Online Education

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Abstract— Education providers are moving from traditional face-to-face environments to those that are completely electronic. The movement to online education requires applying new strategies to suit the new medium. Online education provides university equivalent courses for millions of students across the globe. This paper discusses the strengths, weaknesses, and potentiality of online education.

Keywords—online education, digital education, distance education, e-learning, cyber education, web-based training, Internet-based education, virtual education

I. INTRODUCTION

Education is widely recognized as a source of human capital which is a useful way of encouraging social and economic development. It is an insurance against poverty. Although some advocates prefer the traditional education delivery methods which include face-to-face communication, there is an alteration going on which affects instruction and learning at the university level. Online education is an emerging field that is situated at the junction of distance education and instructional technology. It is becoming a new paradigm in education.

Online education is a form of open and distance education and is widely used in higher education. It applies the Internet and communication technologies and makes education open, dynamic, and affordable to those who want to learn, regardless of their age or location. More and more universities and publishers worldwide have opted to use online education. For example, for-profit institutions such as University of Phoenex, Kaplan University, Walden University, and Athabasca University (in Canada) have dominated the online market. Now, there are evening classes, weekend classes, satellite campus, and cyberclasses.

Since the introduction of the first Massive Online Open Courses (MOOCs) in 2003 in the United Kingdom, millions of students across the world have grabbed the opportunity to take courses online. MOOCs help students acquire knowledge in a self-paced manner and choose what they learn and when to learn. They have proved useful for students especially from under-developed countries. They enable them access standard courses for little or no cost [1, 2].

II. ENABLING TECHNOLOGY

Technology has been a boom for educators and learners. It has been the catalysts for online delivery of higher education. The application of technology and the proliferation of computers, Internet, and smart devices have transformed the way education is delivered and received. Technology is used as a medium for online or virtual education. The main requirement is a computer system and Internet connectivity (cable, wireless, DSL, etc.). Modern technologies such as Web-based applications, multimedia, video records, and search engines are used in online education. Using the audio/video-based delivery is the closest way to the traditional face-to-face learning environments. Use of Facebook, Twitter, and Skype chat enhances student-to-student or student-to-professor interactions.

The minimum technological infrastructure required for online education includes computers, computer networks, online student services, and a course management system [3]. The tools required for developing online education includes email servers, web servers, list servers, bulletin boards, chat rooms, audio/video servers, Internet conference servers, and web channel servers [4].

III. ADVANTAGES

There are several reasons why online education is growing in popularity and has attracted people from diverse groups. Perhaps the greatest, initial appeal for online education is its convenience, accessibility, and availability to learners. Online education improves access to higher education and makes it possible for more people to attend college. It makes the best quality education and best educators available to the whole world. Access to the world's top professors is priceless.

Traditional education is facing a lot of challenges—it is becoming more expensive, there is shortage of professors, cut in funding, busy classrooms, course shortages, limited infrastructures, etc. Online education can solve some of these issues. It is scalable and less expensive [5]. It allows students to work on the course anywhere there is Internet connection. There is no discrimination among students on the basis of race, sex, religion, and nationality. A student can exactly study what he or she wants. Since the courses are self-paced, the student can complete it whenever they can.

It eliminates a "one-size-fits-all" approach (which is ineffective) and can be customized to meet diverse learning needs. There is flexible class time and the ability to attend class anywhere there is Internet connection. Because they are unscheduled, online courses increase student autonomy. Students can work full time and earn their degree. Time and money are saved by not driving to school. Courses that are not offered in many institutions can be offered online. Online education has been employed as a means of achieving a balance between the competing demands of family, work, and school.

Online education opens classrooms to the world. Cultures may be shared through online learning and gender is not an issue. Course contents may be translated into several languages.

IV. DISADVANTAGES

While online education solves some problems facing traditional education, it poses a different set of challenges. In spite of the proliferation of online courses, some observers have expressed some concerns. One of the major disadvantages of online education is the absence of face-to-face or interpersonal interactions with instructors and fellow students. Most students are working full time and have many distractions. And there is the problem of assuring the identity of online students.

Faculty support is mixed. While some faculty members embrace online education, some resist the shift to online course delivery. They resist supporting and actively participating in online education. They express apprehension about online education because the associated technologies can be frustrating to use. They see online education as a potential threat to current models of education and a low-quality substitute for traditional way of learning. In some colleges and universities, most online courses are taught by adjunct faculty, who are loosely supported by the institutions. This may change with time. Online education should enhance faculty autonomy and visibility.

Online education has a number of direct and indirect costs, including hardware, software, website development and maintenance, and video recording. Developing a course for online education (for edX and Coursera, for example) may take a professor hundreds of hours and more time in revising it. Students taking online courses complain that it is time-consuming navigating the web.

Some critics of online education complain that one cannot ensure rigor of the offerings and the quality of the education. Many stakeholders are apprehensive over the lack of quality or richness of online courses. Some for-profit online education providers are more concerned about revenue and enrollment numbers than the quality of their programs. It is harder to verify that students are not cheating in an online test-taking environment. It lacks the moral and ethical engagement necessary for literal education. Instructors can use tools such as Turnitin to detect plagiarism.

The focus of online education is geared toward delivery the information, not the student engagement. What is lacking is the ability to change from data to information, from information to knowledge, and from knowledge to wisdom within each learner [6]. Incorporation of hands-on laboratory experiments in an online engineering course is a challenge. Also, there is the perception that online courses take more time and work; only self-disciplined and self-motivated students are likely to succeed. It is perceived as an extension of the University of Capitalism which is now digital and global.

There are also a set of legal and ethical issues which must be resolved. The legal problem particularly involves copyright and intellectual property. Students' self-disclosure online remains permanent and runs the risks of electronic breaches or hacking.

In developing nations, barriers to online education include prohibitive cost of Internet connections and lack of adequate technical infrastructures.

V. CONCLUSION

Computer networks such as the Internet have transformed education at all levels to meet the demand of the 21st century. Online education has a great potential to reach students with personalized education at a low cost. It has also has the potential of revolutionizing global education and narrowing the gap between developing and developed nations. It is gaining ground as an extension of traditional education. The emergence of social networking technologies is rapidly changing the delivery of online education. By taking advantage of these technologies,

online education can provide quality education anywhere, anytime. Online education is growing and traditional colleges and universities should begin to leverage on it. Businesses and corporations are quick in accepting online training. There is no doubt that online education is here to stay. It is the future of education. In transforming higher education, it will leave no stone of the institution untouched. It can be predicted that very soon the majority of college courses will use some form of online communications.

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