

Innovations in Teaching - Learning in Higher Educational Institutions in the Current Scenario

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ABSTRACT – The 21st century is an era of creativity and cataclysmic transformation. India has a tremendous need for educated labourers. To enhance the necessary abilities of the teachers and students, the most effective techniques for teaching and learning must be found. To nurture long-lasting and employable abilities, there is a major need to switch pedagogy from fact-based traditional lecture to interactive education. Innovation in education process is now crucial to solving this issue. Adopting the numerous techniques and tactics described in the paper will assist in achieving the goal. The current paper discusses cutting-edge teaching strategies used in the nation's higher education institutions.

Keywords: *Teaching, Learning, Innovation, Skills, Pedagogy, Nursing*

I. Introduction

Education makes the student literate and also adds rationale thinking, knowledge and self sufficiency. Innovation benefits both students and teachers and it develops creativity. Education to students should be incorporated in such a way that it should be filled with fun and thrill and not burden or bring boredom. Technological innovation and economic growth also depends on the way education is imparted as it paves the way to enable students gain knowledge and skill and values. The popular traditional methods of teaching with chalk and board OHP and lecturing which has been adopted in all institutions has its foundation in skinner's behavioural learning perspective. The multimedia learning process is innovative and it is a combination of various digital types. Problem based learning helps the students met the industry needs and they gain the necessary skills which makes them competent to face the society. [1]

The traditional method has lots of disadvantages which make the student feel that they are compelled to learn and they feel that learning is not enabling them to become confident. The short comings are:

- Insufficient interaction in the classroom
- No proper feedback from the student
- Theory is emphasized more
- No proper understanding of the concepts

II. Literature Survey : Innovation in Teaching-Learning

The innovative learning tools enable the students to think critically and use creativity in solving problems students are more motivated by incorporating digital media into the process of learning to tackle real life problems. [2] Innovation is a catalyst for development and well-being. The ongoing improvement of education depends on building an ecosystem that encourages innovation. It involves developing people's innovative abilities and making sure that the three key forces behind innovation—individual, organisational, and system learning—remain active. There are various tools which the

teacher can use to prepare her multimedia teaching contents, like the macromedia director and author ware which can integrate the media files to make it into a more presentable form for the learning of the students. Group projects can also be given to the students whereby they acquire knowledge and also learn to be cooperative and manage time to acquire their objectives. [3]

There should be a proper student – teacher relationship to foster a good learning environment. Both teaching and learning is a challenge and to progress forward we must be willing to change and modify accordingly to meet the industry demands. It has been proved by research that using humour in teaching is very effective in building a bond with the students. There is less stress in the classroom and the students feel relaxed and they communicate and respond better and it offers a conducive environment to learning. [4] The Z-A approach is stressed in today's world of application orientation. Students feel more motivated to learn when they are taught the practical implication of a particular concept. This makes the concept clear and there is lasting memory and the students when faced with a real life situation can easily apply their learning to tackle the situation. The use of dictionary should be encouraged and the meaning of the words used should be understood to the students to enhance memory. [5]

Technology is changing the way students learn and they feel more motivated to attend the classes. The tablet technology enables the teachers to make notes on the sheets which can be viewed by the student in the PC or laptop which has transformed the way the student learns. The old paradigm of teaching and learning has changed and the use of ICT has taken the learning to the next level where the teacher and the student can experiment with their creative skills and make the learning an enjoyable process. The teacher is no longer an instructor but a facilitator which has improved their relationship with their students. [6] The design and delivery of education to the learners is a great challenge and the rapid development of ICT provides more opportunities to both the student and learner to learn complex concepts in a more creative and intercultural method. The NAAC has made

quality assurance an integral part of HEI and the implementation of NEP is a mandate to meet the needs of the society. [7]

E-Textbooks offer the opportunity to study anywhere, anytime. They empower students to collect data and explore in depth. A fantastic, dynamic, creative and interactive learning forum is created through E – lectures and videos. The simulation technology creates realistic learning environment through AI and allows safe practice through making mistakes which will not harm any live being. The examination system has also changed through the use of innovation and computer grading. [8]

The use of MOOCs is widely adopted in HEI to offer variety to the learners from different disciplines to choose their own subjects of interest and they can learn in their own pace. Multidisciplinary learning in the UG course and Meta university concept allows for a more creative learning environment. [9] Innovations in education that are based on technology change the settings in which schools are operated. Generally speaking, they tend to expand learning contexts to include both the physical world and social and digital environments. They also introduce new actors and stakeholders—not the least of which are the education industries—to the educational system, each with their own aspirations for the future of education.

In place of Smart classrooms with smart boards are the need of the hour in every class to incorporate innovative and interactive learning. They enhance the visual learning and create a dynamic learning environment. The concept of flipped classroom and learning can make more interaction possible between the teacher and the student in the classroom which will increase the motivation of the students to attend all lectures. [10]

Christothea H et al; stresses the importance of critical thinking, innovation, problem solving and adaptability. They explore the new forms of pedagogy to enable complex skill development. They present some pedagogical approaches which are innovative and which can transform learning.

The following five dimensions were integrated A) Educational theories, B) Innovative pedagogy, C) Development of latest skills, D) research evidences and E) adoptive ability into the educational practice. They selected the following pedagogies – A) Teach back B) place – based learning, C) formative analysis, D) learning with drones and robots and E) citizen enquiry. They concluded that by the method of adopting the right pedagogy that has been experimented will reduce the gap between the existing teaching pattern and the educational vision. [11]

Peter S presents an analytical review of the innovation in educational field. He explains in detail about the various classification of innovation, the problems to innovation and the ways to increase the rate of innovation based transformation in the education system. He concludes after a literature survey and author search that the education system very badly needs effective innovative up scaling to meet the

high quality learning outcomes. He says focus should be given on teaching theory with practice, concentration on the learner, community, society and cultural implications. Sound pedagogy, with systemic research is the need of the hour. He says that the cost and time factor should also be given importance. [12]

The flipped classroom idea was researched by Liezel C and colleagues. It is referred to as a "flipped classroom" when classes are available online and class time is used to improve conceptual understanding and cognitive abilities. At a university in South Africa, they looked at how the flipped classroom was received by the students. A quantitative approach was used. 130 students were the subject of a 4-week data collection period using the student perception of instruction questionnaire. They came to the conclusion that the flipped classroom was very beneficial and fun [13].

Jae Hwa Lee explored the changes in perception in creative challenges and the creative personal identity before and after an interdisciplinary creative course among the first year college students. 764 students were selected and maximum students reported at the end of the course to have significant higher levels of creative identity. They concluded that the students were more motivated and their levels of confidence elevated. [14]

According to De Vries E. W. et al., the generation of innovative ideas by connecting items that have never been integrated before and which will be valuable in a given domain is creativity, which is a necessary 21st century ability. In a study on engineering students at a university, researchers looked at the role that rhizomatic concepts played in improving the students' perceptions of their own inventiveness. They came to the conclusion that rhizomatic education may have a favourable impact on how students perceive their creativity and emphasised the need for more research into this idea. [15]

Yu- Mi Wang et al; investigated the student's behavioural intention to use – VR - based learning systems individually. 149 respondents were tested using the partial least squares structural equation method. They found out from the study that the neck and shoulder pain positively influenced the ease of use. Estraversion and neuroticism also positively affected the perceived usefulness. V R is defined as the computer generated simulation of a 3 D image or artificial environment which will be experienced by the use of the sensory stimuli to interact in a natural manner using electronic tools. Estraversion refers to warmth, gregariousness, assertiveness, positive emotion and excitement seeking. Neuroticism refers to the tendency of the individual to be emotionally unstable, worried angry and hostile. [16]

From the perspective of the extended unified theory of acceptance and use of technology (UTAUT), Timmy H. T. et al. investigated the teacher's acceptance and use of MOOCs. They claimed that compared to other digital education models, Massive open online courses have received limited attention from the faculty. Online survey method was used to collect the information from the faculty members of the University of

Taiwan. Data analysis was used using partial least squares structural equation modelling. They discovered that instructors' behavioural intention to take up Massive open online courses was facilitated by social influence, monetary value, and facilitating factors. Hedonic incentive and effort expectations did not influence instructors' acceptance of MOOCs.

MOOCs are the classes which are open to anyone and it's online and they are called the massive open online course. The challenges of MOOCs for teachers are that, they have to devote time and money, the evaluation of pupils' performance is challenging, as they rarely provide feedback. [17]

Kalyani D et al; suggests useful innovative methods of teaching which can easily impart knowledge to the students. The various methods suggested are – incorporate audio - visual materials, supplement textbooks with filmstrips, movies and models, use mind mapping and brain mapping tools which increase their creativity. By motivating students to ask open-ended questions, rephrase observations in more scientific language, and create models to construct explanations, teachers can promote meaningful debate in their classes. Students get the ability to take turns and actively listen when they debate in a scientific manner. Brain storming session should be incorporated in a regular basis as these sessions enable the students to voice their thoughts. [18]

In her essay, Bahaa Mustafa discusses the employment of both cutting-edge technology and tried-and-true teaching methods. The goal was to investigate how cutting-edge virtual reality technology might be used to aid students in learning and comprehending various ideas. The newest programming tools were looked at.[19]

In order to describe the process of integrated imaging, Chuili Hu employed the virtual reality approach in the immersive teaching mode. She used 4 dimension light filled parameterization. They created a virtual reality-based immersive education system for colleges and institutions and tested it through experiments. They concluded that this model had good teaching effects. This provided more personalized learning space to the students to achieve class room optimization. [20]

III. Conclusion

In the HEI the use of innovation and technologies in teaching and learning is inevitable with the advent of NAAC and the national education Policy (NEP - 2020). Smart classrooms and flipped learning techniques enhance the interaction between the teacher and the learner which motivates the learners. Although the incorporation of technology has transformed learning the role of the teacher still holds an important plane in the teaching – learning process. The teacher is no longer a instructor but a facilitator who imparts not only knowledge but also teaches moral values to become a holistic human being to be competent in the upcoming demanding society.

IV. References

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