

Impact of Online learning during Covid-19 – An Empirical Investigation

Mateen Yousuf

Dept. of Management
Sri Venkateshwara University ,Amorha,UP,India

Abstract- Online education changes the pedagogy and components of conventional teaching. Research conducted on the issues and challenges faced in online teaching learning process have raised many issues in online education. Covid-19 has enabled access to online education to masses which gave rise to new challenges previously unknown to researchers. Review of literature has identified many issues but the research seems to be incomplete. This research aims at identifying the trends, issues and challenges faced by students and teaching instructors during Covid-19 during their access to online education. Issues faced by students and teaching instructors include technical issues, psychological issues, sociological issues, health issues, time management, lack of training, issues related to content and interface of electronic gadgets and educational applications. To mitigate these problems, schools need to provide training to the instructors, rope in psychologists, doctors, health experts and private players to address various genuine concerns. Technical support to instructors must be provided as well help in content development.

Keywords- COVID-19, pandemic, challenges to e-learning, online learning, and digital education.

I. INTRODUCTION

The growth of internet has had a profound effect on growth and development of content and transmission modes of education. Internet had an impact on every aspect of our lives including education. Infact the role of internet in education can be only described as magnanimous. The onset of COVID-19 has only hastened the importance of online education and its necessity was felt because of the lockdown imposed by the governments all over the world and the social distancing norms enforced. Educational institutions all over the world closed down giving impetus to education via distance and online mode. This had a great impact on the level of comfort and ease with which student's perceived education.

Numerous challenges and problems were faced by the students while learning through the process and it showed in their performance. Various new technologies emerged in order to mitigate the problems of the students learning through online mode. A solution was sought which would help students overcome some of the problems. Some of the issues were solved using technology and other issues persisted. Learning management systems and other content based technologies were of the great help for both students and teaching instructors. Governments also sought to develop the online platforms and giving them accreditation and duly recognising the activities performed over these platforms. Students, teaching instructors as well as all the concerned are making efforts to make optimal use of these technologies to minimize the

effect of current pandemic on the education. Efforts are also on to make these technologies the new normal in dissemination of education in future as well.

Many researches have been conducted in various areas of education in order to calculate the efficiency of online education in different genres of education. The importance and improvements of online education has become a priority for educational systems and ministers and measures have been taken to streamline the process of online education.

Top varsities all over the world have been banking on online education to impart education. This has led to universalization of education which should only been had by an elite few until before the pandemic. Online education is accepted so widely because of many benefits it entails. The examples of the same are that the services are stored and education like before is no longer perishable. The timings are flexible and different programs are accessible to everyone not only individuals who had to enroll in an institution leaving aside all other works. It has led to education becoming affordable to many. It has led to development of new fields like professional content managers, LMS producers as well as many other fields which were earlier in nascent phase.

Inspite of so many benefits, there are many issues still prevalent in this system which is a part of any new ecosystem arising out of lack of physical interaction between the two parties as well as many other challenges which could become opportunities in future. Online learning has been in vague use since some time now,

because mass adoption of online education has only happened after the coronavirus pandemic. Government has mandated the use of online education as the only means alternative to the traditional system of education. Therefore, education is no longer limited to brick and mortar structures but instead mobilized to small portable devices which are usually desktop or handheld. Not only schools but universities and professional course imparting institutions have successfully implemented the model of online education. Lectures, examinations, assessments, tutorials, practical etc. are being provided in online mode in a way students have never experienced before. The education has not been at all impacted during the lockdown period as it was feared to be the worst affected sector. Institution have bought premium software's regarding to content management as well as delivery to make sure that latest technology is being served to students. Free software's are also being used so that students do not end up paying extra for these softwares where they are not available free of cost.

The students as well as the teaching instructors took some time initially to get acclimatised to the system as most of the older generation of teachers were not well aware of the use of ITes. This research was necessitated by the fact that students had complained of various problems they face in using the technology which experts have claimed have reached a near optimum level of use during this period of work from home. We needed to find out the challenges, trends as well as opportunities in online education in coming future. The involvement of students as well as instructors is must for these technologies to streamline without which the system can collapse under its own weight. This research is one of the efforts to help the stakeholders identify their issues and bring the same to people concerned with developing and improving the technologies for providing online education.

II. REVIEW OF LITERATURE

Urda & Weggen (2000) related that technology, the rapid obsolescence of knowledge and training, the need for just-in-time training delivery, and the search for cost-effective ways to meet learning needs of a globally distributed workforce have redefined the processes that underlie design, development and delivery of training and education in the workplace. In addition, Urda & Weggen related that the need for different learning models due to skills gap and demographic changes and demand for flexible access of life-long learning have played upon teaching and learning.

In this teaching and learning evolution, however, several terms have been attached to characterize the innovation and creation that has been occurring. Like CBT, online training was classified as an all-encompassing term that refers to all training done with a computer over a network,

including a company's intranet, the company's local area network, and the internet (Gotschall, 2000). Hall and Snider (2000) define e-learning as the process of learning via computers over the Internet and intranets. Hall and Snider extended that e-learning is also referred to as web-based training, online training, distributed learning or technology for learning. Distance learning, however, was not included in the e-learning definition and was defined as its own entity as a learning process meeting three criteria: a geographical distance separates communication between the trainer and participant; the communication is two way and interactive; and some form technology is used to facilitate the learning process. Similar also to e-learning and its related terms is technology-based learning (Urda & Weggen 2000). Urda & Weggen shared that e-learning covers a wide set of applications and processes, including computer-based learning, web-based learning, virtual classrooms, and digital collaborations. Hall and Karon (2000) capitalized on the accessibility of courses via intranets and internet, training can be self-paced, availability of training at any time and place, training being less expensive, and reduced or eliminated travel time.

Kotter & Heskett (1992) related that it is helpful to think of organizational culture as having two levels that differ in terms of their visibility and their resistance to change. At the deeper and less visible level, Kotter & Heskett related that culture refers to values that are shared by people in a group and that tend to persist over time even when group membership changes. McCrea, Gay & Bacon (2000) in discussing business to business e-learning industry recognized that employee value is not simply measured by the ability to execute strategy and manage teams, but also their residual pool of on-the-job knowledge they have amassed during their tenure. They go on to say that until recently corporate managers were still failing to harness the value of tacit learning.

Khajanchi and Kanfer (2000) in their review of knowledge management found that in creating an environment that encourages knowledge sharing the most important key is creating processes and an organizational culture. E-learning is becoming a norm for corporate training.

(Chute, Thompson & Hancock, 1999; Galagan, 2000). Many researchers agree that technology will never replace trainer or instructional designers, but technology brings with it more demands for teamwork and collaboration among a diverse group of workers (Wagner, & Reddy, 1999). It has also become essential for trainers to use new technologies in working with participants. Instructors become an orchestrator of multimedia technologies. Much like a conductor of symphony orchestra, the instructor calls up inputs from various media sources to enhance the presentation effectively (Davie & Wells, 1998; Weinstein, 2000;

Chute, Thompson, & Hancock, 1999). Leonard (1996) describes the new trainers' roles as someone who facilitates, mentors and guides employers and employees to use the best and most timely training available. The goal of the corporate trainer, Leonard says, is to find, interpret and assess a wide range of information and technologically sophisticated products. Learning style has been defined by Keefe (1979) as "the characteristic behaviors of learners that serve as relatively stable indicators of how they perceive, interact with, and respond to the learning environment."

III. RESEARCH METHODOLOGY AND RESULTS

A cross sectional study of 264 students was taken among the private universities in India. The questionnaire was employed online using Google forms as the source of questionnaire administration. The study was conducted over a period of 2 months from May 2020 to June 2020. Students enrolled in arts and humanities were administered the questionnaire. The sample taken was students from non-practical, non-numerical subjects. Total number of students from whom data was collected was 700 out of which 264 were considered redundant, useless or non-serious. Sample size was considered to be sufficient to be a near exact representative of data keeping in view the margin of error and confidence interval. Judgmental sampling technique was used to choose the sample.

Literature review was conducted and a questionnaire was developed based on that. Total number of questions were kept at 25 and the questionnaire was measured on a 5 point Likert scale where 1 was strong disagree and 5 was strongly agree. Another set of questionnaire was for recording the demographic data. The questionnaire was validated by literature review and upon consultation by experts. Cronbach's alpha was used to test the reliability of the data. Pilot research was tested on 50 participants. The questionnaire was divided into 4 sections: Traditional teaching methods, Impact of online teaching/interactivity, future learning preferences, privacy and security. SPSS was used to analyse the data. Mean and standard deviation was calculated. Demographics was also analysed to check the linkages of data. T-test was applied for data analysis. Frequencies and descriptive analysis was done on demographic data.

Table 1 Demographic Data

| Age | Frequency | Percent |
|--------------|-----------|---------|
| Less than 15 | 138 | 52.3 |
| More than 15 | 126 | 47.7 |
| Total | 264 | 100.0 |
| Income | Frequency | Percent |

| Upto 20000 | 76 | 28.8 |
|-----------------|-----------|---------|
| 20000-40000 | 110 | 41.7 |
| 40000 and Above | 78 | 29.5 |
| Total | 264 | 100.0 |
| Frequency | Frequency | Percent |
| Once a month | 56 | 21.2 |
| Frequently | 106 | 40.2 |
| Daily | 102 | 38.6 |
| Total | 264 | 100.0 |
| Gender | Frequency | Percent |
| Male | 144 | 54.5 |
| Female | 120 | 45.5 |
| Total | 264 | 100.0 |

Table 2: Type of device used for e-learning

| Classification | Respondents | Percentage |
|----------------|-------------|------------|
| Laptop | 48 | 18 |
| Mobile | 205 | 78 |
| Desktop | 11 | 4 |
| Total | 264 | 100 |

Table 3 Type of application used

| Classification | Respondents | Percentage |
|----------------|-------------|------------|
| Zoom | 158 | 60 |
| Whatsapp | 66 | 25 |
| Google Meet | 40 | 15 |
| Total | 264 | 100 |

Cronbach's Alpha

Table 4 Reliability Analysis

| Classification | Respondents | Percentage |
|----------------|-------------|------------|
| Yes | 119 | 45 |
| No | 132 | 50 |
| Maybe | 13 | 5 |
| Total | 264 | 100 |

Table 6: Positive Impact of online teaching

| Classification | Respondents | Percentage |
|----------------|-------------|------------|
| Yes | 185 | 70 |
| No | 53 | 20 |
| Maybe | 26 | 10 |
| Total | 264 | 100 |

Table 7 Willing to adapt to Future online learning.

| Classification | Respondents | Percentage |
|----------------|-------------|------------|
| Yes | 238 | 90 |
| No | 13 | 5 |
| Maybe | 13 | 5 |
| Total | 264 | 100 |

Table 8 Satisfied with Privacy and security.

| Classification | Respondents | Percentage |
|----------------|-------------|------------|
| Yes | 66 | 25 |
| No | 172 | 65 |
| Maybe | 26 | 10 |
| Total | 264 | 100 |

Findings

The findings of this research was based on the empirical information collected via this research. The main findings of this research were as follows:

- The opportunities of e-learning are far greater than challenges faced by students.
- There is a general acceptability of e-learning among students and instructors.
- Traditional learning and its impact may be learnt in far future and may not be realized by the students at all. It will be a matter of study for anthropologists and psychologists.
- E-learning will be unavoidable in the future. So adopting to this technology and creating necessary infrastructure for the same is a must for all stakeholders.

Discussion

The data of this research was analyzed using various statistical softwares as well as qualitative judgment was applied upon collating review of literature with information gathered from the research. Problems faced by Students included the technical problems like 1) No/Low connectivity 2) Absence of high speed internet 3) Lack of smartphones with poor students 4) Lack of internet in rural areas 5) Download takes a long time 6) Possibility of a virus infecting the devices 7) Text is not visible on a small device as compared to a blackboard 8) Deletion and crashing of servers. Financial Problems faced by the students included 1) Lack of individual smartphones with each child. Health Problems faced by the students included 1) Negative effect on eyes of a child 2) Negative effect on psyche of a child. In addition to that educational problems faced by the students included 1) Unfair assessment – Cheating is easier 2) Issue about instructional quality – Interaction between a teacher a student gets hampered. Psychological/sociological problems encountered were 1) Teaching Learning process does not happen in comfort zone 2) Retention of attention of student is difficult and impossible to ascertain 3) Isolation in learning 4) Lack of motivation 5) Students can switch to other activities without the teacher noticing 6) Online cannot replace books.

BIBLIOGRAPHY

- [1]. Urdan, T. A., & Weggen C. C. (2000). Corporate e-learning: Exploring a new frontier. WR Hambrecht + Co.
- [2]. Gotschall, M. (2000). E-learning strategies for executive education and corporate training. *Fortune*, 141 (10) S5 – S59.
- [3]. Hall, B., & Snider, A. (2000) Glossary: The hottest buzz words in the industry. E- Schreiber, D. A., & Berge, Z. L. (1998).
- [4]. Hall, B. (2000). New study seeks to benchmark enterprises with world-class elearning in place. *E-learning*, 1 (1) 18 - 29. Urdan, T. A., & Weggen C. C. (2000). Corporate e-learning: Exploring a new frontier. WR Hambrecht + Co.
- [5]. Karon, R. L. (2000). Bankers go online: Illinois banking company learns benefits of e-training. *E-learning*, 1 (1) 38-40.
- [6]. Kotter, J. P., & Heskett, J. L. (1992). Corporate culture and performance. New York: The Free Press.
- [7]. McCrea, F., Gay, R. K., & Bacon, R. (2000). Riding the big waves: A white paper on B2B e-learning industry. San Francisco: Thomas Weisel Partners LLC.
- [8]. Khajanchi, V., & Kanfer A. (2000). Knowledge management. National Center for Supercomputer Applications.
- [9]. Chute, A.G., Thompson, M. M., & Hancock, B W. (1999). The McGraw-Hill handbook of distance learning. New York: McGraw-Hill.
- [10]. Wagner, E. D., & Reddy, N. L. (1999). Design considerations in selecting teleconferencing for instruction. *Distance Education for Corporate and Military Training*, 64-70.
- [11]. Davie, L. E., & Wells, R. (1998). Empowering the learner through computer mediated communication. Alexandria, Va: U.S. Army Research Institute for the Behavioral and Social Sciences.
- [12]. Weinstein, M. B. (2000). Thirty three world-class competencies. *Training and Development* 54 (5) p. 20 –23.
- [13]. Leonard, B. (1996). Work and training overlap. *HR Magazine* (<http://www.shrm.org/hrmagazine/articles/0496cov.htm>)
- [14]. Chute, A.G., Thompson, M. M., & Hancock, B W. (1999). The McGraw-Hill handbook of distance learning. New York: McGraw-Hill.
- [15]. Keefe, J. W. (1979). Learning style: An overview in student learning styles. In *Diagnosing and Prescribing Programs*, (pp 1-17). Reston, VA: National Association of Secondary School Principals.