Technological Impact of Online and Offline Teaching in Indian Context

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ABSTRACT: India really does have the most youthful population on the planet, with an average age of just over 30 years, while also being the second most populous country in the world after China. The year 2020 commenced in India with high aspirations and potential, however, to stop the spread of the Covid-19 epidemic, the nation quickly went into lockdown. The education industry, which was severely impacted from primary to higher streams in school, colleges, and universities, is the most afflicted at this pivotal moment. Digital alternatives were simplified to cover the curriculum, and cell phones and other electronic devices that were officially forbidden in schools ended up being the sole supporting technology during the lockdown. One study was done with a focus on students, teaching staff, and parents of school-age children in order to examine the consequences of students' and teachers' abrupt adoption of online learning. The poll had 301 responses in all, and the outcomes were valid and optimistic. With the development of technology, the significance of online education as well as the advantages and disadvantages of both modes of education were amplified. The findings highlighted the shortcomings of the online education system as well as certain advantages of traditional or classroom instruction. Before introducing online education on a large scale in India, a developing nation, the government must first provide the essential facilities. The bedrock of how people survive and flourish is learning. People are educated to help them become contributing members of society through both online and offline learning. No learning method can be guaranteed to be 100 percent successful. As depending on just one of the aforementioned modes can never be particularly effective, it must be a combination of both, the best among these two core systems must be taken and combined.

KEYWORDS: Digital, technology, online, offline, shortcomings, epidemic

1. INTRODUCTION

Since ancient times, India has been renowned as a centre of advanced learning for its educational system. The two most renowned and historic colleges in the world, Takshashila and Nalanda, contributed greatly to Indus civilization. Education has played a significant role in India since the era of Vedic culture, beginning with Gurukul and Ashrams and developing into early colleges. Earlier, achieving "Moksha," or enlightenment, was the ultimate purpose of education. From 427 to 1197 CE, the Buddhist study forum at Nalanda, which is in the Bihar province of Patna, flourished for about 600 years, until the 12th century. The school seemed to have students from China, Persia, and Greece which had the greatest library in the ancient world, which has thousands of manuscripts on various topics. A law authorizing the restoration of Nalanda as Modern Nalanda International University for postgraduate study was approved by the Indian parliament in 2010.

Takshila, which is located in Pakistan's North West and is one of the most popular tourist destinations there, previously housed more than 10,500 students studying more than 60 topics. Despite the fact that the digital era has arrived, a sizable portion of Indian students still only use the standard chalkboard method of instruction. Due to the unexpected lockdown brought on by the global Corona virus outbreak, education is one of the industries that has suffered. Without a fundamental plan, the government issued instructions for using online teaching and finishing the curriculum that had been missed in order to reduce the loss in academic progress. Better than online mode, teachers like to engage with students in person. Since the examinations and exams are written on sheets, there are almost no opportunities for plagiarism. When studying offline, face-to-face interaction

is more beneficial (Mehta et. al., 2022). Students in traditional schooling must learn responsibility and discipline. Students can comprehend the topic material and draw connections between it in real time. A pupil can quickly get more information by asking their teacher if they don't comprehend what is being taught. Students gain social skills and an understanding of responsibility via all of the class engagement (Gupta et. al., 2022 and Kumar et. al., 2021). E - Learning is absolutely software reliant. To finish online duties, one needs a good internet connection. It becomes challenging to submit time-sensitive tasks if the computer isn't functioning correctly. Offline learning doesn't involve any of this, but it takes a lot of time. The purpose of the literature study is to comprehend the academic writings on the subject of e-learning from a technological standpoint as well as with regard to its effects on the students. The study identifies the shortcomings in the current system of education and suggests topics that should be covered in future research to fill those deficiencies.

2. LITERATURE SURVEY

As according Allo (2021), the circumstances brought on by the Covid 19 virus has made the influence of pandemics on education a crucial subject for scholars. Additionally, students have a favorable opinion of e-learning and find it beneficial. A poll by Allo (2021) of 424 institutions worldwide revealed that the Covid 19 pandemic crisis has had an impact on education and that online learning is essential for carrying out educational activities (Suresh, Priya, & Gayathri, 2018). Teachers must be able to adjust to changes in technology in the educational process and use e-learning to transfer information (Sun, Tang, & Zuo, 2020; Al Lily, el al., 2020), (Asif, M., Khan, M. N., Tiwari, S., Wani, S. K., & Alam, F. (2023).

According to Khafit, Sulastri, and Fauzan (2020), students' usage of e-learning is significantly influenced positively by perceived utility, perceived ease of use, self-confidence, and subject matter standards. To optimise learning in certain circumstances, some crucial components of the online process must be utilized (Gupta & Mittal, 2015). The development and management of internet infrastructure to prevent disruptions, particularly during video conferencing, the use of approachable tools to assimilate and comprehend students' information, the provision of trustworthy, interactive, and a variety of electronic resources, and the use of social networks to create students' online communities to lessen their feelings of isolation are some of these crucial components (Adedoyin and Soykan, 2020; Almarzooq, el al., 2020).

According to study by Agarwal and Dhawan, (2020), online education can be a lifesaver during the Covid 19 crisis. He also points out that while some students are still using the offline system, others are being pushed to participate in global pandemics. According to Agarwal and Dhawan, (2020), Ed-tech start-ups are expanding quickly in terms of providing online learning and combining multimedia. People have issues with numerous technology, and pupils lack motivation. This is a serious obstacle for online education. However, thanks to Ed-Tech startups, students and instructors may study conveniently, productively, and

interactively (Tiwari, S., Bharadwaj, S., & Joshi, S. (2021). They can also use improved research and technology to find solutions to numerous issues.

In their study, Brown and Liedholm (2002) concluded that using an online technique gave students somewhat higher GPA and ACT results than using an offline one. A student inquiry contrasted the microeconomics findings. This difference was more obvious on difficult issues and less so on simple problems. One factor for this was that none of the online students reported spending more than seven hours per week, and half of them claimed to spend no more than three. Half of the pupils have completed each topic for at least three hours each week. When observed during a separate analysis, time gaps for class or active involvement produced a different outcome (Hiltz, Turoff, 2000; Ali, et al., 2020).

3. DATA ANALYSIS

The following study have analyzed major issues to assess technological impact of online and offline teaching by conducted a poll on 500 students. The students were randomly selected from different colleges of UG and PG. The data was analyzed and the results are categorized into three major areas. These are:

i) Physical Issues: Students who study using digital media have significant eye strain; the majority of them experience eye redness, excessive eye watering, light sensitivity, sleeplessness, etc. In these conditions, having anything printed is frequently a dangerous alternative and may not be very accessible to everyone. Even if college or higher education students may follow this, some of their classmates are having trouble because of it. Due to the blue light that smart phone displays generate disrupting the sleep cycle, eyes are the most harmed while using them. 75% of the audience expressed concern about the rising number of children's eye problems. Use of screens too much has been connected to high blood pressure, diabetes. Furthermore, the use of computers for extended periods of time when learning online also poses certain health-related concerns. Poor posture has an adverse effect on the backbone as well, and 83% of the audience had back pain complaint. 54% of the respondents agree that kids get tired after spending hours on computers, laptops, or mobile devices to view videos. Thus, parental supervision can reduce the likelihood that youngsters will develop eye problems. Issues include back discomfort, loss of mobility, eye strain, and even mental difficulties. The primary goal of efforts, whether learning takes place offline or online, is to transfer information to students. Prior to implementation on a large scale, the health-related concerns should get equal attention from the education and health sectors.

ii) Psychological Issues: While the pupils' quick performance on timed assignments is noted, the deadlines do make them a source of stress for certain students. Participants in 63% of the poll approved of it. The government should make sure that junior-level students have access to digital resources, especially in underprivileged rural homes. Most college students do not have this problem, but because the majority of them do not have laptops or computers at home, they are unable to complete their outstanding tasks. In 2012, Singh and her

colleagues provided research showing that online learners are more effective than their offline counterparts. The efficiency of pupils was significantly influenced by their course load (Ahmad et al., 2020).

iii) Technical Aspects: Another element that influences productivity while implementing online education is the level of internet access in our country. Participants' acceptance of the reality was 82%. While 70% of the sample population of the responder acknowledged having trouble downloading movies, According to our poll, 62% of participants said they were worried about the security of these platforms as the proliferation of video conferencing app marketplaces like Google Meet, Zoom App, etc. increased and the system as a whole dreaded the potential bad outcomes of video conferencing. Furthermore, 66% of the audience concurred that not every school-age child had a Smartphone. In 2015, Moreover and his coworkers studied the effects of e-learning technologies on students' academic performance. Students were used in the study. The analysis contrasts the answers to questions from the field of law where the e-learning tool was offered in a pilot form with the answers to questions from other areas of law. The outcomes of the students have been impacted, according to the researchers, who made this observation. However, it was condemned of the notion that using an e-learning tool can have a detrimental impact on pupils who rely on the contents provided. None of the students have adequate study materials with them due to the abrupt introduction of the lockdown; instead, they are entirely reliant on the digital resources offered by their lecturers and the internet. Despite having all the information, there could still be a few communication hurdles.

- Distant versatile well-being checking has effectively been perceived as not just a potential.
- It additionally represents a genuine danger on customer's security.
- Licensed innovation of observing specialist co-ops likewise getting troubles in innovation.

Because respondents gave online education a score of 5.5 out of 10, their perception of it as a whole was unexpected. The literature strongly suggests that online education is just as successful as offline education and has its own benefits for boosting learning in schools. The study showed that additional aspects, such as the necessity for designing digital learning materials, learning objectives, and student preferences and characteristics, need to be clarified. Eighty two percent of the participants claimed that the quality of online education is inferior to that of traditional classroom instruction. While 33% of those surveyed disagreed with this assertion, whilst also 66% of them thought that online assignments are good, they were unable to understand topics in the online method As a result of the data, it is clear that the study's purpose and emphasis are the primary affect the goals and value of online learning. Another consideration is one's own academic effectiveness influencing element for the results. The evaluation of e-performance learning's is beneficial for more than simply the not only for the students.

4. RESULTS AND FINDINGS

The results of this study covers the following areas:

i. Inequality & Inaccessibility: There is a disparity in student access to this form of education, which is typically tied to family income. The shift to online education widened the gap between advantaged and poor pupils. Limited or no access to digital devices and Wi-Fi is available to students from less developed areas. Additionally, they are less technically skilled, giving better advantaged kids an unfair academic advantage. This inequality includes educational institutions that may be less well-equipped than those in metropolitan areas, such as those in rural areas or underdeveloped regions of the world.

ii. Inadequacy: Even though automation may greatly enhance the educational process, it cannot completely replace it, especially in STEM professions that need for hands-on instruction in operating rooms or labs. In the case of health care sciences, this is especially true. 34% of the studies that were selected had a special medical education emphasis, examining nursing or residency programmes in particular. These publications frequently emphasized the need of hands-on training and the limitations of indirect information obtained just through simulations or demonstration films.

iii. Communication Quality: The devaluation or absence of face-to-face contact, as well as the inherent ambiguity of written exchanges, made it more difficult for students, their classmates, and their professors to establish bonds and rapport. In the absence of direct contact and the capacity to observe students face-to-face, it is more challenging for teachers and instructors to clarify instructions and assess student reaction, engagement, and participation—or lack thereof.

iv. Technical Difficulties: Communication might be hampered by poor Wi-Fi or internet reception, connection instability, errors, and other technological issues.

v. Stress, Workload and Morale: The abrupt and forced switch to online schooling has an impact on students' mental health. Many people had worries about their financial security and social interactions during the lockdown, which had an indirect impact on their performance. The burden for academic staff members was increased, if not doubled. Additionally, prolonged absence from face-to-face social connection might be hazardous to personal wellbeing.

vi. Technological Literacy: Many educational institutions were caught off guard by the rapid and forced nature of this digital transformation, giving them little to no time to prepare their academic personnel. This left less technologically knowledgeable teachers and instructors ill-equipped to tackle complex computer and internet-related activities. Obstacles included the instructors' lack of technological know-how and prior experience with or comfort with using online tools. In many instances, the failure of ODE was caused by academic staff members' incapacity to use technology.

vii. Student Engagement, Participation and Motivation: Due to issues including dependency on recorded lectures, a lack of drive or interest, tension and boredom, as well as the distraction brought on by

utilizing technological devices, there were moments when student involvement was insufficient. The exhaustion brought on by extended screen time as well as the emotions of loneliness and melancholy brought on by a lack of interpersonal interaction were added to this.

viii. Student Performance Assessment: Academic staff had to restructure assessments in a way that fairly and accurately represented student achievement owing to the challenges connected with getting students to campus to conduct examinations. It was especially difficult in professional training.

ix. Work-Life Balance: ODE offers a lot of flexibility in terms of time and place. Although this flexibility may be practical, it has a potential to blur the lines between personal and professional experiences. Conversely, lectures in traditional educational paradigms are severely constrained by set hours and geographical places.

x. Privacy Concerns: Issues about data protection, privacy violations, and anonymous wrongdoing. regardless of the statistical methods employed. We must understand that online education offers benefits for boosting student learning and is a legitimate technique for higher education instruction. We need to rigorously assess the design principles of digital learning materials, learning objectives, and preferences and characteristics of students in order to safeguard the success of online learning.

5. DISCUSSION AND CONCLUSION

The boundaries of space and time are irrelevant to ODE. It gives students the freedom to see their lectures from the convenience of their homes or from anywhere else. The temporal flexibility of online learning, made possible by features like lecture recording, also enables students to self-regulate their learning and advance at their own speed. A window into what an education and work environment based on technology might look like was provided by this forced digital transformation in education, which exposed flaws in the system and forced educators to consider and review current and previous models of education. This encouraged pedagogical innovations and accelerated change. It is accelerating development and may be seen as a catalyst for curriculum and teaching methodology improvement. The employment of simulations and other didactic techniques, as well as the adoption of online learning, were regarded as effective, if not quite full, replacements for conventional learning. It succeeded in its mission to maintain the delivery of education despite the epidemic and assisted pupils in meeting the expectations placed on them. Responded to or enhanced the spread of information, with the added advantages of cost-effectiveness, flexibility, and general efficiency.

Technology integration in the classroom exposes pupils to contemporary and pertinent technologies. This promotes skills in online and digital media while also bridging the technical literacy gap between students and academic staff, preparing students for the job market in an increasingly technology-reliant world of digitization and automation. The drop in educational expenditures can be attributed to the move to online learning. Without the need for expensive infrastructure, it gives students a comparable educational experience, and it also lowers other unavoidable expenditures like commute charges. Online education makes it easier to communicate in a current and practical way. During lectures, significant issues might be highlighted, and involved students can gain from these debates by listening or by joining in chat. Additionally, since participants do not need to physically meet or experience the awkwardness that comes with speaking in front of a live audience, it is an excellent method of communication that promotes conversation. Parents of young children can become more active in their kids' education by using online learning.

Due to the Covid-19 epidemic, the offline or face-to-face learning approach has been replaced with the online learning process. Numerous pupils and educators are compelled to employ internet teaching resources in every nation on earth (Alvi and Gupta, 2020). As a result, during the pandemic Covid-19 crisis, many professors and students adjusted their approaches to teaching and learning, and they also argued that online learning is much superior to offline learning. Online education is really helpful in these repressive and constrained times. The teaching and learning activities are carried out successfully. However, the primary issue with the online learning technique is the network issue. Additionally, we discovered that many students would choose offline learning over online learning based on the results obtained before to the covid-19 epidemic (Al-Taweel et al., 2020) The student likes offline learning because it allows them to concentrate, be active, and have fun during the lesson by better grasping the material and facilitating dialogue. Online learning did not work because of a number of problems. The effectiveness of the online technique is strongly influenced by the quality of internet networking. Because virtual schooling is the sole practical option while the country is under lockdown, stakeholders are adjusting to it. India has come to the realization that neither the economy nor the education system will halt, not even during a lockdown. We've learned through lockdown that we can endure challenges and still advance. Ongoing efforts there are gaps in the devotion of students and teachers that must be filled for pupils to progress. Currently conducted studies that might be addressed by including student input and analysis the success of online education in terms of improving students' lives rather than concentrating on all of its technical elements. The reliability of the digital teaching curriculum, on the other hand, depends on a number of elements, including the teacher's level of technology education, teaching style, interaction with students, strategies that capture students' attention, encouraging student-teacher connections, cooperation, quick feedback, active learning, and time spent on tasks. The quality depends on a number of variables. This element can assist the student in making greater progress during the online educational process and assist them in receiving an online education of high quality. Despite the fact that all of the included studies showed that online learning is superior to offline learning when using higher education methodologies, none of the studies showed that online learning is ineffective when compared to offline learning techniques,

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