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Innovative Practices in Education

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Abstract

Education has been an important stake of human society, serving as the cornerstone of personal and societal development. In history, conventional educational approaches mainly depended upon face to face communication between teachers and students, sometimes supported by tangible materials like books and chalkboards .With the advancement of technology, students having mobiles in their hands and pockets, the education has undergone a sea-change. It is well said, "Old habits die hard.", so is true for the educational methodologies. If it is true that nothing can replace a teacher, then the fact cannot be denied that the Black Board and Chalk and talk method is one of the most effective ways of teaching. This old method may get disappeared or may get a new, advanced and updated outlook, the answer lies in the womb of future. Once upon a time, the mobile phone was looked down upon and the walls of a Higher Education Institution was inscribed with the caption, “Mobile Phones are Banned. If a student is found using the mobile phone in the college campus, he would be fined with five hundred rupees." But now in the Post-Covid Era, mobile phones have completely revolutionized the online education. It seems now that the mobile phones available in the pockets of the students have replaced that note-book of five rupees with which he used to enter the class-room in a reckless manner. Many new and innovative courses are available, even some are free of cost available on Government Portal, such as SWAYAM – MOOC, NPTEL etc. These courses can be called 'Study Webs of Active Learning for Young Aspiring Minds’. A student with competitive edge can explore new vistas of online coaching or online course at his own space sitting in his own room with just a click on the mouse away. The teachers during COVID-19 learnt that technology can surpass boundaries turning education system into an epicentre of a Global Village by fulfilling the dictum," Kar lo Duniya Muthi Mein" giving wings to the dreams of the future citizens of the country. Capacity Building of students and teachers took place during the adverse times of pandemic through MOODLE, MOOCS, KAHOOT, COURSERA, GOOGLE MEET, WEBEX etc. exposing both the communities to learning at one's own pace as well as teach by keeping in view the individuality of a learner. Therefore, the present research is an attempt to explore how the changing scenario has updated, modified and transformed the conventional as well as new methodologies of teaching and learning, thus giving international experience of learning through access, equity and quality in grooming skilled and employable youth for the world class job market fulfilling the slogan," Local is Global".

Key Words: Teaching, Learning, Innovative practices, Technology, Devices.

Once a question was raised, “Why is ‘Shrimad Bhagwat Gita’ such a long discourse between Lord Krishna and Arjuna?” The aparent answer has been that if a student is inquisitive like Arjuna, a teacher’s discourse would be as long as ‘ Shrimad Bhagwat Gita’. This holy scripture is a live example of its relevance in the present times and it best manifests the relationship between a student and a teacher. Undoubtedly, the effect of this religious scripture lies in its universality and the implications are rooted deep down among the lives of a large number of readership.(From the live lecture of Prof. Deepti Dharmani, Hon’ble Vice Chancellor, CBLU,Bhiwani).

Education plays a vital role in the progress and development of the society. Various teaching- learning strategies have been adopted by the teachers and educators to impart education. One of the most popular and traditional methods is ‘chalk and talk method’, which has immensely contributed towards the dissemination of knowledge. However, with the emergence of digital tools and online teaching options, there has been a drastic change in the education system. As a result the conventional teaching practices, marked by memorization and a focus on the teacher as the central figure are slowly being replaced by more interactive

and effective techniques. Educational innovations are propelled by technological advancements, research in pedagogy, and the requirement to accommodate various learning preferences.

The world of education has witnessed radical changes over the past two decades.In order to understand the implications of efficiency and effectiveness of teaching-learning system, educational technology comes into play with its growth as an advanced field of technology as a well defined field of education. According to S.S Kulkarni, "Educational Technology may be defined as the application ofthelaws as well as recent discoveries of science and technology to the process of education" .Its influence can be seen during entire teaching-learning process. On the other hand, technology of education is yet another aspect of the educational technology which served as a mode of instructional technology since ages. Even the cave - paintings were used as a medium of instruction, thus falling in the sphere of educational technology. Mythological ancient practices also add to the origin of educational technology. The tradition of Gurukul is one of the most pertinent examples of teaching in the past. As a part of formal education, kings sent their princes to Gurukuls. Lord Rama and his teacher sage Vashishtha is one such mythological example of teaching-learning process of Indian Education System.

During those ancient times, theoretical knowledge of 'Vedas' and 'Puranas' were imparted to the princes. They learnt values of life, the duties of kings and basic religious tenets to use them practically in their later lives. This old Indian Education System is very much like the present modern Indian education system. If we quote the example of Guru Vishwamitra, we learn that practical teaching came through learning the skills of fighting battles on the grounds when Lord Rama and his brother Laxman won over the demons. The learning of 'mantras' was used in the real life scenarios which helped them to face difficult as well as challenging situations using divine weapons.

In the modern educational system, the instructional methods thrived upon Bloom's Taxonomy at large. It met the learner's individual requirements. With the coming of the age of computer during the 1980s and 1990s, the teaching methods underwent a considerable change.With the passage of time, Internet based Computer Technology transformed the educational methods by the invention of World Wide Web. The Web or Web 1.0 was only for searching for digital content available for gaining information. This information became a platform for passing the knowledge from one source to another source. This platform of accessing knowledge dealt with several options of transferring it from electronic media to interactive media.

The arrival of "Web 2.0" encouraged the knowledge seekers to contribute their digital content for the usage of a vast number of learners. The broad spectrum of this platform has been a new way for knowledge contributors to reach knowledge seekers, thus bridging the gap and bringing people together on a common platform. Web 2.0 is a term which is considered a new innovation for bringing a very satisfying user experience. It also refers to the term e- Learning 2.0 as the content accessed, generated and disseminated through social sites like Wikipedia and others offered a learning platform through active interactions. (Downes,2007)

Another notable shift in technology based teaching-learning can be seen since the last decade. The integration of mobile devices and online platforms has given rise to another user friendly interface. This innovation is learner-centric giving him free choice to access, express and equate in line with new ways of getting education in his own space with the comfort of learning anywhere and anytime kind of framework surpassing the boundaries, thus giving him more freedom to learn, clear doubts and express his fears. Today's children are getting too much addicted to social networking sites available to disseminate subject-based content. It is ethical that policy makers zsure that in this sea of knowledge, a learner , especially below eighteen years can not be left to himself to explore. So the students of this age should be apprised of the relevant sites for accessing the content. Here a teacher's role is very necessary that good sites be encouraged whereas irrelevant sites be prohibited for access of young learners by frequently making them aware of the good and the bad consequences there of. The

subject of Computer Science is compulsory in schools as well as colleges. It is the duty of the Computer Science faculty to teach the students how to access relevant sites and not to waste time and energy in exploring irrelevant sites. All subject teachers can take their students in computer labs where computer teachers can apprise the teachers of arts, languages and social studies to explore the potential of social networking sites in the direction of boosting collaborative learning.

Here are some educational social media sites which serve as educational tools for students and teachers where faculty of Computer Science and Technology can collaborate to boost the technology enabled learning environment in an education system. Twiducate, Tween Tribune, Edu 2.0, Wikispaces Classroom, Edmodo, Skype, Minecraft Edu,Sumdog, Twitter,Webex, Coursera,Moodle, Kahoot, Google Meet, SWAYAM, NPTEL etc. are some of the recommended e-learning based social media platforms which can not only build a conductive environment of learning but also build bonds of healthy relations among teachers and students by harnessing the qualities of trust and faith. A teacher's presence as a facilitator and as a teacher-monitored learning through social media sites can groom students of 21st century in direction of handling new upcoming platforms of e-technology for using in a safe mode.

The students can voice their doubts and concerns in a fair and square manner by developing social media as a tool for free-thinking. Our Indian society is pacing fast on the model of 'Viksit Bharat' , 'Sakshar Bharat' , 'Saksham Bharat' , ' Digital India' so on and so forth. The development of soft skills is one of the biggest tools recommended for using social media by students. A passionate bond between teacher and taught can pay wonderful results. Blog-writing is one such two way communication skill in which diary style text entries are posted.This information is posted on the World Wide Web. The blogging sites are an extended part of news media. Edublogs are very popular among the students. This promotes interaction between teacher and taught whereas microblogging is aimed at very short posts.

What a student likes the most is chatting among his or her peer group. It is just like speaking to each other online thus giving privacy and comfort of sharing at one's own space. It forms the part of web conferencing service. At one point of time multicast communications promote point to point communications involving many receivers.Video conferencing comes handy when persons from different locations can not only communicate but also see each other. The full motion video images can be transmitted to the people at multiple locations. These videos are accompanied with high-quality audio for a satisfying experience . The teacher-student video-conferencing can boost morale of the students who are unable to ask questions or in a position when they are not able to become the part of physical teaching. Discussion Forum is a kind of discussion through the exchange of messages as the board can be read online. The interaction takes place by online bulletin board among the stake holders. Open Education Resources offer collaborative learning and teaching popularly known as OERs. The content created by the contributors keeps the option free for use by anyone, anywhere and at anytime. MOOCs (Massive Open Online Courses) necessarily require the presence of computer with an internet connection for access available for far more greater number of students without any restriction. A directive is issued to the Higher Educationa Institution to prepare a lounge to accomodate students who join MOOCs along with their traditional courses.

Moodle(Modular Object- Oriented Dynamic Learning Environment) is an open- source Learning Management System.It is also widely used by educational institutions from school level upto University level. It ensures learner- centric engagement.It also improves learning standards and better retention of subject contents by performing various tasks. Moodle also played vital role during COVID-19 as for continuity of education was a big concern during adverse times which bore its sweet fruits in terms of learning outcomes This proves the efficacy of this educational tool.It also triggered the creativity of teachers and enthusiasm of students at peak level.Its tracking feature supports efficient governance at administrative level too.Moodle has wide community engagement for reaching out to a network at global level.It integrates with

other softwares like Microsoft Teams, Google Workspace and other similar tools. It has emerged as a popular tool for collaborative learning too. Therefore , the educationist are well-aware that the entire education - system is undergoing digital transformation.Hence the future belongs to tech- savy teachers and learners. It is needless to say that Moodle can become a choice for the institutions who want to emergency as the leaders on the landscape of education.

Blended Learning Models: Combining Traditional and Innovative Digital Approaches

Blended learning models, blend face-to-face instruction with online and innovative digital learning experiences, creating a hybrid instructional approach. The digital tools help creating blended learning settings, giving teachers the option to merge traditional and digital methods to cater to different learner requirements. This online element enhances traditional teaching by giving students extra tools, chances to practice, and more flexibility in their schedule. Blended learning models support active engagement, student participation, and content mastery, while also catering to various learning preferences and situations (Sharples et al., 2016).Additionally, blended learning models provide educators with important information about student progress and performance using data analytics and assessment tools. Educators use these insights to adjust their teaching methods, offer specific help, and customize instruction for each student's needs. Blended learning environments promote on-going improvement and innovation by encouraging educators to constantly enhance their practices through evidence and feedback. The use of digital tools allows educators to adopt learner-centered approaches, personalized learning, and blended learning models. By utilizing the capabilities of these tools, teachers can establish interactive and welcoming learning spaces that enable every student to thrive.

Student Engagement and Learning Outcomes

Enhancing Student Engagement through Interactive Digital Tools: Digital tools provide educators with various chances to improve student involvement through interactive, immersive, and tailored learning experiences. These instruments promote engagement, teamwork, and investigation, ultimately promoting better comprehension and memory of concepts among students. Interactive Digital tools like educational games, simulations, virtual labs, and multimedia presentations engage students and spark their curiosity. Educators can inspire active learning and problem-solving by creating engaging environments through gamifying learning experiences and including competition, exploration, and rewards. Furthermore, interactive technologies like online discussion forums, collaborative document editing platforms, and virtual classrooms facilitate peer interaction, knowledge sharing, and social learning experiences (Sharples et al., 2016).

Challenges and Limitations

Digital Divide :Access and Equity Issues: A major hurdle in utilizing the digital techniques in education is the digital divide, which signifies the difference between individuals with technology and internet access and those without. Accessing Digital tools and dependable internet connection is crucial for engaging in digital learning, accessing online resources, and participating in remote instruction. Yet, inequalities in technology and broadband infrastructure availability continue, especially within marginalized communities, rural regions, and socio economically disadvantaged groups.

Technological Barriers and Infrastructure Requirements

Overcoming technological barriers and meeting infrastructure requirements is another important challenge in implementing Digital tools in education. These tools typically need dependable hardware devices, software apps, internet connection, and technical support systems to operate efficiently. Nevertheless, schools, especially those in low-resource areas, may not have the needed equipment and materials to facilitate the widespread usage of digital tools.

Cyber security and Privacy Concerns

An important factor in utilizing Digital tools for education is taking into account cyber security and privacy issues. Digital learning platforms frequently require the handling of sensitive student information such as personal details, academic records, and communication logs.

Insufficient cyber security measures and protocols for data protection can leave educational institutions and students vulnerable to privacy breaches, data theft, and cyber threats.

Educational establishments need to give importance to cyber security and put in place strong data protection measures to protect student privacy and secure sensitive information. This involves using encryption methods, access restrictions, and verification processes to avoid unauthorized entry to student data. Furthermore, teachers need to receive instruction on the most effective methods for ensuring data security and privacy compliance in order to properly handle and store student information (Sharples et al., 2016)

Many insights can be gained from successful uses of Digital tools in education, pointing out important factors for success and best methods for integration. It is crucial to ensure that Digital tools complement and enhance instructional practices instead of detracting from them by aligning with curriculum standards and learning objectives. Furthermore, it is essential to offer sufficient training and professional growth chances for teachers to enhance their confidence, abilities, and readiness in effectively incorporating Digital tools into teaching.(Selwyn, 2011).

Conclusion Innovative practices in education are reshaping the way students learn and educators teach. Technology-integrated education, project-based learning, personalized learning, gamification, and flipped classrooms offer dynamic and effective ways to enhance student engagement, knowledge retention, and skill development. While these practices present challenges, they also offer immense opportunities for the future of education. As educational institutions continue to adapt and evolve, embracing innovation will be key to preparing students for success in an ever-changing world.

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