Online and Hybrid Learning

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"This has caught all of us by surprise," said David Stavens, co-founder of the educational organization Udacity, when he saw the overwhelming response to one of the first Massive Open Online Courses in 2011. Since then, MOOCs have continued to surprise, excite, empower, disrupt and unsettle the education paradigm. Inspired by The Khan Academy, Stanford University Professor Sebastian Thrun decided to make his course on Artificial Intelligence available online, expecting a few thousand people to show interest. 160,000 students signed up. They came from 190 countries, their ages ranging from 10 to 70! This triggered a revolution in global online higher education. Thrun founded Udacity, and this was followed by the founding of a number of other MOOC providers, and 2012 came to be called by *The New York Times* as the Year of the MOOC. NY Times columnist Thomas Friedman declared of the MOOC that "nothing has more potential to lift more people out of poverty."

Distance education is centuries old. The Boston Gazette carried an advertisement for short hand course through lessons mailed weekly by post in 1728. The University of London offered its first distance learning degree in 1858. The 20th century saw the founding of Open Universities worldwide, the largest being the Indira Gandhi National Open University in India, with 4 million students. Radio and television began to be used to complement learning. Then computers and the internet helped disseminate information widely. In 2001, MIT launched the OpenCourseWare project and made digital notes, homework assignments and lecture videos available online. The improvements in information & communications technology and the decrease in cost of internet access came at a time when education was ripe for transformation, and the advent of the MOOC was the fall of the Berlin Wall in education!

As of 2017, the top three MOOC platforms had between them 38 million users and offered over 3000 courses in multiple languages, free, certified, on-demand, and with college credits. Some of the MOOC students are full-time university students, graduates and professionals. Others enrol in MOOCs because they are interested in the subject, wish to acquire a new skill, or pursue a passion. For many, the MOOC is their only access to quality education and hope for a better future.

MOOCs started as recordings of classroom lectures. Gradually other features were added—images, charts, animation, videos, interviews, interactive tests, assignments. Typically, each lecture is around 10 minutes, and the entire course spread over a week to a few months. Some lecture recordings include a live audience; some courses have multiple teachers or guest lectures by subject experts. Notes are provided, study material and books recommended. Online discussion forums, social media platforms and physical meetups provide human interaction. Some courses require the completion of a small scale project. All those who complete the course and meet its requirements with regard to assignments

and tests are issued certificates of completion. Most courses are open and free. However, for a fee that varies from course to course, students can submit proof of their identity, have their course-taking authenticated, and receive a verified certificate. The identity verification process can also include students taking proctored examinations in supervised testing centers or attending live video interviews. Some verified certificates carry college credits that can be transferred to a university. Some MOOCs also offer university-recognized online degrees. There are also paid online courses that come with a job guarantee.

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The benefits of online education are enormous. They are free and open to all. Anyone anywhere in the world with an internet connection and a phone, tab or computer can learn. They are flexible and self-paced. People can make their education fit their schedule. Students can audit and sample topics online to see what they like best, and take a studied decision in selecting their college course. Online classes are scalable to an extent that is impossible in the brick and mortar set-up. A classroom of 10 students can be expanded to take in millions, by making some technical adjustments. The syllabi can be revised and updated continuously. Content is co-created and the classroom becomes global. Anyone who can teach well and knows the subject can offer learning content. So this model is democratic not only in the way it allows anyone to learn. It offers a level playing ground for all who wish to teach from individuals to universities. The internet allows for the creation of a common pool of resources that anyone can contribute to and benefit from. The teachings of the most brilliant and creative minds can be collected and stored for all future. In a future that will see a majority of existing jobs disappear and knowledge becoming outdated rapidly, life-long learning is mandatory, and online courses make this possible. The complex interrelated challenges that we face require a comprehensive knowledge of the whole. Transdisciplinary education is facilitated by MOOCs and other open educational resources.

College Board, an American association of over 6000 educational organizations, conducts the College Level Examination Program (CLEP) that assesses college-level knowledge in various subjects, and provides a way for earning college credits without taking traditional college courses. About 2900 colleges recognize CLEP credits. Self-taught or homeschooled youngsters can learn from MOOCs, demonstrate their proficiency with CLEP, and thus bypass undergraduate coursework and join mainstream education. Students of open universities and long distance education too can supplement their course materials with MOOC content.

Online education has great potential, but its challenges are equally immense. Personal attention and human contact are mostly missing. A lecturer personally assessing student progress or evaluating assignments is impossible in classes that have students ranging from a few thousands to over a million. At best, tests with multiple choice questions and computerized correction are possible. But this does not work for all subjects. Cheating is easy, prevalent and hard to detect. The levels of standardization and acceptance are low in the case of online credentials. Course completion rates range from 10%-25%. Some subjects and

courses like medical education need hands-on training that cannot be replaced digitally. Most online resources are in English, and the language and the culture associated with them are seen to spread, often at the cost of other languages and cultures. Online learning heightens our already increasing dependence on gadgets. Physical person to person interaction is reduced.

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The flipped classroom model, in which students view recorded lectures and course videos at home and use the time in the classroom for discussion and interaction, is a much more effective use of the time spent in the class. All the time taken up in the classroom lecture can be used more productively this way. Such a combination of online and traditional learning—Hybrid learning—makes the best use of both models.

The hyped up predictions of online courses replacing colleges and digital badges making university degrees redundant have, if not been proven incorrect, at least not yet happened. But a phenomenon that is a few years old cannot be compared to organizations that have existed for centuries. Online learning is a silent revolution. People in refugee camps in Asia try to compensate for the disruption in their lives and their education with the help of MOOCs. Medical assistants in health camps in Africa learn to handle epidemics from online learning resources. Youngsters who cannot afford a university degree choose this alternative. Employees who look to improve their skills or switch careers take advantage of digital badges and certificates. Employers implement corporate training through existing or specially customized MOOCs. They also recruit students on the basis of their online certificates. Classrooms in schools and colleges use the flipped learning model and improve the effectivity of learning. Universities are partnering with MOOC providers and offering their courses to the world. They are transforming or are trying to transform themselves by embracing their core strengths with the power of online learning.

If we are to radically improve education quality and make it accessible to all in the shortest time possible, it can only be done by leveraging the potential of online education. Online and Hybrid Learning are some of the best tools to bring about a paradigm change in future education.

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