

Developing a resilient model for online education: post COVID-19

Editorial

The problem

Due to outbreak of COVID-19 pandemic the whole scenario of education is going to change. The education sector is going through a transformation and revealing new experience for educators as well as learners. Starting from delivering online lectures, classes, assignments, Virtual labs, webinars, cultural activities, competitions, quizzes etc. to online exams, everything is being conducted and organized in a new way on an online platform. Educational stakeholders have started making preparation for making online education more resilient. The requirement of evolving a new system which is more robust, a combination of online learning as participative learning that gives learner a feel of physical classes is required to be developed. Though the trend of distance learning in India is not new it goes long back to the era of Mahabharata. In Mahabharata during the time of battle between Kauravas and Pandavas at Kurukshetra, the king of the Hastinapur 'Dhritrashtra' used to listen the live narration of battle from his courtier 'Sanjaya'. It was a form of distance learning in which the live events were narrated to the learner, the reference to which is also given in first shloka of sacred scripture 'Bhagwad Geeta', Which means, "King Dhritrashtra asks Dear Sanjaya please tele-narrate me what is happening between my sons and Pandavas at war field of Kurukshetra".

Salient features: Post COVID-19 new education model will evolve, the salient features of the new education model will be:

- Post COVID-19 mobile learning/distance learning will flourish.
- Experiential learning will become more widespread.
- Social media will emerge as important platform for exchange of information among teachers, educators, parents, students and educational institutes.
- More emphasis on the study through simulation tools, case studies, stories, examples will be done.

The focus

- Developing experiential learning material for online classes.
- Learning/teaching cases for case studies
- Simulation games to explain concepts
- Role-plays demonstrating models
- Story based examples, questionnaire and group discussions
- Development of interactive online content to keep students engaged.
- Develop a standard common interface for all users which is safe, secure and easy-to-use.

Many digital platforms are existing and each organisation is using a different platform to organise/conduct meetings, webinars, online

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courses, class, lectures etc. due to which the users in general are facing up problem that each time they have to install new apps, learn about new interface (some of which are very complex) which reduces their learning experience.

Interoperability standards needs to be developed among various digital learning platforms. A portion of regular curriculum requires to be shifted/converted into e-content, making this integral part of regular program of study and a common practice. This will give an exposure of using digital technologies to students, educators and all stakeholders involved in teaching-learning process. Promoting use of digital content, encouraging use of digital library, developing the habit of using e-books, e-journals etc. among students and educators.

Development of education management system (EMS) for

- Assignments
- Quizzes
- Tutorials
- Lecture notes
- Class discussions
- Class announcements
- Academic calendar
- Displaying grades
- Teacher mentor relationship
- And many more

Though online learning will never replace traditional learning but in post pandemic era there will be inevitable requirements to change the traditional teaching-learning techniques we use today. A new era of flip classrooms, co-creation of knowledge, choice based course allotment, collaborative learning, learning at own pace, customized assignments as per learning ability, using learning theories like multiple intelligence, VAK/VARK theory, cognizance models, a sphere of learning has to be evolving and adopted fast.

Evolve or perish: Post COVID-19 education sector will face a challenge and situation will be such that either the system has to evolve

or parish. Following section explores various existing techniques for e-learning, the post pandemic era technology development requirements, various challenges to be addressed.

Various techniques for e-learning

- a) Distance learning
 - b) Correspondence learning
 - c) Learning from home
 - d) Massive online open courses
 - e) Learning through interactive TV channels
 - f) Video applications such as Youtube, Vimeo etc.
 - g) Learning through apps such as Byjus, Unacademy, Udemy, Lynda etc.
 - h) Learning through e-content blogs, articles, pdf notes
 - i) Self learning through e-books and other digital content
 - j) Listening audiobooks
 - k) The live meeting apps such as Google Classroom, Google Meet, Zoom, Cisco Webex, Microsoft team etc. And many more
- During post pandemic era technology will play an important role in changing the scenario of education. The role of educators, colleges, students, parents and all stakeholders of education industry is going to change and evolve. Every stakeholder needs to rethink how we can introduce the changes so that the education system becomes more resilient and agile. It is the high time to develop, to change, to modify the existing systems so that the teaching learning process becomes more responsive robust and substantial.

Some of the post pandemic era technology development requirements are:

- i. Developing lectures Studios, equipping educators and students with necessary digital gadgets, providing software training and above all providing strong Internet infrastructure.
- ii. A crucial requirement of educating all stakeholders about the importance of e-learning. Because until each stockholder right from highest to lowest level understands the importance of imparting online education, the new education model will not become resilient.
- iii. A strong need of redefining the role of educators as co-creator of knowledge, involved in co-learning and as an active participator evolving new model of education system.
- iv. Redefining the role of students so that they become actively involved in teaching-learning process, help educators to design curriculum as per their interest, give feedbacks, suggestions to make experience of online learning better for everyone. They have to be active co-creator of knowledge rather than being a mere passive receptor who used to sit on last benches and listen the teachers inactively.
- v. Providing necessary skills and familiarization of students, educators and parents with online protocols/decorum, discipline, life skills, conventions/procedures to make online learning a rich experience for everyone.

- vi. Provide basic knowledge and training to students, teachers, educators, principals, management of educational institute alike so they are able to tap into the new technology.

The challenge to be addressed:

- a) While creating the content it is important to ensure that it is not mere replication of the class content of the way an educator teaches in traditional classes. It is important to understand when the mode of teaching changes the content has to be modified accordingly to generate the interest of learner and keep him hooked. This requires to improve the quality and substance of the content to be delivered online.
- b) Make the content more and more interactive so that the learner is actively involved rather than becoming only a sedentary listener.
- c) It is necessary to enhance the quality of content substance wise whereas reducing its size data wise without compromising the experience of learning. Thereby reducing the requirement of bandwidth at the learner's end. Because still at many places students do not have high speed Internet connection.
- d) Keeping the interface simple and easy, requiring minimum hardware to set up thereby reducing technological burden.
- e) Motivate Students in such a way that they develop keen interest and self-motivation for learning. This can be achieved by allowing students to select courses of their interest, making the subject matter more interesting and interactive.
- f) High extent of self-discipline is required among the students to study and learn from online content even in absentia of teacher in unmonitored mode.
- g) The educators have to address diverse learning groups, that too in online mode where continuous monitoring of students is not possible as in traditional classes. He has to deliver the content in a way every learner whether slow or fast is able to grasp the content.
- h) The curriculum must integrate new technologies like artificial intelligence, machine learning, embedded systems, robotics etc. in the program.
- i) There cannot be a one pedagogical model for all types of learners but an educator may have to evolve completely new model that may be a summation of many models. The most important thing in whatever model selected is that learning should happen.

Conclusion

Post pandemic word is going to change, the things will not remain same every business model, economics model including education model will undergo a change and evolve. It is essential to become a part and an active contributor of this change. A new resilient model of education has to be evolved since the effect of pandemic is going to last long. The new model will not only be robust but will also prepare educators and learners and all the stakeholders in education sector alike for any future outbreak of pandemic.

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