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A Virtual Study Meetings During the COVID – 19 Pandemic System for The New Age: Video Conferencing as A Mode of Communication

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ABSTRACT

Educational institutions (schools, colleges, and universities) in India are currently based only on traditional methods of learning, that is, they follow the traditional set up of face-to-face lectures in a classroom. The aim of the study is to analyses the opportunities and challenges of emergency remote teaching based on experiences of the COVID-19 pandemic. The sudden outbreak of a deadly disease called Covid-19 caused by a Corona Virus (SARS-CoV-2) shook the entire world. The World Health Organization declared it as a pandemic. This situation challenged the education system across the world and forced educators to shift to an online mode of teaching overnight. This is work & study focuses on the Students, Teachers, Business Person & any other person on the impact is good, the bad and the ugly of using videoconferencing for work-related meetings during the COVID-19 pandemic. Three were tied to camera and microphone issues, two involved eating and meeting management issues. The article includes the importance of online learning and Strengths, Weaknesses, Opportunities, & Challenges (SWOC) analysis of e-learning modes in the time of crisis. The social challenges are mainly related to the lack of human interaction between teachers and students as well as among the latter, the lack of physical spaces at home to receive lessons and the lack of support of parents who are frequently working remotely in the same spaces.

KEYWORDS Education, Online Learning, Technological Challenges, Virtual Meeting, Videoconferencing

I. INTRODUCTION

The deadly and infectious disease Corona Virus also known as Covid-19 has deeply affected the global economy. This tragedy has also shaken up the education sector, and this fear is likely to resonate across the education sector globally. The Covid-19 pandemic outbreak forced many schools and colleges to remain closed temporarily. Various schools, colleges, and universities have discontinued in-person teaching. As per the assessment of the researchers, it is uncertain to get back to normal teaching anytime soon. As social distancing is preeminent at this stage, this will have negative effects on learning opportunities. Educational units are struggling to find options to deal with this challenging situation. These circumstances make us realize that scenario planning is an urgent need for academic institutions [1].

Ministries of education in different countries have recommended or made it mandatory to implement online learning at all school levels in various countries. This decision has also been supported by UNESCO [1], which has declared that online learning can help stop the spread of the virus by avoiding direct interactions between people. UNESCO [3] has additionally provided a list of free educational platforms and resources that can be used for online learning according to the needs of each educational institution, providing social care and interaction during school closures. Current trends toward globalization and the functional integration of dispersed economic activities, an increased number of multiunit companies, and more project teamwork have made the ability to transmit information between external business partners and within multiunit companies essential for enterprises in the postindustrial knowledge economy [4]. India's apex regulatory body of higher education, UGC, has taken the present educational scenario very seriously and put some efforts proactively to resolve the deadlock of completing courses and examinations in on-going semesters as well as issued circular regarding the academic calendar after the recommendations of one of the committees constituted by UGC itself. It has also become mandatory for all the universities in India to complete the 25% syllabus through online teaching mode and 75% face-to-face interaction [5].

II. LITERATURE REVIEW

- Online Learning & E-Learning

The author of [6] describes 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".

In [7] authors have thoroughly reviews amidst this deadly virus spread such online platforms are needed where

a) video conferencing with at least 40 to 50 students is possible,
b) Discussions with students can be done to keep classes organic,
c) Internet connections are good,
d) Lectures are accessible in mobile phones also and not just laptops,
e) Possibility of watching already recorded lectures,
f) Instant feedback from students can be achieved and assignments can be taken.

In [8-9] authors have designed and implemented during the school closures, existing inequalities connected to different socioeconomic situations have increased mainly due to the following reasons:

i. Lack of resources, including access to educational technologies and the Internet,
ii. Lack of physical spaces to carry out home-based learning among families from poorer backgrounds,
iii. Who lack the basic skills to support their children, especially regarding secondary education.

There is a requirement of a quick shift to online learning mode; therefore, the products by Google can be really useful under such problematic situations [7]; they are

- Gmail,
- Google Forms,
- Calendars
- G-Drive
- Google Hangouts
- Google Jam board and Drawings,
- Google Classroom
- Open Board Software (not a Google product, helps in recording meetings in the form of files).

These tools can successfully be used as an alternative for face-to-face classes

III. METHODOLOGY

In order to analyses experiences, opportunities, open challenges and lessons learned regarding online learning during the COVID-19 emergency, a qualitative method was used based on a the step consisted of an online discussion forum. This forum was organized to include researchers, professors and enterprises mainly from European countries and from Lebanon with expertise in information and communications technology (ICT), social science and education. The discussion enabled the participants to discuss and compare their experiences, primarily related to the COVID-19 pandemic.

The problems associated with online learning and possible solutions were also identified based on previous studies. The SWOC analysis was conducted to understand various strengths, weaknesses, opportunities, and challenges associated with online mode of learning during this critical situation. This study is completely based on the secondary data. A systematic review was done in detail for the collected literature, Secondary sources of data used are

- Journals
- Reports,
- Search Engines
- Company Websites & Scholarly Articles
- Research Papers

Following **table-1** is portrays the details of the varied modes of online teaching-learning modes being used by the teachers and students during the lockdown period of COVID-19 outbreak [10]

Table 1. Showing different modes of online teaching modes used by the teachers and students.

S.N.	Modes of online teaching-learning modes	% of teachers using online teaching modes	% of students using online learning modes
1.	Google Classroom	**32**	**20**
2.	Zoom/ Cisco WebEx/ Google Meet/ Skype	**45**	**15**
3.	Webinar	**25**	**35**
4.	YouTube Videos	**50**	**28**
5.	YouTube/ Facebook Streaming	**6**	**18**
6.	WhatsApp/ Telegram	**100**	**100**
7.	Telephonic Conversation	**87**	**23**
8.	Email	**100**	**100**
9.	Swayam Prabha educational DTH channels/Zonet Cable TV	**11**	**27**

Interestingly, despite having a variety of digital modes of teaching-learning, almost all the teachers and students both were using WhatsApp/ Telegram and Email for educational interactions, submission of assignments, clarification of doubts and conducting class tests. There were 32% of teachers using Google classroom and 45% teachers using Zoom/Cisco WebEx/Google Meet/Skype platform for taking online classes, but the recipient students were found only 20% and 15% respectively. Twenty-five percent of teachers conducted Webinars as online teaching while 35% of students were attended University's webinars and outside the University's webinars for enriching themselves widely as an online mode of learning. There were 50% of teachers recorded their lectures on YouTube as teaching through web mode, whereas 28% of students watched presentations and recorded videos of all sources on YouTube.

YouTube and Facebook streaming as a means of virtual classes taken by the teachers found significantly very low with 6%, whereas 18% of students admittedly found using these online platforms for learning. Eighty-seven percent of teachers were found using telephonic conversation for educationally get connected with their students in relation to giving and receiving information. Still, students tend to feel hesitant to call their teachers, and the percentage found only 23. Some teachers(34%) showed an ardent interest in the pursuit of using the new technological tool of online teaching such as Swayam Prabha educational DTH channels/Zonet Cable TV with 11% only but students were found a little bit impressive 27% using this digital tool for online learning.

Fundamental questions of teachers & students

1. How is the education sector responding to COVID-19?
2. What does this mean for the future of learning?
3. What is the challenges of online learning?
4. Online learning is effective?
5. Why a changing education imperative?
6. The importance of disseminating knowledge is highlighted through COVID-19?

The following three question are mainly used tolled that teachers & students

1. How do I know if online education is right a way of learning?
2. Maintain Relationships. Trusting relationships between teachers and students are the bedrock of successful learning?
3. Keep Learning Active. Online learning can easily lend itself to more passive forms of learning like watching videos and listening to lectures?

IV. Analysis of Online Learning

This pandemic may accelerate some changes in educational models based on the pros and cons of the technology used for learning purposes. Thomas and Rogers [18], starting from their experiences of online learning during the pandemic emergency, have observed that school-provided IT systems are frequently too expensive, cumbersome and quickly go out of date.

Table 2. summarizes some key obstacles to the effective use of online learning identified in the literature.

Table 2. Open challenges of online learning.

OPEN CHALLENGES		REFERENCES
TECHNOLOGICAL CHALLENGES	Access to infrastructure such as technological devices and an Internet connection.	**[8], [9], [11]**
PEDAGOGICAL CHALLENGES	Teachers' lack of skills in using technology. Need for training and guidelines for teachers and students.	**[12], [13]**
	Need for teaching materials in the form of interactive multimedia (images, animations, educational games) to engage and maintain students' motivation.	**[11], [12], [13]**
	Lack of student feedback and evaluation system.	
SOCIAL CHALLENGES	Lack of suitable home learning environment to study and parents' support.	**[8], [9]**

Free online platforms that support live-video communication

There are many live-video communication platforms are available in web, but some of the free online platforms are as listed below which can be used by learners of all categories [14]:

- **Zoom –** Cloud platform for video and audio conferencing, collaboration, chat and webinars.
- **Google Meet –** Video calls integrated with other Google's G-Suite tools. Video meeting recordings, Screen sharing, Join calls using Google Calendar
- **Facebook Live-** is a great fit for businesses, influencers, or individuals who are looking to broadcast demos, videos, or showcase their company culture while streaming live, followers on Facebook can comment and chat live, schedule videos ahead of time to gain excitement.
- **YouTube Live**-is a platform for demonstrating a product with live interaction, hosting an educational session to teach audience with screen sharing or using a whiteboard, having features with Location tags and advanced scheduling.

V. Merits & Demerits of online learning during lockdown

Table 3. Merits & Demerits of online learning.

Merits	Demerits
Online Learning encourages more productive use of time which keep individuals safe from pandemic situation like spread of Covid-19.	Not all students have the necessary knowledge, skills and resources to keep themselves safe online. Spending more time on virtual platforms can leave students vulnerable to online sexual exploitation.
It has greater access to experts/specialists (nationally and internationally) and learners can access 24/7 at their own pace and time. It allows geographical reach even to rural or remote locations.	Learners from low-income families and disadvantaged groups are the more likely to suffer during online learning as they may not afford high-speed internet connection and required technical gadgets. It widens gap between privileged and unprivileged learners
It is a cost-effective technology which is quite affordable and enhances communication between educators and students. One educator can teach various virtual classes simultaneously which reduces travelling to various places. It can accommodate more learners at a particular time.	It may lead to laziness with some students being at their home and may lack self-discipline. The atmosphere of a face-to-face meeting is lost. Interpersonal relationship between students and teachers or between students may hamper.
Very useful to some emergency service personnel like police, doctor and nurses etc. who are unable to spare a specific time to learn during lockdown can use the online recordings and pursue their education.	The security of personal data may be compromise as one can hack the digital devices without latest software updates and antivirus programs.

VI. Suggestion

Some useful steps for smooth functioning of Online Learning are as suggested below:

1. Online platforms with enhanced safety and safeguarding measures, especially for virtual learning tools should be ensured. The devices must have the latest software updates and antivirus programs otherwise the security of personal data may be compromised as one can hack the digital devices.
2. High speed internet connectivity should be ensured in order to improve smooth access for all including learners of disadvantaged groups and low-income families.
3. All should follow the new guidelines released by UNICEF and partners to keep kids safe during online classes.
4. Schools should monitor good online behaviors of students while conducting online classes.
5. Parents should ensure that students' devices have the latest software updates and antivirus programs. They should work with students to establish rules for how, when, and where the internet can be used. They should also speak to their students on how and with whom they are communicating online.
6. Social networking platforms should enhance online platforms with more safety measures, especially while using virtual learning tools.
7. Government should take necessary steps to train all stakeholders of education on online learning platform to tackle such crisis of lockdown during any pandemics. Government should create awareness on online education with safety measures for children and take measures to create awareness on cyber security.

8. Online learning is not affordable for all including the poor and disadvantaged groups of the society. So necessary steps should be taken by Government/educational institutions to minimize this gap between privileged and unprivileged learners.
9. Learners and educators must be familiar with Web-based interactions such as email, discussion boards and chat rooms before joining online classes.

VII. CONCLUSIO

Online Learning is the most common method of distance learning today. During the lockdown period for Covid-19, online learning is the best platform to keep learners/educators engaged and safe by maintaining social distancing. Govt. of India has initiated different online learning platforms to continue educational activities during lockdown period which are also been recognized by UNESCO and World Bank. Online Learning method utilizes various applications of the internet to distribute classroom materials and help learners and educators interact with one another. Using the various technologies available for Online Learning, educators can provide a more interactive distance learning experience by delivering real-time, synchronous video conferencing. Online learning is considered as future learning process and this platform has a potential of overall change in pedagogy of teaching learning in the modern world.

The results of the analysis of the online discussion forum with international experts, the data from ISTAT and statements of opinion leaders in Italy have revealed several technological, pedagogical and social challenges, additionally confirmed by the reference literature. Reliable network infrastructure needs to be developed. Teachers, students and parents must have connectivity that allows them to be able to take lessons remotely even when other people in the same house are doing other online activities. In fact, the results of the online discussion forum underlined that the intensive use of networks during the pandemic crisis has produced connection failures in several countries, including Estonia, which is technologically advanced. One suggestion of experts was to develop 5G.

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The use of intelligent technologies for remote teaching, like artificial intelligence, needs to be reinforced to encourage personalized, inclusive and participatory online learning paths. This can open up new possibilities and provide added value to online learning, as long as it is integrated with the pedagogical methodologies used by teachers. In fact, in this study a need to personalize learning and make it more effective emerged.

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