

EDUCATION IN VIRTUAL WORLD. E-LEARNING IN ELEMENTARY AND HIGH SCHOOLS

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Abstract

Paper deals with education in virtual world, is focused specially on e-learning in elementary and high schools. The attention is aimed on term definition of 2 key concepts: e-learning and blended learning. For better understanding of the problematic are also explained forms of e-learning and types of e-learning. Mentioned are also disadvantages of e-learning which led to development of blended learning. The paper also point to practical experiences of using e-learning on elementary and high schools. Last part of the paper handles the Massive Online Open Course (MOOC) topic.

Objectives

The objective is to introduce e-learning concept for elementary and high schools, describe e-learning forms, types and applications which are possible to use in education process in elementary and high schools. The paper is also focused on practical use of e-learning in schools, on positive and negative aspects of e-learning.

Development

Introduction

We live in era in which all areas of activity in our society rapidly changes. People need to adapt and react on this situation and continually develop their knowledge and skills. One of the reasons of these changes is the unprecedented development of science and technology in the 20th century. In the last years we can see massive development of information and communication technology (ICT). The use of ICT and use of internet cause that we have to face new challenges and opportunities. It is expected that each citizen of the European Union will need each 10 years 30 courses to keep up with changes. ICT are still more used in schools and education system.

Forms of education

For better understanding of e-learning we should know the basic forms of education. There are basic 3 types of education forms which can be applied in the education process:

1. Conventional learning represents commonly offered forms of learning at schools and universities. Its distinctive structures are lectures, seminars, practical labs, excursions, studying in the library and research centers. Typical teaching aids and technologies are blackboard, chalk, pen and overhead projector.
2. Distance learning was developed in last 100 years thanks to development of technologies like traffic and communication during industrial revolution. Its main characteristics is the separation of teacher from student and student from study group, replacing personal communication to



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interpersonal communication which is characteristic for conventional learning. Typical teaching aids and technologies are postal services and e-mail.

3. Virtual learning was introduced thanks to development of new ICT. Virtual classes are connected with communication technologies, teacher and students are not in the same moment in the same location.

Distance learning versus Virtual learning

The differences between distance learning and virtual learning focus on advantages and disadvantages of both forms. The differences are divided into 4 valuation areas covering: time, approach, question of finance and didactical point of view.

Time valuation is for distance learning characterized with primarily use of time asynchronous technologies, in contrary virtual learning uses time synchronous technologies. Distance learning can be provided anytime and anywhere, the virtual learning needs precisely determined time and date when the virtual learning starts - to have lecturer and students available in real time. Distance learning does not require specific facilities - study materials are usually delivered by standard delivery services, on the other hand virtual learning requires using of financial expensive technologies. Regarding didactical aspect, in case of distance learning is mostly used self- study activity with pre- prepared learning materials, for virtual learning is expected that lecturers and students will have special knowledge to present.

E-learning definition

E-learning is a broad term describing the use of information and other technologies associated to the internet in the educational process. The term consists of words 'e' which means electronic, related to its own resources and tools of ICT and 'learning' which means key process in the life of each individual - studying. Learning is in its essence an individual, private matter of a person and has determinative meaning for his/her professional growth during the life.

Among the quantity of definitions I chose the definition defined by Commission of the European Communities in document eLearning Action Plan: Designing tomorrow's education:

The Plan defines e-learning as 'the use of new multimedia technologies and the internet to improve the quality of learning by facilitating access to the resources and services as well as remote exchange of collaboration'.

Forms of e-learning

There are several forms for distinguishing e-learning, the most significant sorting is to:

1. Synchronous form which represents the situation when the learning process take place in real time and students can communicate directly each other. As a resource for communication are used tools for videoconference (e.g. Skype), chat and other communication applications called as virtual classroom (e.g. MS Office Live Meeting)
2. Asynchronous form is a form in which students are not connected in real time to the network and the rhythm and process of studying is up to their decision

Disappointment from e-learning



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After introducing of e-learning as a new form of education into schools, it becomes apparent after some time that this form of education is not complete effective and as a result was found out that there are quite big differences between students studying in classical learning form and distant form of education where the e-learning was applied. In fact, problem appeared due to wrong grasp. E-learning was used among the students which were not properly motivated or not fully interested and were doing less progress than students using conventional learning. There was an effort to encourage and force students to increase their motivation to complete their tasks in e-learning, but this was a vain effort. The main issues connected with insufficient motivation is described as students lack of appropriate elements of conventional learning, boredom as a result of insufficient stimulation, lack of support from the teacher, lack of empirical experience and requirement for guidance from teacher. The motivation of students using pure e-learning form of distance learning is the key issue. E-learning is successful and brings results for students which are highly motivated for the topic.

Blended learning

Blended learning has been a response to the disappointment and not fulfilled expectations and demands put on e-learning. Blended learning represents a combination of different approaches to learning process, conjunction of full time study led by a lecturer and form of e-learning. E-learning is a supplement to the conventional or distant form of learning. Today, most of the elementary and high schools use this form of learning rather than a pure form e-learning. As per definition on Wikipedia, blended learning involves 'combining Internet and digital media with established classroom forms which require physical co- presence of teacher and students'.

Types of electronic support on elementary and high schools

Electronic support during the learning process can have several forms. From the experience I would like to present the most common e-learning supporting forms used in elementary and high schools.

1. **Digitalized hard materials** - these materials are in general the most often form of electronic support when teacher prepares his own materials or uses the sources from other authors (respecting the authorial copyright). These materials are then distributed by Email or stored on cloud repository like Dropbox or One Drive or any local repository space. There could be made a protest that this is only digitalizing of existing hard copies, but we should appreciate each initiative of teacher using ICT.
2. **Personal web pages of the school** - all schools have nowadays their own web page where students can find necessary information. These pages have also very often the section dedicated to each object or teacher. This has one big advantage - all required materials can be stored on one place and sorted per theme or period. This is also a place where teacher can place interesting links for those students who are more interested in the discussed topic. Students can play here a role of searcher for information for his/her own need.
3. **Google applications** - as concrete example of using application in elementary and high I chose Google Apps for several good reasons:
 - The applications are for students and teachers free of charge and without advertisement
 - They are available anytime and anywhere, students and teachers need to have only computer, internet connection and browser
 - Support of cooperation - applications for cooperation in real time increase involvement of students and assessment during education



4. **Learning Management System (LMS) and Moodle** system represent the most complex solution for electronic support of learning. Moodle is a software package designed to support full time and distance learning through online courses available on the web. It is developed as a tool which enables to realize learning methods. Moodle supports and allows easy publication of study materials, setting up discussion forums, gathering and evaluating electronically submitted works and tasks, creation of online tests and other activities supporting the learning process. Software is free open source and enjoy high popularity on elementary and high schools. Moodle stands also as a helping tool for teachers. It is worth mentioning a possibility of complete classification, complete overview about the students, very sophisticated reporting with the results about students and feedback. As an electronic support on elementary and high schools Moodle system can be fully recommended.
5. **Webinar** is lively form of online communication that takes place through internet or web browser. It can be used as an online and also offline version. One part of LMS Moodle system is Wiziq Live Class. This system is free of charge and has very intuitive and user friendly handling. This kind of electronic support of learning is very popular among students because substitutes their dependency on social networks and therefore this form of learning close to them.

MOOC

MOOC stands for Massive online open course and was firstly introduced in 2008. MOOC represents online course on educational platform which is produced by top universities and organizations for general public. Big success represented three courses provided by Stanford University in the fall 2011, when 160.000 participants took part. This approach has a big potential to fully change principles of education. These courses have certainly their place in online education, but due to language barriers (most of the MOOC are provided in English - even if both spoken and written), massive expansion to non-English speaking elementary and high schools is not a question of these days.

Conclusions and prospective

Based on the description and explanation above is apparent that pure form of e-learning has no place in elementary and high schools. E-learning without support from teacher is ineffective and the result of students are not sufficient. E-learning can bring much better results in its modified version - as blended learning. We should take advantage of all possibilities that modern ICT offer, but with respect on the target group - students.

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Questions and/or considerations for discussion

- What is your experience with e-learning?
- Do you know other electronic support forms of e-learning, are they more progressive?



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