E-LEARNING IN EDUCATION OF PEOPLE FROM IT DEPARTMENT

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Abstract: In the last years there has been a fast development of the Internet technologies, which was followed by the possibility of using them almost in every field of life. One of these fields is distant learning which is also called e-learning. Day after day it is becoming more and more popular and many schools use teaching platforms as the alternative solutions to the traditional teaching. This kind of learning is the chance for working people, who have to connect daily duties with the job. This paper is a description of the e-learning methods of people education, who are working or want to work in IT industry.

Keywords: e-learning, Life Long Learning, IT industry, Information Society

INTRODUCTION

The changes which are now taking place in higher education are due to the development and the use of modern tools and information and telecommunication technologies. One of the most important elements introduced to the teaching process is e-learning. Its unquestionable merits make this form of education more interesting. Further academic centres introduce classes using e-learning methods to their offer. These are both blended learning and fully e-learning classes. Also among the students the distant learning method is gaining more and more supporters, especially among workers who are forced to reconcile the daily duties with the education and among the disabled people who, due to their health problems, are unable to attend classes but for whom obtaining education is a necessity or opportunity for a better job.

Moreover, introducing the techniques of distant learning to classes is becoming a more and more important criterion for assessing the department, or even the whole university. Also, the times in which we live - the era of the information society – require us to learn lifelong.

1. LIFE LONG LEARNING

Life long learning (LLL) in a document issued by the European Commission in 2000 was described as "all learning activity undertaken throughout life, with the aim of improving knowledge, skills and competencies within a personal, civic, social and/or employment-related perspective" (Memorandum, 2000). According to this definition, lifelong learning is not restricted only to the education of adults (Sysło 2009). In order to provide the graduates of the universities with the knowledge and skills needed for their professional lives, the basic studies (meaning the studies from the first till the last year, finished with graduation and diploma) and later education need to be treated as one coherent process of education. This raises the need to split all the necessary knowledge into two parts. The first is the one that is delivered during the basic studies, and the second is that which is provided when needed (Mischke 2008).

In order to pursue lifelong learning, a database of finished courses should be set up which could be mobilized in case of need. The introduction of e-learning options afforded such an opportunity to prepare short courses serving a single issue that, if there was the need can be combined into a larger one. Traditional education does not make that possible. Material provided in textbooks or scripts is selected to fill the learning period measured in semesters and to prepare graduates for a variety of professional career circumstances (Mischke 2008).

The development of information and communication technology has made life-long learning take on a new dimension. First of all, the mere possibility of lifelong learning has been strongly expanded. Also, the continuous development of technology forces us to continuously develop our skills and improve our competences in using it (Sysło 2009).

As a result of intensive development and dissemination of information technologies there is the emergence of a new socio-economic formation, the so-called information society. Its creation entails far-reaching effects. The person who has to function in that society must have a special relationship with information technology, as it is used in almost every area of their life. (Tadeusiewicz 2008). It is therefore necessary to continue the education and training of people working in the computer science industry.

2. DISTANCE EDUCATION IN POLAND ON THE EXAMPLE OF THE DISTANCE – LEARNING CENTRE – OKNO PW

The natural response to the growing demand for remote education has become the creation of centers offering the opportunity of such education. Many of them are located in the United States, and it is probably related to long distances between cities and citizens in this country. Therefore it can be concluded that the universities in this country have the greatest experience in carrying out this type of training (Rokicki 2013).

Browsing the resources on the Internet one can find many universities throughout the world involved in distance learning. These are both high schools with rich traditions, as well as smaller colleges that their existence is based on the activity in the Internet.

Polish response to the needs of higher education for online education was the creation in 2000 by the Warsaw University of Technology non-faculty organizational unit called the Centre for Distance Education (abbreviated OKNO PW), primary task of which was to develop and implement the practice of studying via the Internet. The original model of this type of studying is called the SPRINT model, and the model for the study was the distance learning type run by the Open University in the UK and in German FernUniversität (Studia 2013).

Currently the objective of the Centre is to carry out organizational, information and coordination activities in the area of continuing education and distance learning, using the Internet and multimedia technologies. Moreover, the aim of the OKNO PW is to support and promote the development of new technologies and forms of education based on the use of the latest teleinformative technologies and the Internet as well as the coordination of international cooperation of Warsaw University of Technology in this area (Kula 2012).

On-line studies coordinated by OKNO PW began on 17 September 2001. They were extramural engineering studies at the three faculties: Electronics and Information Technology, Electrical Engineering and Mechatronics.

Currently on the offer of distance studies are the following directions:

1. Part-time four-year engineering degree (first stage - BS), conducted in the academic year 2001/02 by three departments in three directions:

- Information Technology at the Department of Electrical Engineering,

- Electronics and Telecommunications at the Department of Electronics and Information Technology, Automation and Robotics at the Department of Mechatronics. Studies are divided into three stages: Basic Studies (1 year), Directional Studies (2 years), Specialised Studies (1 year).

2. Part-time two-year Master's degree (second stage), conducted in the academic year 2005/06 by the Departments of Computer Science: Electronics and Information Technology and Electrical Engineering, with the participation of officials from other Departments of the University.

3. Postgraduate two-and three-semester studies:

a. Computer and Internet Technology conducted at the Department of Electrical Engineering,

b. Tools and Techniques of virtual education conducted at the Department of Electronics and Information Technology (Masters 2013).

In the academic year 2011/2012 a group of students in OKNO PW had 1131 people, including 32 people from outside Polish borders. More than half of them (623 people) came from Mazowieckie. The fewest of students came from the provinces of of Lubuskie (3 persons) and Opole (5). The most popular among the students were the specialties: *Computer Engineering and Applied Computer Science*, and the least - *Systems of Decision and Management Support* (Kula, 2012).

The offer of the center OKNO PW shows that people working or wishing to work in the IT industry can find something for themselves. It may be said here that it was an attempt to create materials for the information society.

3. BEST PRACTICES RELATED TO ACADEMIC E-LEARNING IN THE STATE HIGHER VOCATIONAL SCHOOL IN KROSNO

Due to a rapidly growing market of e-learning newer curriculum and e-learning platforms are constantly being introduced, both free and commercial, enabling the preparation of courses for which the latest techniques and tools have been used. As can be seen even from the offer presented in the previous section, also studies are run that are designed to prepare specialists in a particular field.

Every year there are more and more universities offering online education. Most of them choose the method of blended learning, i.e. the classes carried out in the traditional way are enriched and supplemented by on-line activities.

Among the universities that run part of their courses with the use of modern educational tools is the State Higher Vocational School name Stanisław Pigoń in Krosno. In 2003, the authors began conducting classes enriched with elements of on-line material as first in the institution. At first they were only some materials from lectures for students placed on the website. With time came the tasks and interactive examples, and eventually the idea of creating an educational portal, which has been called an e-Student. Its main goal was the possibility of supporting traditional education by on-line education. This site used the Moodle platform. (Dębska 2008).

The first subject, to which the authors have developed materials were *Algorithms and Data Structures*, carried out on semester 2 of the year 1 of studies in Computer Science. Fig.1. shows the list of subjects which were available for students through the e-Student platform.

Gradually, other departments of the Krosno Higher Vocational School started introducing e-learning classes to their offer. To make it possible, the project of training teachers in Internet technologies and e-learning methods was prepared.

Figure 1. The list of subjects taught by blended-learning method for the students of Computer Science

Source: Own

In 2009-2012 there were 3 editions of two-semester course for the teaching staff of the State Higher Vocational School in Krosno in modern methods of education, within the project "The course on the economy! – The development of the State Higher Vocational School in Krosno". Its purpose was to prepare the teaching staff to develop their own independent online lessons. The result was the emergence of new courses developed by the personnel for subjects taught in their fields. Figure 2 shows the image of the course selection on the e-student platform with a course demonstration and Help developed as an aid for teachers and self-study materials prepared for the different fields of study.

Since its launch, the portal e-student continuously evaluates. With time, it has become an interactive and personalized portal, using artificial intelligence methods to generate individual training paths, thus gaining adaptive traits. By collecting data on the test results, the time spent on the site and the previous classification results, the individual changing path of education is selected for the student. Since for classification five characteristic features are taken into account, it can be concluded that the chosen educational path is appropriate for the student. It can be said that the portal gives students the opportunity to use the learning process tailored to their needs. The possibility of changing the education path to a higher one supports the student's intrinsic motivation to work. Moreover, the path of education evaluates with the change in the student's knowledge level, which is undoubtedly the greatest advantage of the e-Student (Dębska 2009).
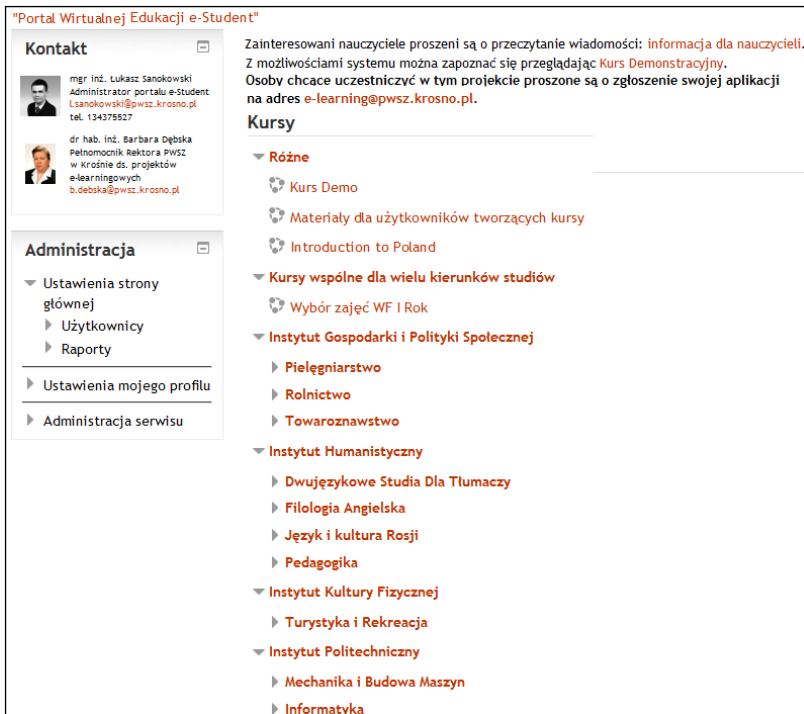
Figure 2. The image of the e-Student platform.

Source: Own

Student reviews of the portal, expressed by them in the classroom and through surveys are very positive. They claim that the materials provided in this way are very helpful for them during the semester as well as during the preparation for credit tests and examinations. They are of great assistance in the learning process.

CONCLUSION

Today, almost every university has in its offer at least some courses taught using e-learning method, if not whole classes. This form of training is gaining more and more groups of followers. Certainly, this is a rapidly growing field, whose task will be to prepare graduates for jobs and roles that they will play in the information society. To create courses the ability to use IT tools is required, also, the functioning in the information society requires the fluency in using them. Therefore, it will be one of the most important and most necessary human skills (Tadeusiewicz 2008). Well qualified professionals who will be able to handle the necessary equipment and tools changing and developing practically day-to-day will be needed. Hence the continued and growing interest in the field of the computer science.

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