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Technological Adaptation Amidst the COVID-19 Pandemic:
A Panacea for Teaching and Learning

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ABSTRACT

The Internet has transformed people's way of life and their access to education in the 21st century. The use of digital technologies in education has become extremely prevalent. The teaching-learning environment has shifted dramatically with the advent of ICT. Although some institutions are still wedged to traditional teaching learning procedures, refusing to incorporate technological tools in their teaching and learning. Their teaching-learning is based on old techniques. The unexpected outburst of Covid-19 in March 2020 shuttered the entire world. This sudden outbreak revolutionizes the whole educational procedures overnights. Many academic institutions that were earlier resistant to use ICT in teaching-learning were compelled to use digital technologies in their teaching-learning process, the only option available. The article focused on the importance of ICT tools in the teaching and learning process, with accompanying challenges of the implementation. It further suggested ideas for teachers and learners about how to cope with these difficulties and obstacles.

KEYWORDS

Coronavirus, covid-19, ICT, Learning, Pandemic and Education, Teaching and learning

INTRODUCTION

Markets, enterprises, offices, and educational institutions all around the world were closed because of the corona outbreak. People are compelled to remain in their houses in order to reduce the severity of the virus. It affects the health system, increases the cost of living, disrupts business, spreads poverty, and puts the world economy and security at danger (Chattu, K; Adisesh, A; & Yaya, S. 2020). The global education system has experienced significant changes and is currently in turmoil. One of the methods to restrict the spread of Covid-19 is to stay at home and maintain social isolation. The whole educational system has been disturbed by prolonged lockdown, regular curfews, and social distancing measures (United Nation, 2020). The day-to-day functioning of academic institutions have

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been severely harmed as a result of this. Schools, colleges, and universities were compelled to close temporarily because of the Covid-19 epidemic.

The closure of educational institutions has thrown the educational system into chaos (J. B. Stambough, B. M. Curtin, J. M. Gililland et al., 2020). Approximately 1.58 billion children, from pre-primary to higher education have been affected by this pandemic (United Nation, 2020). All educational institutions have closed, causing students a great deal of anxiety regarding their education, skill development, future aspirations, and career prospects. Thus, international lockdown and social distancing tactics have harmed the lives of children and teachers all over the world (J. B. Stambough, B. M. Curtin, J. M. Gililland et al 2020). There is ambiguity among the teachers and students about when the institutions will be opened fully. Educational institutions are rushing to find options to deal with this tough situation. The relevance of strategy formulation in educational institutions is highlighted by these situations. This is a situation that necessitates self-awareness and unanimity. The need to secure our students, children, teachers, academic staff, communities and society from the Corona disaster is imperative. Educational institutions are attempting to discover alternative strategies for dealing with this challenging issue (Dhawan,2020). Classes have been cancelled, and administrators have battled to transfer courses into an online version in days or weeks (Mc Murtrie, 2020). Educational institutions have created official websites and applications to facilitate the delivery of the online content, allowing students to continue their education. In such a perilous situation, technology has proven to be a true friend in our professional lives. There are no options available other than adopting digital tools for teaching and learning purposes. With the help of so many digital and online tools and efforts, ICT is one of the key aspects that has reduced the shield of social distancing and lockdown. In education, digital technology allows us to discover new solutions not only to what individuals learn, but also to how, where, and when they learn (M. M. Gu., & C. Lai, 2019).

ICT TOOLS USED FOR TEACHING AND LEARNING

It is specious that students and teachers in schools and higher institutions are progressively using Information and communication technology (ICT) tools. Through the use and integration of ICTs, new pedagogical tactics in the teaching and learning process are achievable (V. Arkorful, K. A. Barfi, & I. K. Aboagye, 2021). ICT has been proposed to serve a range of tasks in education, providing a catalyst for rethinking teaching practises, generating the kind of graduates and citizens required in an information age, improving educational outcomes, and strengthening and improving the quality of teaching and learning are just a few of them (Alemu, 2015). ICT makes it simpler to personalise lessons to each and every student as a teaching tool. Collaboration, engagement, multimedia coding, and more student control are just a few of the advantages of digital technology. Incorporating them into the curriculum would aid students in developing 21st-century abilities (autonomy, teamwork, critical thinking, and problem-solving). As a result, professional training should be used to integrate technology into education (Guillen-Gamez et al., 2018).

Integrating ICT into teaching and learning provides the students and teachers an opportunity to connect, access information, and complete writing projects and other classroom assignments (N. Malkus, C. Christensen, & J. Schurz, 2020). Students and teachers are increasingly depending on varied online platforms to learn and teach in innovative pedagogical methods. By encouraging more imaginative, creative, and cognitive thinking, as well as greater productivity, efficiency, and educational results, ICT in education enhances both the quality and quantity of education (Adeosun, 2010). Teachers and students, two cornerstones of education, are currently looking for digital platforms to better their education. As a result, teachers begin to use newer ICT tools, such as Google Meet, Zoom, (Z. Wu., & J. M. McGoogan,2020) Jitsi Meet, Microsoft Team, and apps, such as Google Classroom, Edmodo, Padlet, Kahoot, and Mentimeter, among others, to provide a platform for students to develop critical thinking skills and to work in collaborative settings for knowledge construction. During the corona pandemic, students also use various learning tools such as the Global Digital

Figure 1. ICT tools used in teaching and learning

Library, Cobo Card, Canva, guru, read write think, ED puzzle, Kahoot, go noodle learn click, Google form, YouTube, and others.

As a result of the covid-19 epidemic, educational institutions now introduce what we called digital learning and e-learning. Although electronic learning has long been promoted in the education industry (N. J. Yelland, 2018), this is the first time it has been utilised in the COVID-19 course over a prolonged length of time. From the classroom to Zoom, personal to virtual, and seminars to webinars, there has been a pedagogical transition from conventional methods to new approaches to teaching and learning. Therefore, teachers and learners had to respond quickly to an unexpected and forced transition from traditional education style to new online teaching and learning. Online learning is described as a remote learning utilizing technological tools such as tablets, smart phones, laptop, and PCs, which need to be connected to the internet (Abbas et al., 2021b). To make e-learning successful, both teachers and students must adopt the digital learning process (Lederman, 2020). As a result, it is critical to establish quality online teaching and learning that comes from deliberate instructional design and planning, rather than relying on emergency online practice (Hodges, 2020).

These technologies provide universal access, equity in education, high-quality teaching and learning, and opportunities for students and teachers to grow professionally. Using digital technologies for learning has its own set of benefits, including flexibility, self-pacing and opportunities (Wagner et al., 2005). Universities are increasingly adopting it to ensure passivity with local and international norms and rules in order to combat the Covid-19 pandemic while managing the academic schedule. Education through ICT means has gained momentum amid the corona pandemic. It has the advantages of saving time and money particularly for those who live far from the campus. As most of the nations have opted for online education the only options to reduce the educational loss. Many Indian EduTech companies are offering free and subsidized rate services for conducting online classes. E-learning technologies provide a platform for teachers and students to access educational resources at their convenience. Institutions grab the chance to inspire their teachers and students to study using digital instruments. As a result, using ICT to teach and learn breaks down barriers that would otherwise be difficult to overcome, allowing knowledge and experience to be shared around the globe during the time of Covid-19. Evidence shows that digital technology can open up new teaching and learning opportunities and ICT use in elementary and secondary schools has grown in popularity in recent decades (Chauhan, 2017). However, when it comes to the use of information, communication, and technology (ICT) in education, instructors and students are familiar with classic technological teaching

aids like Smartboards and PowerPoint, among others, and their practical employability is necessary in instructional practises (Guillen-Gamez, 2018). Teachers appear to recognise the importance of ICT in the classroom, but they continue to face challenges in integrating these tools into their teaching and learning.

LEARNING IN THE TIME OF COVID-19 CRISES

The outbreak of covid-19 pushed the educational sector to shift to a virtual and blended learning environment, employing a range of information and communication technologies. Various technology-driven educational initiatives have seen a substantial increase in the pace and intensity of its implementation. Students from different areas of the globe have to face significant obstacles in order to complete their education during the pandemic. Information and communication tools (ICT) tools are being used in an innovative manner in the current pandemic scenario for the purpose of continuing the educational system. These innovative solutions by institutions help the students to deal with this pandemic (Liguori & Winkler, 2020). In a globalised digital age, the adoption and integration of information and communication tools (ICT) into the teaching and learning environment provides additional opportunity for teachers and students to collaborate more effectively. Smart phones, tablets, and high-speed internet, including 4G and 5G connectivity, have made learning more adaptable and accessible. Now technology is being viewed as a panacea to solve all of the educational problems, spurring a surge to transform classrooms to virtual environments (Dhawan, 2020). Therefore, e-learning technologies have been critical throughout this pandemic, assisting schools and universities in facilitating student learning during university and school closures (Subedi et al., 2020).

In recent years, technology has strived to fulfil its role in helping school children, resulting in a significant medium of interaction in both the social and educational worlds. It was seen as a supporting technology for blended learning solutions that can really stimulate active learning and knowledge building through peer-to-peer interaction (Holden & Westfall, 2010). It provides customized, adaptable, and asynchronous learning, as well as a shift from teacher-centred to teacher-centred learning and serves as a basis for changes in the classroom, academic institutions, organizations, and systems (Youssef & Dahmani, 2008). Many EduTech platforms assist students with subject-specific learning in order to prepare for examinations and beyond. These virtual interactive classrooms provide ample opportunities for the students to enrich their knowledge and experiences. Learning through digital tools helps to eliminate the physical and social barriers by removing the limitations of time and space. Students can learn and engage with teachers and other students from anywhere in these environments (Singh, & Thurman, 2019).

Although the use of YouTube, google meet, zoom, skype and digital libraries were used by the students before 2019, but it was optional to use these tools for learning. But now every student began to use several ICT resources to facilitate their learning, such as the Global Digital Library, Cobo Card, Canva, guru, read write think, ED puzzle, Kahoot, go noodle learn click, google from, YouTube, and so on. Students' academic development is facilitated by the use of YouTube to watch educational videos, quick access to e-books, online notifications, learning in virtual classrooms via teleconferencing tools such as Google Meet, Zoom, and Skype, and registration of students in virtual classes such as Google Classroom, Edmodo, and LMS such as MOODLE, BLACKBOARD. Furthermore, the usage of ICT technologies may be a valuable source of learning that motivates students to learn which are considered as the significant predictors of their academic performance (S. Bal-Taştan., S. M. M. Davoudi., A. R. Masalimova et al., 2018). It also allows educators to access the classes they missed through recorded videos on YouTube. Teachers are thoroughly evaluating and preparing for recording, which has a positive impact on teaching tactics and procedures. The best educator value the ability to learn on a continuous basis with least gaps. It also facilitates the transmission of more information and knowledge to students in a shorter amount of time, allowing for the most efficient use of resources and time.

When students use ICT resources, they take greater responsibility for learning making them passive to active students. therefore, learning through ICT is based on the principle of working it out yourself it increases the flexibility of education by making it more inclusive. Students from pre-primary to universities levels uses a variety of EduTech tools to improve their knowledge, learning and experiences. Working through ICT is indeed very fruitful for cooperative learning (Dumford & Miller, 2018), and it can be modified to suit learner schedules. Students uses ICT to track and manage their own learning. It teaches students how to think critically and creatively, how to solve real life problems, and how to approach problems and challenges from a global perspective. Therefore, student; learning is entirely dependent on the electronic databases, such as well as ICT administration and the development of digital tools. Online classrooms through Skype, Zoom, Google Hangouts, Google Classroom, and Google Meet, allows students to stay in touch with their teachers at all times. Online portals such as mooc.inflibnet.ac.in, epgp.inflibnet.ac.in, swayamprbha.gov.in, and youtube.com provide substantial notes, study material and free books to students. Due to their sensitivity to visual spatial aspects, videos, TV shows, multimedia, and text with images/diagram/graphics that can be best tools to unlock their creativity, students and teachers can correct comprehend the world (Paudel, 2020; Sahito & Vaisanen, 2021). An advantage of taking an online course is that it provides the chances for close connections to the participant community, which help participant interact with collaborate on, and participant in course activities in new ways (Tanis, 2020). As a result of the COVID-19 epidemic, a new age of digital education has begun, requiring a new role for teachers, students, and the educational system. If India does not make serious efforts to promote ICT in the present era in an effective manner, it would be very difficult to bridge the digital gap.

LEARNING CHALLENGES DURING THE CORONA PERIOD

When millions of students are forced to stay at home due to lockdown and social isolation, education via ICT tools looks to be the only way to ensure that education at schools, colleges, and institutions is not disrupted. Around 1.72 billion students around the world have been affected by school closures, with around 32 crores students in India alone (UNESCO, 2020). During the pandemic, using ICT in education is a top priority. Learning using ICT tools has a variety of consequences to everyone from young children to adults at all levels, including individuals with special needs. So technological adaptation is considered as a panacea for learning at all levels. However, lot of difficulties and challenges have been faced by students while using ICT for learning purposes. Despite the advantages of maintaining the physical distance in e-learning, there are a number of drawbacks and difficulties,

Figure 2. Challenges in learning amid Covid-19 pandemic

especially for the students (Maatuk et al., 2021). Concerns have been raised about how well students are participating in these inline programs.

Even before the COVID-19 outbreak, underdeveloped countries like India faced difficulties and roadblocks in implementing ICT tools in education. As the entire educational system changed from offline to online, these difficulties have become more prevalent. The challenges and problems connected with modern technology include download failures, installation issues, login issues, notification issues, OTP (one-time password), audio and video issues, and so on. These are the reasons why employing ICT in education has become increasingly difficult to access and execute. The accessibility of work internet, technological devices such as laptop or mobile telephones or an appropriate educational setting differs from pupil to pupil. There are still underserved geographic areas and population groups, particularly among the low-income people in rural and distant places. Due to the fact that all locations of students, houses and localities have the same in internet and particulary, 3G networking system, there is a problem with access to ICT (Lembani et al., 2020).

The lack of knowledge and skills among students about how to use ICT tools effectively is a major problem when it comes to incorporating technology into education. The ability to comprehend and use technology is referred to as digital literacy. Students with digital literacy abilities can locate, consume, and generate information online in a productive and helpful manner. Students who understand digital literacy are better equipped to utilise technology responsibly, and they are better able to avoid its perils. As schools go from being physical to virtual some students may feel lonely, unmotivated, or discouraged without frequent social contacts. Using ICT to learn may also exacerbate student's health problems. During the pandemic, many students are experiencing worry and anxiety (Cao et al, 2020).

Students are also hampered by psychological difficulties when it comes to using digital tools for online learning. The lure of virtual distraction, as well as the novelty of being connected online, can divert children's attention away from their online classes by encouraging them to visit other websites. Furthermore, not all pupils have equal access to digital technology, revealing the digital benefits as a result of the covid-19 epidemic (Jaeger, Blaabaek, 2020). The barrier between digital and uneven access to e-learning and electronic resources would exacerbate the gap in the pandemic COVID-19 between affluent Social and poor children (Dawadi et al., 2020). We must focus on closing such digital disparities in order to ensure that digital technology provides equitable and equitable access to education. Even if access to the internet is both possible and affordable, additional measures are required to empower marginalised communities (F. Scarpellini, G. Segre, M. Cartabia et al, 2021). Furthermore, students find it difficult to stand in front of the system for extended periods of time to attend online classes. As a result of the Covid-19 epidemic, it become visible that the educational system is vulnerable to external threats (Bozkurt & Sharma, 2020). Some students rely on computers and free internet at school, colleges, and universities as a result of socioeconomic disparity and owing to school closures, the migration process for this group of students is projected to be delayed (Demirbilek, 2014). It is obvious that children from low socioeconomic backgrounds would find it difficult to move as expected since they are unable to attend school owing to the pandemic.

There are also societal hurdles, such as discrimination against girls who are expected to undertake households work in the morning and evening rather than attend online lessons. Some disciplines cannot effectively and efficiently apply learning by integrating technology and this compatibility gap has yet to be bridged. Some of the issues that young people encounter in this new learning environment include the amount of content available, online assessments, most of it without adequate instructions. The other challenge is related to language and content, the majority of educational applications and software available on the global market are written in English. Moreover, the content is also available in English language. The lack of English language proficiency among students in rural areas, in particular, creates a number of obstacles to maximize the educational advantages using ICT-driven tools. Students belonging to poor families do not have a private room where they may study quietly without being disturbed. It indicates that there is a scarcity of learning space. Furthermore, Computers and other high-tech equipment also need a reliable and continuous supply of energy, particularly under

adverse weather conditions (Aduwa-Ogiegbaen & Iyamu,2005). So, fluctuations in electricity supply also cause havoc on expensive ICT assets. Most parents lost their jobs as a result of the corona crisis; several students were compelled to take care of their families in this critical phase. Therefore, being at home proves to be a challenging environment for the students to focus on their education. They spend the majority of their time on their phones, computers, and tablets, and the increased use of technology by students is projected to increase the prevalence of cyberbullying and cyber harassment. Addressing these issues will reveal the extent of obstacles that students face in a complete online learning environment, especially in the context of the pandemic.

TEACHING VIA ICT TOOLS AMIDST COVID-19 PANDEMIC

Teachers and students have been placed in an entirely new situation because of the closure of educational institutions during the corona pandemic (Huber & Helm, 2020). At this juncture digital tools have played a key role in assisting educational institutions in facilitating students' learning by shifting it to online mode. As a result of the transition to online education, teachers and academicians were unable to find out what approach they should employ and limited one-to-one interaction with students (Tanhan, 2020). As a result, the transition from the standard model to a more unusual method of instruction was difficult for everyone to accept and adjust. It was not easy for the teachers to plunge into a new way of teaching with almost little preparation, but they didn't give up. Teachers were aware of the benefits of employing technology to promote learning, but they were not prepared for such a radical transformation. ICT has changed the way new generation teachers and students think about content delivery, integrating relevant resources, and developing strategies for learning application and improvement. To increase learning and administration of learning, teachers integrate ICT into many aspects of their professional lives. It allows them to become engaged and innovative educators. It also elevates instructors' roles from information communicators to knowledge co-creators, coaches, mentors, and evaluators.

Teachers' perceptions of ICTs and their abilities to use them for teaching and learning activities drive the adoption and integration of ICT. Teachers had to adapt to online teaching, which required them to utilise a variety of digital tools and resources to solve problems and apply new teaching and learning strategies (Eickelmann & Gerick 2020). Teachers all over the world were engaging their students with technology aid teaching. Thus, a teacher's involvement is critical in establishing and driving students' learning expectations throughout this typical phase by using a variety of digital platforms to provide course content. Gmail, Google Forms, G-Drive, Google Hangouts, Google Jam board and Drawings, Google Classroom and Open Board Software, Google Meet, Zoom, WebEx, and other Google technologies may be quite helpful in such difficult situations. For the first time, these technologies are being explored and tested for teaching and learning in order to continue education. These technologies can be employed in face-to-face classes as a suitable replacement. During the pandemic many teachers have tried their best to gain new skills and enhance their knowledge of how to use, prepare, and present digital lectures. However, there is a need for standardised teacher training in digital lecture delivery and it is imperative to enhance all teachers digital teaching skills.

Lessons are being delivered by utilising ICT tools in the midst of the epidemic. When a teacher delivers a lesson with technological tools, the students' higher level of thinking abilities has improved, students would be more involved, and the lesson would be better understood. There is a link between the usage of online learning and student involvement as well as learning results (Kahn et al., 2017). Virtual laboratories are now being used by teachers to teach scientific courses. These labs allow students to do online simulations of experiments relating to their course. Homework is provided to students via WhatsApp in the form of PDFs. Exams and tests are conducted online, and the results are accessed virtually. PowerPoint presentations, recorded video, and audio lectures are used to teach the concepts. Teachers provide materials to pupils via WhatsApp and the institution's study portal,

students need to download it and learn at their homes. They went the extra mile to adopt technology to reach the homes of every student.

TEACHING CHALLENGES DURING CORONA PANDEMIC

Teachers' professional development is critical in teaching students in the twenty-first century, especially in the face of the corona pandemic, when using ICT tools to continue the teaching process is the only option. The teaching community is severely affected amid the corona pandemic. The pandemic has changed the way teachers teach and interact with their students. There is more that can be done to encourage the systematic integration of technology into their training. We have a once-in-a-lifetime opportunity to reimagine teachers' roles, not just in terms of what technology can do for them or their present skill set, but also in terms of how the experience of interacting with technology motivates them and their pupils. Technology is merely a tool, but it will not result in efficient learning until it is properly integrated (M. A. Flores, 2020). Teachers are one of the most powerful and important factors in promoting equity, access, and quality in education, and they are critical to long-term development. The COVID-19 pandemic and subsequent school closures, on the other hand, have had a negative impact on them and the global education systems. During this challenging period, teachers are working hard to accommodate the new components of education and learning, while they are still trying to discover ways to engage students online at most educational institutions. They are continuously experimenting with new methods to overcome these challenges and make education more engaging with students in order to prevent further loss.

Teaching is a social and interaction-based profession, but the ongoing epidemic has pushed it into an isolated experience, and they are trying to discover new methods to fit into the new reality by altering their teaching goals. Teachers, unlike in face-to-face teaching and learning, are unable to give assistance to their pupils on classes and topics using ICT tools. As a result, they are battling to keep themselves and their students in a state of normalcy. They are working hard to keep the loss to the minimum and coming up with the strategies to help their students and institutions to the possible extent. Ribeiro (2020) correctly pointed out that the digital revolution of instructional delivery comes with several logistical and behavioural changes. Access is one of the most crucial requirements for instructors to effectively use ICTs in the classroom, as well as for the efficient integration of ICTs into the teaching-learning process.

Teachers and students with poor and unpredictable internet connections may be denied access to online learning (F. Scarpellini, G. Segre, M. Cartabia et al. 2021) While metropolitan areas fared better, rural India faced significant challenges when it comes to digital education. During the lockdown as a result of the Covid-19 pandemic connectivity issues were identified as the most significant factor affecting e-learning and e-teaching (Dawadi, 2020). In these hectic situations the teacher's position is extremely difficult to maintain in order to ensure that students remain engaged and motivated throughout the epidemic. Apart from teaching online, they have to assist students in completing their assignments and examinations, as the knowledge and abilities in the corona epidemic have been blurred. It's difficult to use online exams in courses meant for face-to-face instruction. Students and professors alike are unsure how to handle outstanding assignments, projects, and other forms of continuing evaluation (Kearns LR, 2020). Furthermore, educational institutions' assessment standards, such as exams and examinations, are incompatible with digital learning. Although technology has been utilised to help teaching and learning in the past, the assessment component is typically neglected (Dill E, Fischer K, McMurtrie B, et al 2020). It's difficult to use online exams in courses meant for face-to-face instruction. The system for administering outstanding assignments, projects, and other continual evaluations is unclear to both students and instructors (Kearns, LR, 2020). Many teachers are unfamiliar with the digital technologies used in online education, which has resulted in unprepared and unorganized lecture delivery, as well as a lack of enthusiasm among students in online classes (L. L. Hadar, O. Ergas, B. Alpert & T. Ariav, 2020).

Figure 3. Challenges in teaching amid Covid-19 pandemic

Online teaching was the subject of a SWOT (Strength, weaknesses, Opportunities, and threats) study by Dhawan (2020) in the situation when college were forced to go online. The paper makes the case that the biggest strength of online learning is its adaptability and accessibility, which offers chances for pedagogical innovation and skills development to the higher education sector. The weakness of online teaching, however, are identified as a technological challenge, time management issues, and lack of readiness for online learning. The issues may come with a variety of difficulties, including the digital divide, inequalities between different groups, and lack of supportive relationships.

Technological knowledge entails the ability to operate specific technologies, which is critical for incorporating technology into the teaching and learning process. Moreover, when it came to incorporating technology into education, teachers' resistance to new technology was shown to be a major issue (Nkengbeza, D., Mbuzi, D & Chainda, A. 2022). Some teachers have orthodox attitude; they think that this is a time of relaxment for them. The instructor's positive or negative attitude toward the use of ICTs has an impact on their utilisation; if the teacher has a negative attitude toward them, even if he or she has outstanding facilities, he or she will not use them in his or her class (Eger, Klement, Pisonova & Petrova, 2018).

Most faculty members are now dealing with problems and diffulties like a lack of prior preparation for or assistance from educational technology for online tutoring, which calls for lesson, various teaching material like audio and video material, and technology support (Bao, 2020). The majority of the teachers are considered to be digitally literate; however, it is essential for them to learn about the professional integration of ICT in the classroom (Al-Samarraie & Saeed, 2018). Similarly, poor internet connectivity and a lack of digital self-efficacy have been highlighted as major barriers to ICT adoption. Therefore, teaching through digital tools for large classes is difficult for teachers as some technological tools do not support such a large strength of students (G. M. Francom, S. J. Lee, & H. Pinkney, 2021).

E-LEARNING INITIATIVES BY THE INDIAN GOVERNMENT

In the twenty-first century, information and communication technology (ICT) is one of the most important driving forces behind the educational system. During the corona pandemic's moment of full unpredictability and despair, technology has been a source of hope and energy in many ways. Many nations are seeking for solutions that might offer distant learning to manage and address the institution in order to lessen the loss of educational institutions. In this regards World Bank is collaborating

with the Ministry of Education in many countries to help their efforts to enable learners who wish to learn remotely (Sahito & Chachar, 2021). Therefore, in the pandemic period, where all educational activities have been halted, Digital India, a vision of the Indian government, appears to be a vital instrument in tackling educational problems. The Indian Ministry of Human Resource Development (MHRD) has implemented a variety of policies and programmes to aid students in their academic endeavours. As a reaction to the corona epidemic, several national and international platforms such as DIKSHA (Digital Infrastructure for Knowledge Sharing), NROER (National Repository of Open Educational Resource), etc. are being used as a reaction to pandemic to continue the learning process. These are open resource platforms for digital resources from class I to class XII (World Economic Forum, 2021). The government employs radio and television as very effective methods for teaching students. The advantage nowadays is that the ministry of education can connect efficiently with parents and instructors through social networks, WhatsApp, or SMS, and provide guidelines, instruction, and structure to the learning process, using information delivered by radio or television. Today, remote learning encompasses not only online but also mixed media learning, with the goal of reaching as many students as possible.

More than 80,000 e-books are available on the DIKSHA platform from class I to class XII created by Central Board of Secondary Education (CBSE), National Council of Education Research and Training (NCERT), states, and union territories. E- Pathshala is another similar platform that has a collection of over 1886 audios, 200 videos, 696 e-books, and several flip books from classes I to XII in many languages. SWAYAM (Study Webs of Active–Learning for Young Aspiring Minds) Prabha and Shagun, for example, are being optimized to their greatest capacity in order to improve accessibility and connection. SWAYAM Prabha is an online course offered by MHRD to DTH channel subscribers who do not have consistent internet connection. It is equipped with 32 channels for transmitting high-quality educational programming. NEAT, an AICTE program based on the public-private partnership model to improve students' employability skills through a collaborative approach with educational technology companies, has been restored in most schools and institutions, boosting expectations for teachers and students. In the wake of the Covid-19 tragedy, state-level agencies are also working hard to promote and employ ICT in education to improve teaching and learning (A & P partners, 2020). Thus, the future years will continue to be a challenge for all governments.

DISCUSSION AND SUGGESTIONS

March 2020 will forever be known in the history of education, as the month when nearly all educational institutions closed their doors, leaving students, teachers, and other academics in a state of uncertainty. It is accepted that the impact of covid-19 will exist for a long period of time. It is clearly a sign of changing time and thus requires the educational system to undergo a major revolution. E-learning is not a new phenomenon; in the last decade there has been a growing global trend toward adopting electronic learning or e-learning, and several higher education institutes in developing countries have recently adopted this trend (Bhuasiri et al., 2012). The Corona pandemic has compelled educational institutions to employ technologies in order to continue teaching and learning without knowing the outcome and hence technological adaptation has become their prime goal (J. Jolselt, 2019). However, the students and teachers claim that they are unable to teach and study both practical and clinical course using an online learning model since they can only teach and evaluate the knowledge component. Students have short attention span and are intense about online learning, which were supported by teachers who claimed that during online classes, students step out of line and try to access online resources during assessment. There are also no increases interactions, teachers are therefore unable to ascertain students understanding during online lecture, and students have limited attention span (Mukhtar et al 2020).

One of the most significant challenges posed by Covid-19 is determining how to implement a system of education based on physical schools. The impact of school closures is felt by all students,

but notably by the most vulnerable, who are more likely to encounter additional challenges, such as children from low-income or single-parent households. It is obvious that teachers and educators must change their minds to make teaching and learning using ICT more successful. There is a need to create a more integrated educational approach that incorporates textbooks and teaching. Thus, the crises have exacerbated pre-existing educational inequalities. NPE 2020 also calls for boosting ICT-based educational efforts to eliminate digital benefits. Teachers training with digital technologies and their application is becoming increasingly essential. To address ICT-related issues among students, the government and educational institutions should spend more on ICT infrastructure development. In addition to this, students need to teach some key ICT skills, such as MS Excel, Windows & file management, the usage of digital library, Photoshop, forums for discussions, blogs, and SPSS, which will support their training in the computer programmes. In the process of obtaining the resources and abilities necessary for helping your children to study online, marginalized families should be supported. In order to improve the teaching and learning process, ICT should be strongly incorporated into teaching and learning. Even if educational institutions follow the most meticulous instructions and use an evidence-based strategy to maximize the benefits of ICT adoption and improve teaching and learning in the future, the fact is that nearly a year has already been wasted, with many more to come. With the growth of the digital world, teachers must also prepare themselves with the required professional competencies to use ICT for teaching and learning, particularly in the wake of the corona crises (M. A. Flores, 2020). Moreover, the training program should be organized as quickly as possible for them to tackle the online learning platform (Lim, M. 2020).

If the government wants to recover what was lost during the lockdown period, it must take quick action in regard to the teaching learning process. While the covid-19 pandemic has pushed this generation of students to face difficulties that will affect their lives for the rest of their life, it may also spark a new moon-shot to bring excellence and equity to an education system that has already left too many students behind. In the phaze of a complicated scenario it was considered necessary to redefine the role and responsibility of academic teaching, therefore equipping stakeholders with the required skills to effectively address the current issues. Future decisions should include how students feel, their opinions, their circumstances, and their needs. As a result, while ICT adoption is likely to remain a reality in the coming years, educational systems could do more to make learning more friendly to students. To meet the challenge and build a long-term resilient Indian education system, a multi-pronged strategy is required.

CONCLUSION

Technological adoption in the educational sector has made the situation better in the wake of coivid-19 pandemic. Various digital technologies have been used by the education sector to resume the teaching-learning process in the wake of the corona epidemic, including Neo, Zoom, Start.me, Google Clasoom, Shift, Ted Ed, Lan School, Blackboard, Edmodo, Class Dojo, Outs, We Video, and many more (Mishra et al., 2020). Even after the pandemic, these applications are highly helpful for sustaining online teaching and learning. Since then, e learning, or online learning has emerged as one of the most contentious and hotly debated issues (Liu et al, 2021). Moreover, artificial intelligence and machine learning combined with these technologies have the potential to transform the future of education by allowing students to create more interactive, personalized, and productive learning solutions. It is a great opportunity for the students to go digital with various available ICT tools for enhancing their digital skills. Practice makes a man perfect is applicable here in terms of ICT opportunities. Students will be able to improve their digital abilities by practicing more. All teaching materials, including chalk, board, charts, have been replaced with modern digital tools, allowing for greater flexibility and accessibility in the classroom. It is now the appropriate moment for faculty, students, and administration to learn from this vital circumstance and overcome the obstacles. As a result of the crisis, technological adaptability may become a larger potential. The COVID-19

pandemic has taught us that teachers and students/learners should be educated on how to use various online educational tools. When normal courses resume following the COVID-19 epidemic, teachers and students should be encouraged to continue using online technologies to improve teaching and learning. Intervention at the policy level is also critical. Given the current situation, education systems all over the globe, including India, must invest in teacher professional development, particularly in ICT and effective pedagogy.

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APPENDIX

Below are the different sites which I referred for knowing the different initiatives taken by the Indian Government to combat with Corona pandemic.
https://www.mygov.in/covid-19
https://indiaeducationdiary.in/ministry-of-education-has-taken-several-initiatives-to-ensure-studies-of-school-going-children-during-covid-19-pandemic-education-minister/

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