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Post Covid Teaching Approaches and Methodologies

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ABSTRACT: Education is the pillar of every country's development. The COVID-19 has produced a transformation in society that has, in turn, influenced the field of education. There has been a paradigm shift from face to face teaching to technology based curriculum delivery. Online learning during covid-19 pandemic has awakened and affirmed the necessity of learning based on digital technology. The face to face learning is still necessary. As a result, the learning pattern developed during post-covid pandemic combines face to face and online learning called as blended learning. It is a way of learning, combining the traditional way of face-to-face classroom instruction and teaching with the help of digital learning platforms and tools. This mode of learning is also known as Hybrid Learning, as it integrates technology and digital media with the traditional teacher-led classroom activities, providing more flexibility for students to customize their learning experience. The online mode of classes can be categorically classified under two heads, synchronous and asynchronous, based on the conduction of the classes. Synchronous mode refers to the type of learning where students and teachers are present at the exact location and at the same time for teaching and learning. This comprises in-person classes (where teachers and students are present in the same classroom), online meetings and live streaming of classes or demonstrations on Zoom, MS Teams, Google meet, and other platforms. Precisely it is a "real-time" type of learning where a group of learners is engaged simultaneously. Hence, it enables collaborations amongst the students and teachers to ask doubts and get them resolved on the spot. For example, webinars, online classrooms, and video conferences are examples of synchronous classes. Asynchronous mode refers to the universal form of teaching and learning that does not happen simultaneously or in the same classroom. The students are not present in the class at a prescribed time. However, they have access to the previously recorded lecture videos of their teachers in addition to online study materials. Students can respond through emails and any social media network. The teachers generally record their classes. This recording is made available to the students; it is a learner-centered approach, where the students can undertake any course without fulfilling the criteria of being present at the same time and exact location as the tutor. For instance, blogs, you tube videos, and online lectures are examples of asynchronous classes. One cannot deny the importance of the offline education system; the future would be directed towards blended learning guided towards online pivots and a digital mindset.

KEYWORDS: Covid-19, blended learning, synchronous, asynchronous

I. INTRODUCTION

The COVID-19 pandemic has caused an unprecedented crisis in all areas. In the field of education, this emergency has led to the massive closure of face-to-face activities of educational institutions in more than 190 countries in order to prevent the spread of the virus and mitigate its impact. Many of the measures have adopted in response to the crisis are related to the suspension of face-to-face classes at all levels, which has given rise to three main areas of action: the deployment of distance learning modalities through a variety of formats and platforms (with or without the use of technology); the support and mobilization of education personnel and communities; and concern for the health and overall well-being of students.

The COVID-19 pandemic has changed our lives completely. It has created many opportunities to come out of the rigorous classroom teaching model to a new era of digital model. The lockdown has compelled many educational institutions to cancel their classes, examinations, internships etc. and to choose the online modes. Initially, the teachers and the students were quite confused and didn't understand how to cope up with the situation of this sudden crisis that compelled closure of the educational activities. But latter on all realized that the lockdown has taught so many lessons to manage with the emergence of such pandemics. Thus, COVID created many challenges and opportunities for the educational institutes to strengthen their technological knowledge and infrastructure (Pravat, 2020a). The lockdown has given a ray of hope for teachers and students to continue their educational activities through online. The teachers assigned work to students via internet, delivered lectures, video conferencing, using different Apps like Zoom, Google meet, Facebook, Youtube, and Skype etc. There are Whatsapp groups of guardians, teachers, students and parents for effective communication through which they are always in touch to share their difficulties through this e-medium.

ISSN: 3105 - 9503 International Journal of Multidisciplinary Research in Science, Engineering, Technology and Management (IJMRSETM)

It is the first time in the history of the Indian education system, there has been a shift from a face-to-face teaching model to a completely online one (Zimmerman, 2020). The extensive use of digital media is in place. The student community is also deeply affected. They have had to let go of their campus life, stay indoors, and attend online classes (Chaturvedi and Pasipanodya, 2019; Govindarajan and Srivastava, 2020). The COVID-19 pandemic has provided us with an opportunity to pave the way for introducing digital learning (Dhawan, 2020). The Union Ministry of HRD (Human Resource Development) has made several arrangements for conducting classes for the students through the online portals and through the educational channels to continue the learning. The government has provided MOOC (Massive Open Online courses) is partnering with several online learning platforms which will provide various facilities like freely accessible video lectures, digital libraries, etc..,. It has provided an opportunity for the students as well as teachers that "Learning can be done anywhere" when we desire to transform knowledge. Nowadays there is having number of facilities for learning like YouTube, Google Classroom, Google Meet & Zoom to conduct free online classes to the students. Online learning is still new, and it is continuously evolving by the rapidly changing technologies. More efforts are required by all online educators to integrate pedagogy with technologies in order to enhance student learning. Online learning can be termed as a tool that can make the teaching–learning process more student-centered, more innovative, and even more flexible. Online learning is defined as "learning experiences in synchronous or asynchronous environments using different devices (e.g., mobile phones, laptops, etc.) with internet access. In these environments, students can be anywhere (independent) to learn and interact with instructors and other students" (Singh & Thurman, 2019).

II. INITIATIVES OF GOVT. OF INDIA ON EDUCATION DURING COVID-19

To prevent spread of pandemic COVID-19, the Government of India has taken number of preventive measures. The lockdown has accelerated adoption of digital technology. It has provided a chance to develop new and improved professional skills/knowledge through online learning in more efficient and productive way. Online learning is the best solution during this pandemic Covid-19 situation (Pravat, 2020b). So, the digital India vision of the government is emerging as a vital tool for solving the present crisis due to Covid-19. It is a fact that technology-based education is more transparent with all respect. ICT initiative of MHRD (eBroucher- https://mhrd.gov.in/ict-initiatives) is a unique platform which combines all digital resources for online education. The digital initiatives of MHRD for secondary as well as higher education during COVID-19 are listed as below:

Secondary Education

- **Diksha** portal contains e-Learning content for students, teachers, and parents aligned to the curriculum, including video lessons, worksheets, textbooks and assessments. Under the guidance of its national boards of education (CBSE) and NCERT, the content has been created by more than 250 teachers who teach in multiple languages. The app is available to use offline. It has more than 80,000 e-Books for classes 1 to 12 created by CBSE, NCERT in multiple languages. The contents can also be viewed through QR codes on textbooks. The app can be downloaded from IOS and Google Play Store. Website: https://diksha.qov.in or https://seshaqun.qov.in/shaqun
- **e-Pathshala** is an e-Learning app by NCERT for classes 1 to 12 in multiple languages. The app houses books, videos, audio, etc. aimed at students, educators and parents in multiple languages including Hindi, Urdu, and English. In this web portal NCERT has deployed 1886 audios, 2000 videos, 696 e-Books and 504 Flip Books for classes 1 to 12 in different languages. Mobile Apps is available. Website: http://epathshala.nic.in or http://epathshala.qov.in.
- **National Repository of Open Educational Resources (NROER)** portal provides a host of resources for students and teachers in multiple languages including books, interactive modules and videos including a host of STEM-based games. Content is mapped to the curriculum for classes 1-12, including aligned resources for teachers. It has a total of 14527 files including 401 collections, 2779 documents, 1345 interactive, 1664 audios, 2586 images and 6153 videos on different languages. Website: http://nroer.qov.in/welcome

Higher Education

- **Swayam** is the national online education platform hosting 1900 courses covering both school (classes 9 to 12) and higher education (under graduate, post graduate programs) in all subjects including engineering, humanities and social sciences, law and management courses. The unique feature is that, it is integrated with the conventional education. Credit transfers are possible for SWAYAM courses (max. 20%). Website: https://swayam.gov.in
- **Swayam Prabha** has 32 DTH TV channels transmitting educational contents on 24 x 7 basis. These channels are available for viewing all across the country using DD Free Dish Set Top Box and Antenna. The channel schedule and other details are available in the portal. The channels cover both school education (classes 9 to 12) and higher education (undergraduate, postgraduate, engineering Out-of-school children, vocational courses and teacher training) in arts, science, commerce, performing arts, social sciences and humanities subjects, engineering, technology, law, medicine, agriculture. Website: https://swayamprabha.gov.in/

ISSN: 3105 - 9503 International Journal of Multidisciplinary Research in Science, Engineering, Technology and Management (IJMRSETM)

➢ **e-PG Pathshala** is for postgraduate students. Postgraduate students can access this platform for ebooks, online courses and study materials during this lockdown period. The importance of this platform is that students can access these facilities without having internet for the whole day. Website: https://epgp.inflibnet.ac.in/

III. STAGES OF TRANSITIONS IN LEARNING ENVIRONMENTS

There are basically three stages of transition in learning environment-Traditional learning environment (TLEs), Online learning environment (OLEs) and Social Innovative learning Environment (SILEs) .The transitions from traditional learning environment (TLEs) before Covid-19 through online learning environment (OLEs) during the pandemic investigates to innovative learning environment (SILEs) after the pandemic.

- The first stage is Traditional Learning Environment (TLEs) before the Covid-19 pandemic. Characteristics of this stage includes physical classrooms where students/teachers have to attend classes at campus/school, teacher-based learning where teacher is the transmitter of knowledge, many of educational materials and books are printed, transition of knowledge approach and many of ICT tools are part of classrooms. In traditional learning environments, teacher is the transmitter of knowledge, controller of class and responsible for all activities and students most of time are receivers of instructions. Traditional learning focuses on rote learning and memorization in addition to examination as the end of educational process.
- The second stage introduces the approaches and techniques in Online Learning Environments (OLEs) during the Covid-19 pandemic. Main features of this stage include learning from home, online classes, student-based learning, interaction environment between students and teacher, e-learning books and materials and creating knowledge approaches. Online learning/teaching process also includes many different approaches like Learning Management Systems, virtual classrooms, MOOCs and many entertainment applications. In online learning environment, the use of textbooks is very rare where students prefer to use e-books, presentations and audio and video content. The learning materials remain the same in traditional learning with little difference where all of these materials became e-learning materials.
- In Social Innovative learning environments, there are many predictable specifications of social innovative learning environments stated after facing Covid-19 pandemic such as tech-rich spaces, interactive platforms, Learning based on ICT-BL, Community learning environment (CLE), students/teacher are learning/teaching everywhere internet available, social media interaction and innovative applications of knowledge. In this stage, there is a specific selection on the use of ICT and teaching is conduct through innovative and open social environments. In SILEs, there is no physical classroom or just learning online at home, but the space of learning is anywhere has internet access and mobile phone such as coffee shops, clubs and open space outdoors. Moreover, social media has enriched learning process where students/teachers are able to interact and communicate anytime anywhere easily. In SILEs, learning space is not restricted by physical boundaries and classrooms transformed to social networks and groups in social media applications. Facilitating learning spaces depend on features of social media applications and how they are comfortable, affordable, reachable and easy to use.

IV. POST -COVID TEACHING STRATEGIES

The Education system needs strategies on how to prepare teachers and students to respond effectively and efficiently after COVID-19. Teachers may not teach all the time in a face-to-face classroom; students may not learn in the face-to-face class all the time. After the COVID-19 pandemic, the education system needs to prepare everyone to be flexible and adapt quickly to various learning platforms. Some of the teaching Strategies are-

✓ **Flipped Learning and Collaborative Learning**

Flipped learning instructional strategy (also known as “flipping or inverting” a classroom) is a teaching approach in which the class time is re-purposed for inquiry, application, and assessment in order to better meet the needs of individual learners while course materials are left for the learners to study at home. The course materials might comprise of readings, pre-recorded video lectures, or different sorts of assignments. In class activities are designed for students to gain practice in applying the knowledge gained prior to class.

Collaborative learning is an educational approach in which the strength of working in groups or a team is utilized to solve problems, complete different tasks, or learn new concepts together. This approach is an engaging process leading to synthesis and processing of concepts rather than just rote memorization. The students work with each other on collaborative projects and understand the concepts by critically discussing and analyzing these concepts.

These strategies could be quite helpful in teaching students the subjects requiring no field work or laboratory experiments.

ISSN: 3105 - 9503 International Journal of Multidisciplinary Research in Science, Engineering, Technology and Management (IJMRSETM)

✓ **Synchronous and Asynchronous learning**

- Synchronous learning requires simultaneous attendance at scheduled lectures. This could be either in the traditional classrooms or in the online classroom environments. The latter might involve scheduled video conferences, live streaming of lectures, scheduled quizzes and assignments, etc.
- Asynchronous learning provides freedom to students to learn at their own pace allowing access to course materials, ask queries, and practice their skills at any time based on their liking. This is mostly possible through the online courses offered through various modes.

✓ **Blended Learning**

COVID-19 has accelerated adoption of digital technologies to deliver education. Educational institutions moved towards blended mode of learning. It encouraged all teachers and students to become more technology savvy. New ways of delivery and assessments of learning opened immense opportunities for a major transformation in the area of curriculum development and pedagogy. It also gives access to large pools of learners at a time.

✓ **Use of Google tools**

Google docs: Google docs is online Word processing software where all the documents and files can be saved on the Google Drive linked to the Gmail account for free. It is an efficient tool for collaborative writing as well as collaborative brainstorming. The main benefit associated with collaborative brainstorming is that any changes/edits made in the documents by any member of the group can be immediately observed by the other members of the group.

Google Slides: It empowers teachers to build presentations right in the web browser without the need to download any special software. Multiple people can work on slides at the same time, and all can see whatever people change right when they make them, and every change is automatically saved providing a collaborative atmosphere. It is also helpful for teachers in making short duration videos by adding their own audio in the slides.

Google Classroom: Classroom is a free web-based platform that integrates all Google Suite services for education, including Google Docs, Gmail, Google form, Google slides and Google Calendar. It is a great tool to help teachers in creating specific classes for different subjects, distribute assignments, communicate, and stay organized. Teachers can quickly see the status of assignments, and provide direct, real-time feedback and grades right inClassroom.

Google Forms: Google Forms is a web-based app used to create forms for data collection purposes. Teachers can use Google forms to prepare surveys, quizzes, or event registration sheets. The form is web-based and can be shared with respondents by sending a link, emailing a message, or embedding it into a web page or blog post. Data gathered using the form is typically stored in a spreadsheet and can be downloaded in several formats, like Excel spreadsheet or a pdf document. It allows teachers to ask both open-ended and close-ended questions such as multiple-choice, checkboxes, paragraph, scale and grid-based questions.

Google Sites: Google Sites allows one to easily develop a website by adding pages and elements within the page. Teachers can choose from custom layouts that have different elements laid out in a nice view. It is useful for the teachers – particularly extension professionals – to showcase their digital portfolio highlighting their best work. It could also be used to showcase the courses taught, research conducted, and publications of the teacher. It could be easily connected to a domain name (internet address like .com, .org, .tech, .edu) to provide a more professional outlook.

✓ **Use of video conferencing platforms**

Google Meet: This video conferencing solution is offered to any Google user – to connect through an online meeting with up to 100 participants for up to 60 minutes per meeting. The educational institutions and organizations with a subscription to Google suite services can conduct meetings with up to 250 internal or external participants, and live stream to up to 100,000 viewers within a domain. Some of the unique features of Google Meet are live captioning during meetings and compatibility across different browsers. URL: https://apps.google.com/meet/

Zoom Meetings: It offers built-in tools for screen sharing, HD video and audio calls along with features to conduct polls and create separate small breakout groups. The free version allows the user to host up to 100 participants and have unlimited 1:1 meeting for 40 minutes duration. The interface is quite easy to navigate and operate with various scheduling options. URL: https://zoom.us/meetings

Cisco Webex Meetings: It allows a maximum of 200 people to join from a video device or the Webex meetings app without any paid subscription. It can host online meetings with HD video, audio and screen sharing capacity. The user experience is sometimes quite challenging. It takes about one minute to get into a meeting and does not offer the most intuitive interface. But the scheduling and joining of meetings are quite easy. URL: https://www.webex.co.in/

ISSN: 3105 - 9503 International Journal of Multidisciplinary Research in Science, Engineering, Technology and Management (IJMRSETM)

V. CONCLUSION

COVID-19 has impacted immensely to the education sector of India. Though it has created many challenges, various opportunities are also evolved. The Indian Govt. and different stakeholders of education have explored the possibility of Open and Distance learning (ODL) by adopting different digital technologies to cope up with the present crisis of COVID-19. The priority should be to utilize digital technology to create an advantageous position for millions of young students in India. It is need of the hour for the educational institutions to strengthen their knowledge and information technology infrastructure to be ready for facing COVID-19 like situations. The University Grants Commission in 2021 introduced a blended model of teaching and learning in universities and colleges, where up to 40 percent of any course can be taught in online mode and the rest of the 60 percent can be taught in the classroom. This step has been welcomed by the teachers and students as many of them had to relocate due to the pandemic and this allows them to continue their learning, providing them greater access to quality education. Teachers also get more time for personal interaction with the students, it opens a possibility of a greater teacher-student interaction, better empowering the students with knowledge and skills. But these efforts are met a lot of challenges as well, like, lack of digital infrastructure, internet facilities, digital awareness, and many such, to make it difficult for all learners to be part of the nationwide digital movement. The lesson learnt from the COVID-19 pandemic is that teachers and students/learners should be oriented on use of different online educational tools. After the COVID-19 pandemic when the normal classes resume, teachers and learners should be encouraged to continue using such online tools to enhance teaching and learning.

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