapt to continue providing value to students.

One of the most important ways colleges and universities can future-proof themselves is by prioritizing lifelong learning, which is necessary to keep up with advancements and remain competitive in today's job market. The pace of technological change means that skills and knowledge acquired through initial education can quickly become outdated. More than 20% of all jobs will change within the next five years, according to the World Economic Forum's Future of Jobs Report 2023 . The report also said that "respondents expect structural job growth of 69 million jobs and a decline of 83 million jobs. This corresponds to a net decrease of 14 million jobs, or 2% of current employment."

To address this, higher education leaders must focus on building lifelong learning pathways that enable individuals to adapt to changes and advance their careers. This includes continuing to develop programs aligned with evolving workforce needs, as well as strengthening corporate and workforce partnerships.

In addition to program offerings, technology plays an important role in enabling lifelong learning. Artificial intelligence has the potential to enhance outcomes and institutional success. Using AI to amplify human talent and gain data-driven insights can help higher ed remain competitive, adaptable and aligned with industry changes.

Embracing Digital Transformation

Colleges and universities can accelerate their digital transformation efforts to enhance the student experience and streamline operations. A survey of campus chief technology and information officers by Inside Higher Ed found that 73% of respondents consider digital transformation a "high priority" or "essential." Beyond just integrating technology in teaching and learning, this transformation includes leveraging data for informed decision-making, automating processes and providing digital platforms to support students, faculty and staff.

Continuously Evaluating Workforce Alignment And Career Readiness

As new technologies emerge and jobs are created, transformed or eliminated, educational systems must continuously adapt to properly prepare students for the new world of work. Career readiness has never been more important.

In that vein, institutions should strengthen partnerships with industry leaders to understand their workforce needs and ensure curricula align with the requirements of future employers. For instance, given the rise of generative AI, academic programs will likely emphasize developing durable skills such as critical thinking, problem-solving, and communication, which are essential to enabling technology adoption and value

generation. These skills will allow students to thrive in workplaces fueled by emergent and advanced technologies. And so, higher ed must double down on ensuring students are adaptive and able to thrive in careers and workplaces that will inevitably be impacted by more technological changes.

Additionally, I believe experiential learning will need to play a more prominent role in the development of talent. Internships, apprenticeships and project-based learning help students link practical classroom experiences and the application of skills in the workplace. This type of learning provides valuable networking and exposure opportunities.

Innovation needs in teacher education

Teacher is the part of society which is a factor of change through education. Both the school and the teacher have influence from their surroundings. Teacher training and school education are intense. Both of these affect each other. Effective teacher training relies quality in school education. A teacher acts in the contexts of education, which is the purpose, text, currency, methods, etc. Teacher education with courses, needs and expectations of school education

It is necessary to be added to it. The teacher should not only know the learning methods, but the children should understand the process of learning, their socio-economic environment and the process of learning. The capacity of the teachers is also felt the need for innovation in teacher education for development and development in the capacity of the teachers. The need for innovation in teacher education was seen in the following assets

May go-
1. To make teacher education with time relative change.
2. For qualitative and quantitative development in teacher education.
3. Teacher to make education technical.
4. For the development of expression capacity and teaching efficiency.
5. For the students to provide direct and permanent knowledge to the students.
6. To make the students active.
7. To generate healthy views in the students.
8. To establish coordination in Teachers' Education Institutions and Schools.
9. To bring innovation in teaching methods.
10. To fulfill social aspirations and expectations.
11. For the spread of scientific and technical knowledge.
12. For the purpose of education, for the development of the subject of the subject, in its curriculum.

Importance of innovation in teacher education
1. Teachers are able to give joyful, boring and unruly teaching to the children by innovation and are capable of imparting blissful and interesting education.
2. It cooperates the teacher in adoption of creative, responsible, solid and practical views of his work.
3. Through innovation, the teacher can develop new efficiency by breaking the traditional educational inertia.
4. Teachers themselves become creative and study through innovation.
5. Innovation leads to the educational priest of the teacher.
6. Students can make necessary preparations and effective implementation to support practical and practical works in teaching.
7. Through innovation, you can use the existing resources of the school and community.
8. Students will be able to understand the concept of continuous and comprehensive evaluation.
9. It is possible to organize post -teaching activities only through innovation.

10. Innovation, students can learn the process of child -centered approach and activity -based teaching learning.

Addressing The Issue Of Access And Affordability As A Top Priority

Making higher education more affordable and accessible is fundamental to providing opportunities for people from all backgrounds. Focusing on innovative funding options and cost-effective program delivery can help address issues of access and equity.

There are several ways higher ed can lower costs while providing high-quality education. Developing accelerated options where students can earn credits for skills and knowledge, they already possess allows them to complete degrees faster and for less money. Partnerships with local businesses and nonprofits to provide internships, apprenticeships and work-study programs give students valuable experience while offsetting educational expenses. Offering more hybrid and online courses could help reduce infrastructure costs and provide flexibility.

Access also remains an ongoing concern, especially for first-generation students and those from underserved communities. Proactive outreach and specialized guidance can assist students throughout the educational journey, especially when navigating the complexities of admissions and financial aid.

In summary, visionary leadership in higher education demands forward-thinking, data-driven decision-making and a commitment to the return delivered. Leaders must anticipate future needs, encourage innovation and establish trust through transparent practices. This kind of leadership is key to helping institutions overcome challenges, fulfill their missions and, most importantly, equip learners with the tools they need for continual success.

Innovation is necessary to keep the educational system and the program alive. In its absence, there may be a widespread difference in educational targets and process. Their use is helpful in fulfilling the expectations of the future along with the knowledge. Innovation in teacher education, students will be able to use students community participation, innovative teaching, technical, sports education, simple English learning, all-round development, concerts education etc. in their future life. And the path of progress of the nation is paved. That is, from social, economic, political, cultural, scientific and educational point of view, the importance of innovation in teacher education is accepted.

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