# The implementation and impact of E learning on education during Covid 19

## **Introduction**

E-learning is defined as an information technology incorporated way of learning in which both diachronous and synchronous learning are accomplished utilising a variety of information and technology methods. (Lawn, et al., 2017) Students in an e-learning environment can access the course using online technologies such as the Internet and information communication technology (ICT) and teachers use ICT to deliver the e-learning course (Black, et al., 2007)

As a consequence of the disastrous Covid-19 spread combined with the adoption of national lockdown throughout the world, educational institutions throughout the world were left no choice but to switch from standard class-based learning to virtual e-learning to maintain social distancing. (Al-Naabi and Al-Abri, 2021)

Although many studies have been carried out around e-learning during Covid-19, studies have rarely explored the negative and positive impacts it has on both students and teachers around various areas of interest. The switch to e-learning presents serious challenges to both teachers and students, but has also created learning opportunities and new ideas within the industry. (Wendelboe, et al., 2020)

The aim of the literature review is to explore the implementation of e-learning during the Covid 19 pandemic to contribute to the understanding of the various challenges and opportunities which derive from the e-learning during the pandemic to come to an understanding of the effectiveness of it.

Therefore, research questions were identified to guide this literature review 1) The impact the rapid shift to e-learning caused on teachers and students 2) The impact e-learning had on academic education 3) Challenges faced by teachers due to the implementation of e-learning 4) Challenges faced by students due to the implementation of e-learning 5) Challenges faced by third world countries 6) Impact e-learning has on mental health

Many technical terms are used to describe e-learning, which includes online learning, virtual learning, distance learning, online education all of which have the same meaning. This paper will utilise a variety of all these terms.

## **Literature review**

As reported by Liguori and Winkler (2020) due to the pandemic, institutions were obliged to convert their entire teaching system to online learning over night. This offered significant challenges because the initial aim was not to see if e-learning could deliver on the guarantee of a high-quality education, but rather to see how institutions could swiftly and effectively embrace mass implementation of e-learning.

Teachers in universities, according to Chang and Fang (2020), were unfamiliar with the teaching materials necessary for online teaching, which had a significant detrimental influence on the adoption of e-learning. Similarly, Bryson and Andres (2020) agree that teachers are inexperienced with online technology due to the reason of the abrupt move to e-learning, which hinders their capacity to deliver quality education. Furthermore, because the vast majority of teachers have insufficient technological knowledge, the concept of online education is still in its infancy. Problems such as Course scheduling., how to pursue online teaching in a planned manner, how to keep track of the impact and quality of e-learning has arisen because of the unexpected imposing of online teaching, impacting user satisfaction negatively. (Chen, et al., 2020)

Nonetheless, according to studies by McMaster, et al. (2020), and Ratten (2020) this unpreparedness, disruption, rapid shift and being forced into the digital realm can create great learning opportunities for teachers as well as new ideas and innovative technologies for online learning. Similarly, according to Bryson & Andres (2020) the challenges in regards to e-learning will also present potential for innovative ideas and solutions within the teaching industry. But this does not mean that colleges should compromise on the quality of education (Ratten, 2020)

Wahid, et al. (2020) discourages students studying sciences, for example, Biology, online, since they claim undertaking experimental learning is impossible to do so online. Whilst on the other hand, during Covid-19, Alqudah, et al. (2020) employed a survey to assess Jordanian students studying ophthalmology, perspectives, and experiences with e-learning. The findings demonstrated that e-learning has a number of advantages, including flexibility, the versatility of time and location for teachers and students, and enhanced engagement from shy students.

Though on the contrary the study also revealed the drawbacks of e-learning which includedInconvenience of teaching process without face-to-face involvement, poor e-learning skills of students or professors, and slow internet connectivity and a lack of practical training similar to what had been claimed by Wahid, et al. (2020). Likewise in a study by Rizun, et al. (2020) Some students expressed a strong desire to return to classroom-based learning where they may interact with their peers and teachers in person, address various concerns with their teachers, and receive advice from a human instead of a computer screen. Whereas other students reported that they found distant learning tools and software to be quite straightforward, and they have no difficulty grasping the fundamentals of this educational format. And they believe distant learning is a good concept and want to utilise it frequently throughout the semester (Rizun, et al., 2020)

But in a study by Khalil, et al. (2020), majority of medical students in an institute in Saudi Arabia despite several issues faced, revealed that they would prefer e-learning for the future. Likewise medical students in Jordan revealed that they preferred online learning (Al-balas, et al., 2020). However the authors of the study, Al-balas, et al. (2020), came to a conclusion that the most of the students who preferred online learning already had prior online learning experience in their medical schools which effects the accuracy of the research, and that they only preferred it because the professors adapted well to the e-learning platforms, providing quality education which is not the case everywhere as seen in prior researches.

Gonzalez, et al. (2020) studied how students scored in examinations prior to and after the Covid-19 restrictions. The findings of their research demonstrate that students improved their scores significantly even in assessments that were previously administered in an on-line manner However, this improvement is only noteworthy if there were significant changes in online tests conducted prior to the pandemic (Gonzalez, et al., 2020). So as a result, these data show that the shift to complete e-learning may not be the only source of the improvement in students' grades as the students similarly scored higher prior to the pandemic in online assessments (Gonzalez, et al., 2020).

Kamali and Kianmehr (2015) conducted a study where they explored e-learning from students’ viewpoint. The findings revealed that students are finding e-learning rather interesting, whereas institutions' interest in e learning is going downhill as they claim that students would need an appropriate network system which is vital to mitigate the negative effects of online education,

Although this study was conducted in 2015 it is still relevant in todays society as the internet issue still has not improved as according to Chang and Fang (2020), up to 70% of teachers believe that the internet speeds and the strength of the internet are poor which makes it difficult to use the e learning tools. According to the evidence in the literature, it is critical to have a stable network infrastructure, access to internet data, and access to a device such as a laptop for students which will in turn provide smooth online teaching and learning. Similarly, the absence of a consistent internet connection for e learning has been identified in the research by Mamun, et al. (2020) as a major barrier to for students participation in online education

Data security and confidentiality were mentioned as areas of concern in the study by Lassoued (2020) in which 66 percent of teachers reported that they were concerned about the safety measures and privacy of data. However, Romero-Ivanova, et al. (2020) identified that the specific app ‘zoom’ utilises user validation, user passwords, and waiting rooms in order to allow users out of waiting rooms one at a time once they'd joined a session. these were all identified by Romero-Ivanova, et al. (2020) as effective ways to safeguard confidentiality of users.

But Jawida, et al. (2019) identified that there are additional difficulties with data and information security and confidentiality, as well as protection against piracy on internet sites, all of which have an impact on courses, examinations, and their outcomes, because the teacher has no way of knowing if a student is attempting to cheat on an online exam or if the pupil who is supposed to take the exam is actually taking it rather than asking someone else to take the exam on behalf of them. Similarly, according to Sahu (2020) conducting exams online has been considered by teachers as a challenging procedure, significantly in relation of preventing plagiarism during examinations.

Additionally, plagiarism was seen as a major concern for English language exams as highlighted in Davies, et al. (2020)'s review of institutional responses to COVID-19 in four institutions in China. But tools like Turnitin, according to Davies, et al. (2020), can be used to alleviate this problem.

Apart from this, according to Dawadi, et al. (2020), online education is likely to worsen previously existing disparities in low-income nations like Nepal because of huge social and educational literacy gaps in the population. With Covid-19, the digital divide would widen even more the gap between rich and disadvantaged students which would mean that the access to online learning for certain students is a huge issue.

Due to a lack of physical learning space and surrounds, several students learning online during lockdown had difficulty, students who live in small houses do not have a designated room where they may study quietly without being disturbed (Baticulon, 2021). Consequently, studying at homes becomes difficult for this group of students. Likewise, Kapasia, et al. (2020) reported that 44.4% of students lacked a specific reading place for the study. In the lack of a productive learning space, students find it challenging to focus on their assignments, and this will impact on study productivity as a result (Chang and Fang, 2020)

There have been several reports of the e-learning shift during Covid-19 causing an impact on the mental health of students. Rossi, et al. (2020) shows a sudden change from classroom-based to e-learning. Stress, for example, is one such problem as well as anxiety and depression might arise as a result of a rapid change in one's way of life and concern about the future.

Additionally, students whose average earnings or ways of living were compromised by Covid-19 and the lockdown rules were found to be more prone to feeling stress, anxiety, and depression, all of which might limit their motivation to engage in online learning.. (Cao, et al., 2020)

Furthermore, according to statistics, 24.9 percent of Chinese students have experienced anxiety as a result of the COVID-19 outbreak. (Pragholapati, 2020)

## **Conclusion**

The literature review has explored the implementation of e-learning in the educational sector during the pandemic and created an understanding of the challenges and opportunities around various areas to help understand the impact it has had on education based on the opinions of researcher’s teachers and students. However, rarely any studies commented on the academic results of students before and after the use of e-learning during the pandemic, this would have shown the true effect of e-learning compared to traditional classroom-based learning. Another point to be noted is nearly all studies which were carried out about the implementation of e-learning were conducted in 2020 and are not recent enough to show the impact.

So due to the different and opposing opinions of teacher’s students and researchers regarding the effectiveness and impact of e-learning on education, as a result, it is suggested that further research be done to evaluate the impact e learning has specifically on academic achievements in the short and long term respectively, which can help to come up with a appropriate conclusion of the impact e-learning has had on the education of students – good or bad?

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