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The Future of E-learning –Development Trends

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Abstract

E-learning is a method of organizing the didactic process in such a way that the teacher and the learners are not physically present in one location at the same time. Knowledge is transmitted using many media, including ICT. Internet access has become widespread thanks to new technologies allowing for mobile networking and the development of devices combining the functions of a mobile phone with those of a computer. In response to the emergence of the society a new type of institutions and organizations appeared – offering education which is far from traditional. Massive Online Open Courses (MOOC). Courses are open to everybody, free-of-charge, meant for mass audiences and Internet-based communication with social platforms built around projects, courses and subjects. It may seem that we are now witnessing the breakthrough in education and a new deconstruction of society made possible by the global access to academic education.

Keywords: E-learning, self-study, synchronous learning, asynchronous learning, blended learning, m-learning.

1. Introduction

The classic education system has existed for nearly 2,000 years: students allocated to classes, the role of a teacher, didactic methods. The model seems to have served well for centuries only to be challenged now, before our very eyes. The change is due to the dramatic developments in computing, the Internet and mobile networks. The main source of change is the emergence of remote education – from correspondence courses, which traditionally constituted the margin of education, it has evolved to become the technologically advanced system involving all major players (Kisielnicki 2010).

2. Prospects for E-learning

2.1 New society

Before we start discussing possible directions of the development of education, it is worth noting the changes which have been taking place regarding the use of tools and knowledge acquisition. An interesting work which tacked the issues was Marc Prensky's seminal paper "Digital Natives, Digital Immigrants" (Prensky 2001). Prensky presents a division of society into digital natives, i.e. people brought up with computers and the Internet, and digital immigrants who got in touch with technologies later in life. It seems that, despite the relatively short time, human brains have been altered (Prensky 2001). Prensky's ideas are taken further by M. Żylińska, who wrote: "in the schools of the past, the teachers from yesterday teach today's students to solve the problems of tomorrow" (Żylińska 2012). Nevertheless the better development of some regions of the brain is accompanied by deficiencies in other areas – for example, due to extended exposure to monitors, the youth of today seem to have impaired empathy; they have problems reading and interpreting feelings of others (Żylińska 2010). We have to remember that such people constitute the majority of the population of present-day pupils and students.

Contrary to learners, the teachers of today are still mainly digital immigrants, i.e. people brought up before the IT revolution.

The dichotomy in question does not regard learner-teacher interactions. It must be noted that the curricula and syllabuses are still to a large extent designed according to the principles and philosophy of the generation of digital immigrants. That refers to all levels of education, including the academic which is the subject of this paper.

2.2 New Tools

Internet access has become widespread thanks to new technologies allowing for mobile networking and the development of devices combining the functions of a mobile phone with those of a computer. According to the study by Ericsson, 40% of currently sold phones are smartphones, with the sales increasing at a yearly rate of 10% (Ericsson Mobility, 2012).

We adopt the following definition of m-learning: „Any sort of learning that happens when the learner is not at a fixed, predetermined location, or learning that happens when the learner takes advantage of the learning opportunities offered by mobile technologies" (O'Malley et al, 2003).

M-learning is meant for digital natives, for whom tablets and smartphones are natural work tools.

What differentiates m-learning from e-learning is the fact that the former is available practically everywhere at all times. Researchers point out to the possible shift in the approach to learning being the result of the teacher not delivering 'just-in-case' but 'just-in-time' education, thus responding to current demand for knowledge (Open Education, 2013).

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3. The New Approach

In response to the emergence of the society a new type of institutions and organizations appeared – offering education which is far from traditional. Massive Online Open Courses (MOOC) are based on multimedia material followed by knowledge verification and possible certification. Courses are open to everybody, free-of-charge, meant for mass audiences and Internet-based communication with social platforms built around projects, courses and subjects. The most important educational ventures of the new type are Khan Academy, Udacity, Coursera and edX.

The rationale behind the Udacity project, according to its founders, was that "Higher education is struggling with the increasing costs both for students and society. Education is no longer a one-time event but a lifelong experience. Education should be less passive listening (no long lectures) and more active doing. Education should empower students to succeed not just in school but in life. We are reinventing education for the 21st century by bridging the gap between real-world skills, relevant education, and employment. Our students will be fluent in new technology, modern mathematics, science, and critical thinking. They will marry skills with creativity and humanity to learn, think, and do" (www Udacity 2013).

The project was inspired by the experience of Sebastian Thurn and Peter Norvig, Stanford lecturers who decided to open their "Artificial Intelligence" course to the public free-of-charge in 2011. The course attracted 160,000 learners from 190 countries (www Udacity 2013). Despite high requirements and the necessity to put in ,any hours of work, 23,000 participants completed the course successfully (Andres, 2012). Udacity was launched in January 2012 and till May 2013 made available 25 courses in mathematics, physics, computer science, psychology and management (www Udacity 2013).

Over the year of Coursera's activity, 69 universities joined the project, adding 370 courses in total, attracting nearly 3.5 m students (www Coursera). Over the year of Coursera's activity, 69 universities joined the project, adding 370 courses in total, attracting nearly 3.5 m students. Course completion may and in certification and be a part of regular education at partner universities, because students may obtain credit points required for completing study programs.

4. New Challenges

It may seem that we are now witnessing the breakthrough in education and a new deconstruction of society made possible by the global access to academic education. However, we should also note that this apparently positive and egalitarian movement of MOOC is not free from the dilemmas and problems which education, especially distance education, has been facing since its inception. There are new issues, such as:

whether courses offered by prestigious universities could be offered as elements of curriculum by other schools; how the courses are to be assessed and by whom; how it will affect the finances of academic institutions and the quality of teaching. One might wonder whether higher education will really become cheaper and thus more accessible.

The tendencies discussed above, especially the emergence of m-learning and MOOC revoke the dilemmas of early e-learning – namely self-discipline. An example illustrating the problem could be data from undergraduate and graduate studies of PJIIT, where a larger percentage of students completed a two-year graduate program than a 4-year undergraduate program. That seemed to happen despite the financial and time costs incurred by students, and teachers efforts to monitor and motivate students' work, and in spite of offline laboratory sessions.

After nearly a year of operation of one of the largest MOOCs, Coursera, the role of self-discipline as a prerequisite for successful e-learning has become evident. Despite the apparent tremendous success of attracting 3.5 m users, only 7-9% of Coursera students have completed chosen courses (MOOCs…, 2013), which is much worse than data for traditional e-learning courses offered by universities.

It is difficult to agree with this proposition without remarking that as useful as course feedback is, it will not, for obvious reasons, replace one-to-one teacher-student contact so important for progress monitoring and mentoring. Automated tuition replaces to a large extent student-teacher interaction with student-system contacts.

Furthermore it is the student who makes decisions regarding the syllabus, often without due consideration what he or she really needs to learn in order to acquire systematized knowledge. That freedom and consumerist approach might, in fact, adversely affect both motivation to study (Wieczorkowska 2012) and the learning process itself. Traditional academic education stresses the importance of systematic acquisition of knowledge – some advanced skills cannot be taught without prior mastery of fundamentals.

E-education, just like traditional education, needs to face the challenges posed by open educational resources and the growing interest in lifelong learning. It is an unprecedented development opportunity, however before we implement all the latest solutions, we need to consider which of the time-proven traditional methods and approaches could also be utilized. Traditional methods must be modified in line with the development of both society and technology but some aspects cannot be negated – to mention the role of the teacher as the leader in the learning experience and the strength of interpersonal relations (face-to-face communication).

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