EMERGENCE OF DIGITIZATION IN EDUCATION: TECHNOLOGIES, CHALLENGES AND FUTURE OF ONLINE EDUCATION

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ABSTRACT

Covid-19 has given a greater impact in all the fields including Education. India as a country had never perceived online education before but the pandemic forced us to resort to it sooner than we thought we were ready to adapt to it. EdTech is a new phrase that integrates Education and Technology to facilitate online teaching-learning. Computerized gadgets and devices do give understudies to participate in amusement, yet in addition create more open doors for students to take part in learning exercises. Digital India is a campaign launched by the Government of India on July, 2015 in order to ensure the Government's services are made available to citizens electronically. Unexpectedly, we are pushed to adapt digitization in education also. Online teaching and learning was not that much easier in the beginning and still it has its limitations. This article includes how the digitization spread over in education, technologies used for online education, challenges and future of online education in India.

I.   INTROUCTION

India has been reinforcing its schooling system beginning around 2009 - when the Right to Education Act (RTE) was passed, ordering free and obligatory training. Be that as it may, this progress has been essentially obstructed by the Covid-19 pandemic. Uninterrupted education relies on the supply of and access to digital infrastructure including the web, laptops and phones. The very first totally online course was presented in 1984 by the University of Toronto. The Open University in Britain was one of the primary colleges on the planet to start online distance learning, in the mid 1990s. E-learning in India started in 2008 and online schooling commenced in 2005. Despite e-learning was introduced in 20th century, covid-19 pandemic made it popular today all over the world

including India. The lockdown circumstance brought about by COVID-19 stops generally scholastic movement and adversely affects understudies. Luckily, mechanical progression took into consideration making a virtual study hall by associating instructors with understudies from home. Making internet learning more important is a huge test as of now.

II. EDUCATION TECHNOLOGY (EDTECH)

EdTech is the short form of Education Technology. The covid-19 made every teacher and student to come out from traditional teaching and to enter into the technical learning. There are various platforms and technologies that are available for education. Zoom, Google Meet, Microsoft Teams, GoTo Webinar, Zoho Meeting, GoTo Meeting, Adobe Connect are some of the platforms popularly used for online education during pandemic.

1. Zoom: Zoom offers hearty cooperation and commitment apparatuses as a component of its sans standard permit, including the capacity to interface utilizing VoIP or through conventional telephone when web isn't free. Overseers, instructors, guardians, and understudies likewise approach: Limitless gatherings for up to 100 members, HD sound and video, Screen sharing, White boarding, Comment, Breakout Rooms, Virtual foundations, In-meeting talk, Nearby recording, Nonverbal input. For organizations requiring a more robust feature set and administrative control, Zoom's Education plan provides the above capabilities and more at a low cost, including: Unlimited meetings for up to 300 participants, Single sign-on (SSO), LTI integration to support most LMS platforms, Enhanced user management to add, delete, and assign add-on features, Advanced admin controls for enabling/disabling recording, chat, and notifications, 500 MB of cloud recording, Cloud recording transcription ,Usage reports to track participation.

2. Google Meet: Meet can enable you to advance instructing and learning with cutting edge highlights like breakout rooms, live streaming, participation following, Q&A, surveying and more when you pursue the Teaching and Learning Upgrade or Education Plus.

3. Microsoft Teams: A couple of highlights of Microsoft Teams that are useful for web based picking up are: Sharing of tasks with educators, Sharing of ventures with different understudies, The capacity to visit with teachers and individual understudies, Online gatherings for when you need or need that eye to eye association.

4. GoTo Webinar: GoToWebinar empowers online class facilitating for up to 3,000 individuals for occasions like showcasing, preparing, and corporate correspondences. Highlights incorporate adaptable planning, programmed update messages, moment join joins, intelligent commitment instruments, online course execution experiences, and that's just the beginning.

5. Zoho Meeting: Zoho Meeting offers various security elements to protect your gatherings from interruption, for example, the Lock Meetings work, association level video

settings, and Entry/Exit notices. Zoho Meeting likewise scrambles sound, video, and screen sharing to protect your data as it goes through the web.

6. GoTo Meeting: Instructors and guardians can trust GoTo to protect understudies while at school and during on the web examples. TLS encryption and 256-cycle AES encryption very still safeguards touchy visit, meeting, recording, notes, and that's only the tip of the iceberg. Secure video conferencing highlights for meeting has incorporate secret key insurance and meeting locks.

7. Adobe Connect: Adobe Connect for virtual homerooms: Convey drawing in virtual growth opportunities, Step through your educational program and exams online as opposed to managing endless delays or retractions, Run live intuitive meetings as well as gathering projects inside breakout rooms, Instruct understudies of all capacities on all gadgets.

A little review was done in 2020 among Engineering understudies (Shivangi Viral Thakker, 2020) an ideal scope of 350-400 reactions was picked and the study structure was shut on getting 364 reactions from 49 schools across India.
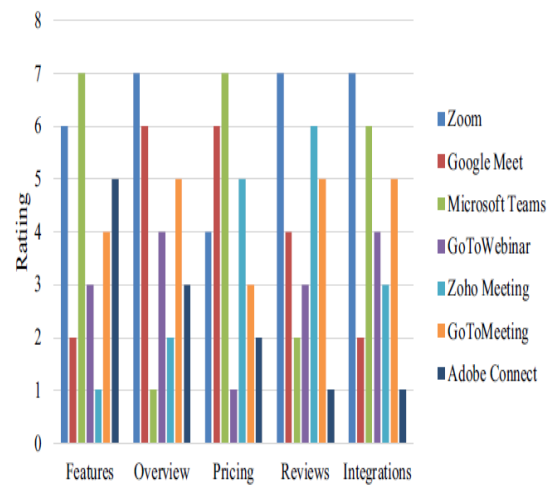

Figure 1: Overall Aspect comparison

The above figure (Shivangi Viral Thakker, 2020) shows that Zoom and Microsoft Teams are the suitable platforms for online learning.

III.   CHALLENGES OF ONLINE EDUCATION

Albeit advanced training has significant qualities and gives novel admittance to quality training, the utilization of this stage has impediments that can present potential difficulties to the achievement of any internet based courses.

1. **Absence of Motivation in Students:** Endless expanses of texts, tests, continuous learning tasks and MCQ's have prompted understudies losing inspiration to continue returning to the learning entry. Understudies grumble of lacking inspiration because of an absence of relational touch between the

understudies and the educator in the internet based classes. The requirement for actual collaboration between the understudies is likewise a need for keeping up with commitment which the web based learning procedure has no solutions for yet.

2. **Advanced Literacy and Technical Issues:** However the new age is capable in working with PCs doesn't really mean Digital Literacy. To capably learn through a web-based framework requires understanding the functions of numerous products, which presents an enormous expectation to learn and adapt. Likewise, understudies need to comprehend online correspondence decorum and realize understudy freedoms as well as certain limitations in an internet learning climate.

A more serious issue is with consistent specialized issues looked by the two educators and understudies on these stages. These issues regularly need specialized help to amend, causing successive interruption in the learning stream.

3. **Absence of EdTech and Online Learning Options for Special Needs of Students:** The fragment of understudies who have been totally overlooked in the development of web based learning is understudies with extraordinary necessities. Exceptional requirements understudies need a more customized and active technique for educating.

However innovation has improved definitely, it is still vigorously reliant upon the requirement for a specialist or an educator to be there full-time to direct the understudy through the undertakings. These issues have made unique requirements understudies fall behind others in their scholarly interests.

4. **Absence of In-person Interaction:** The actual presence inside a homeroom with an educator and individual companions regularly prompts an environment that can't be duplicated through virtual means. The actual model likewise guarantees discipline as understudies can't turn off webcams and snooze off. Actual homerooms likewise take into consideration instructors to give more private thoughtfulness regarding every understudy's necessities. Be that as it may, intuitive eLearning modules can assist with further developing understudy commitment.

5. **Restricted admittance to appropriate review material:** Untrained educators are restricted by their lacking specialized capabilities as well as their inadequate abilities and openness to methods of getting to applicable advanced course material. That, they have no choice except for to get, completely all alone, the know-hows of arranging the course satisfied, breaking that substance into reasonable examples, changing over the illustrations into electronic arrangements - utilizing applications like PPTs, Excel sheets, significant video accounts as additionally designs and livelinesss - and introducing something similar to understudies as animating review material. It is praiseworthy that numerous educators are preparing

themselves to involve the open assets for taking the material on the web.

6. **Lacking observing of discipline:** The fundamental goal of the instructor is to work with quality learning among the understudies zeroing in on the discipline required for learning with and among others. Homeroom instructing is unmistakably more qualified to the legitimate upkeep of discipline and execution of ordinarily acknowledged rules for a free from any and all harm learning climate. In virtual classes, be that as it may, with educators not having real eye to eye connection with understudies and understudies not submitting to thoughts of learning with and among peers, it becomes hard for instructors to keep up with discipline and screen undistracted learning. For compelling internet gaining from home, guardians or other relatives genuinely must assume the liability of giving understudies the suitable learning climate.

IV.   FUTURE TECHNOLOGY TRENDS IN ONLINE LEARNING

a) Virtual and Augmented Reality

Carrying out increased reality in understudy learning can be valuable, however the expense in some cases can be high. Broadened reality innovations like AR and VR have upset the instruction business by empowering vivid growth opportunities. Expanded the truth is primarily coordinated to mix advanced data with the actual world's data. It likewise empowers clients to communicate with virtual articles and view the actual climate at the same time. Then again, VR includes continuous vivid reproductions totally through advanced designs. In this advanced period, VR and AR innovation have made books and talks seriously captivating, intelligent, and vivid. Likewise, they've turned into a doable answer for snatching understudies' concentration and consideration.

b) Customized and Adaptive Learning

In this computerized time, customized learning is moving in the EdTech market. ELearning stages give a proficient and adaptable learning climate by empowering understudies to learn at their own speed and spot. Likewise, computerized instruments assist educators with making learning vivid, drawing in, and cooperative. Versatile tests assist educators with sorting out the traps and difficulties that every understudy faces and work on those specific regions. They likewise guarantee students are engaged with figuring out how to bring out compelling outcomes.

c) Robotic Process Automation (RPA)

Mechanical interaction mechanization makes it simple for you to execute dull assignments and dreary weighty administrative work with zero blunder rate and more proficiency. Through RPA, you can computerize a few assignments like regulatory, money, and HR errands, scholastic ones, and a lot more at your instructive organization. RPA instruments can productively do somewhere around 60-70% of these assignments. By executing RPA, biometric validation, booking gatherings, enlistment processes, instructor replacements, making charge structures, study hall learning, internet learning, and appraisal assignments will be empowered.

d) Cloud-Based EdTech Platforms

Attributable to quick mechanical headways, coordinating cloud innovation into the schooling

business is acquiring notoriety. Whether it's school the executives or scholastic substance, everything can be overseen by cloud innovation. Through shrewd cloud-based frameworks, EdTech stages can give a broad scope of scholarly administrations like virtual classes, online appraisals; test the board, directing tests, and schoolwork arrangements, alongside constant following, moment reviewing, and some more.

e) Gamification

The execution of gamification in schooling is the best advancement approach for expanding students' commitment and spurring them by remembering intriguing game components and plans for instructive conditions to make learning fun, vivid, and habit-forming. Rousing individuals isn't new, yet until 2010, the term gamification hadn't entered standard jargon.

V.   CONCLUSION

India as a developing country has been empowering its face on every field. Though Covid-19 had changed the fate upside down, we are recovering gradually. Education is a predominant one which recovers with technology and progress successfully. Digital India will come true soon with the daily advent of technology. Though technology tempts us to go the evil way in some situations, it also raises the human lives. We have to choose our right path since we are special of God's creation of the world.

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