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Педагошки факултет „Св. Климент Охридски“ – Скопје
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Ss. Cyril and Methodius University
Faculty of Pedagogy “St. Kliment Ohridski” – Skopje
Republic of Macedonia

**VI меѓународен балкански конгрес за образование и наука:
СОВРЕМЕНОТО ОПШТЕСТВО И ОБРАЗОВАНИЕТО**

(Охрид, 29. IX - 1. X 2011г.)
Зборник на трудови

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THE MODERN SOCIETY AND EDUCATION**

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IMPLEMENTATION OF E-LEARNING ON UGD THROUGH BASICS OF ICT COURSE

Abstract

During the first decade of the 21st century, E-learning has become one of the main factors for revolution in the process of learning. That is because the process of e-learning can offer an approach for flexible and effective learning. The University "Goce Delchev" in Stip is a leading institution in the implementation of the new technologies in the education in Macedonia. This document emphasizes the overall spectrum of activities connected with e-learning that are happening now at the University "Goce Delchev" in Stip. All activities are done through the E-learning Center that also organizes supports and coordinates all these activities. One of these realized activities with a goal to induce the development of E-learning at the University is creating the course "basics of ICT" designed for the non-informatics faculties. In this article, the concept of the course is presented in a completely new way, by a new access and by using the so called "mixed" or "hybrid" learning. This course is designed to be in function of the acquisition of the basic informatics terms and to develop the students' feeling for this new, contemporary e-society, using computers for communication, exploration and every day activities. Since 2008, these courses have been successfully conducted to 11 different faculties at the University "Goce Delchev" in Stip, i.e. total 27 courses with over 5000 students have been realized.

Introduction

The presence of informational communicational technology in education has brought significant changes in the learning – teaching process. E-learning is attaining significance in this Internet world due to the obvious advantages of anywhere anytime learning. In the last two decades, the constant imperative of teachers and professors was to introduce the use of ICT in the educational process. For this purpose, at all levels of education, various projects are implemented to integrate ICT in teaching. In Republic of Macedonia, this process is especially emphasized in the last 5-6 years, through the implementation of several projects of national interest. These projects are funded by USAID, European Council and Ministry of Education and Science of Republic of Macedonia. Some of these projects were implemented through the Faculty of Pedagogy in Stip, and from 2007 through the University "Goce Delchev"-Stip (University "Goce Delchev" was

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founded in 2007 and the Faculty of Pedagogy was joined at the University since the date of its establishment). The project "Implementation of LMS in teaching" was organized as a part of the ICT implementation activities at the University, which was partly supported by the European Commission (through TEMPUS project) and Fulbright Foundation. As a result of this project in September 2008 the E-learning center has been established in order to introduce modern forms of learning at the university, new technologies, as well as training for teachers and students from universities and schools in Macedonia and abroad.

The first significant projects implemented within the UGD (all faculties) and fully organized and supported by the E-learning centre is course *basics of ICT (for non IT students)*. This course otherwise treats the matter in the course and has a wider range of topics that we believe that future higher educated person's must be familiar with. The course is designed as a blended course, in which most of the activities of classical teaching activities are replaced with online activities. The course started to be implemented from the 2008/2009 academic year, first as a pilot project in the winter semester only at one faculty – Faculty of Pedagogy and then in the summer semester it was introduced to the Faculty of Economics and Faculty of Law, which are faculties with a larger number of students. From the academic year 2009/2010 at the University of "Goce Delcev" in all faculties, the course is officially implemented under this program. So far 27 courses with over 5000 students have been realized. The courses are conducted by 8 lecturers from our University, coordinated by E-Learning Center on UGD.

Conditions for equipment and application of ICT in Higher Educations

Information communicational technology (ICT) has a main role in maintaining the quality in Higher Education in Macedonia and it will be a basis for competitive advantages of the universities in the future.

In the past period (2000 – 2005) all universities in Macedonia were very modestly equipped with ICT. Teachers were not happy with this situation and they constantly looked for ways to improve it. Generally, known problems that emerged here were: a lack of equipment, insufficient training for using of the equipment, a lack of digital resources for using in education and so on. At present, most of these problems are solved and with the implementation of the projects this situation is dramatically changed.

The project "Creative Teaching and Learning" lasted from October 2002 to December 2009 and it was successfully implemented.

The second project, titled "Integrating E-Learning across the Teacher Curriculum" was within the TEMPUS program of the European Commission. It was launched in October 2006 and lasted until September 2009. The holder of the project was the Faculty of Pedagogy, Stip, and the project included two other state Faculties of Pedagogy from Skopje and Bitola, as well as teachers from the Teacher's Faculty from SEE University in Tetovo. The EU Partners of the project were from the University of Groningen, University of Edinburgh and Catholic University of Leuven.

In the second half of 2007, with the foundation of the University Goce Delcev (UGD), it established a policy that would be organized with a high degree of usage of ICT in all segments of business and administration and teaching. Thus, by

the end of 2008, computers were provided for each employee at the UGD, more new classrooms and computer labs with interactive boards were provided, a modern network connecting buildings and campuses with optical connection are provided. In September 2008, the E-learning Center has been established and Learning Management System (Moodle) has been implemented.

The E-learning Center uses Moodle platform, which aims to ensure proper development of skills and competencies necessary for the 21st century and especially to ensure digital literacy for students that is essential for their future profession or career. Also, this software package provides increased and improved access of students to the created courses. By using a multimedia software, interactive panels and audiovisual equipment, the center meets all the needs of a modern and educational space.

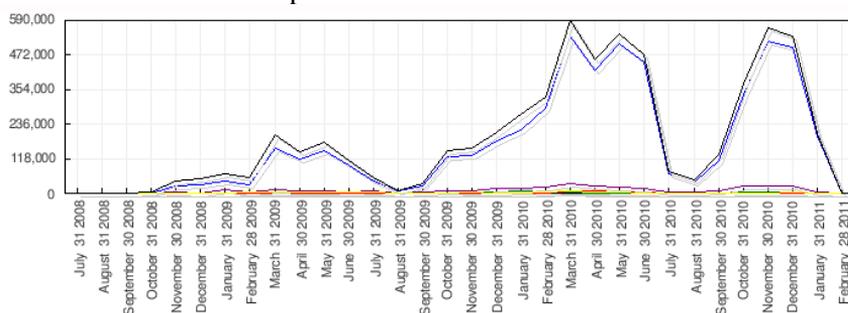


Figure 1: Graf showing the usage of the LMS at UGD

Until now (June) the Moodle platform has 9497 members, 197 of which are teachers, assistants and lab technicians, and others are students at the University "Goce Delchev" - Stip.

Currently, the total number of created active courses on Moodle platform is 883, and administrators run regular and constant review of its courses for content, activities and students belong to them (Figure 1).

As a result of all these activities, the situation with the use of ICT is much improved. Every employee of UGD daily uses computers for communication and work, while teachers use more LMS.

In this period all the effort are directed towards implementation and integration of Moodle E-learning platform. Our next activities will be to create content for learning and creating a repository for learning content.

Concept of the basic course of ICT for non IT students

This course is designed to be in function of learning the basic concepts of computer science (for non IT students) and developing skills for using computers for communication, research and office work. The main specific of this course is blended or hybrid approach. This way, most of the classical teaching is replaced with online activities. This means:

First, there is a traditional way where the teacher realizes the classical teaching, communicates directly with students and thereby transmits their knowledge and experiences. At the end of each lecture the teacher briefly presents to the students their obligation in connection with exercises that are intended to be realized by using the online platform for E-learning.

The second component of the blended concept is where students are accessing the platform for E-learning and online from home or from any other location where they can devise exercises planned for the current week.

In the Platform for E-Learning (in our case the Moodle platform) the teacher sets some required, mandatory, resources for students and a list of not mandatory, additional, suggested resources and resources related to that topic.

Covered topics and teaching objectives

Topics are conceptualized in order to give the students the basic introductory knowledge in several fields of information technology. This introductory knowledge is required to facilitate the use of ICT during their studies and work in practice. On these courses are presented and processed the following topics:

Basic Concepts on Information Technology;
Hardware and software;
Computer networks;
Computer Security;
Informational Systems;
Content Management Systems;
WEB 2 and others trends in E-Society and
Data Base Management Systems.

Generally, instructional objectives are limited to understanding of the topic, identification of the major components and functions, and finally a summary of the main technologies in the relevant subject. Details of the topics are not taught, but only give hints and ideas to further the students' work and to study independently. As an example here are educational purposes for topics hardware and software:

Hardware-curricular objectives:

- To understand the history and evolution of computer hardware;
- To identify the main types and use of microcomputer, midrange and mainframe computer systems;
- To make a summary of the major technologies and uses of computer peripherals for input, output and storage of data;
- To identify and give examples of components and functions of computer systems;
- To identify the computer systems and peripherals that would be purchased or recommended, such as a business, and to explain the reasons for choosing them.

Software - instructional goals:

- To describe several important trends occurring in connection with software;
- To give examples of several major types of applications and system software;
- To explain the purpose of several popular software packages for end users for production and collaboration;
- To define and describe the functions of operating systems;
- To describe the use of programming software, tools and languages.

Parallel they should overcome the anticipated topics, the students master and working with the e-learning system, which should be used during the studying.

This is an educational goal that is not mentioned in the topics, but it is taught cross-curricular through activities that are provided to students pursuing online opportunities to gain knowledge of web 2 technologies and their impact on society and the "online socialization".

Online activities in the course

The main advantage of the mixed approach is that students perform their tasks from home or from any location that has Internet access. All exercises should be developed as teacher sets the platform for e-learning in the form of certain activities. Platform for E-Learning Moodle contains a number of activities i.e. modules that are previously prepared, localized and adapted to reach certain teaching purposes and which are easy to use by the students. All these activities are able to be added as a part of any course. For the purposes of our course the following activities have been used:

Dictionary - Create the dictionary of the computer concepts (ice breaking activity);

Forums (discussion of carefully selected topics);

Upload complete assignments (articles, presentations, excel spread sheets);

Databases, where students entered information about their seminar topics;

Advanced uploading of files – a seminar paper (a research on a given topic: an analysis of a company work, a study of a tool for IT applications in their area (education, economics, law) etc.

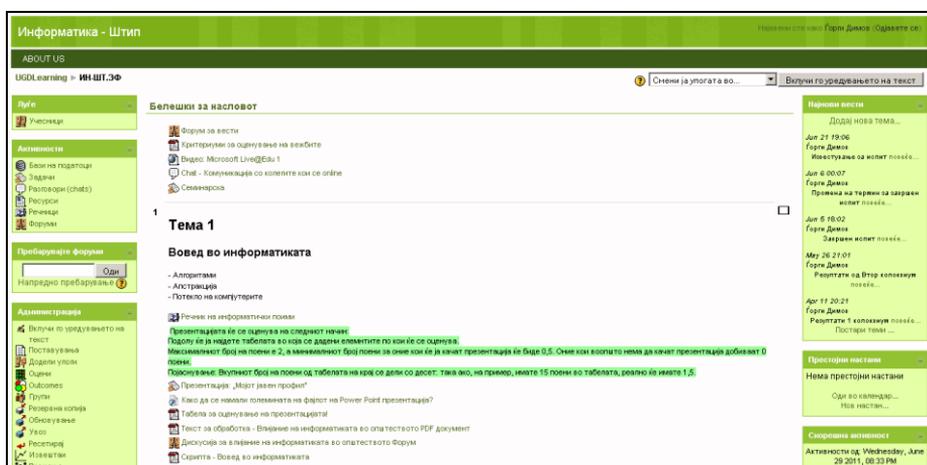


Figure 2 – Access to activities (screenshot)

A Dictionary is an activity where each student has a task of adding one information term in the dictionary and explains it in a few sentences. The term should be written in English, and the explanation in the Macedonian language and Cyrillic support. One term can be written only once in the dictionary, because those students who will first develop this exercise will have a great choice of terms. The purpose of this activity is to familiarize students with basic concepts and information through the reading of already given concepts and explanations (by

their colleagues) and by reading literature that will make the choice that put the term in the dictionary.

Forums (discussion of carefully selected topics), are activities where students must begin a discussion on a specific topic and should respond to at least three posts started by colleagues. Usually the first topic gives "The impact of ICT in society," whereby they are given a reading text related to this topic and students discuss further on the subject. Other topics related to topics that are taught in the course: hardware, software, networking, security, etc.

Uploading the final assignments (articles, presentations, excel spread sheets) is a module where students need to get tasks that are previously worked with some applications (mostly applications of Microsoft Office package).

In addition, they should be given the criteria against which to assess the task and make it in the form of a rubric, tasks related to some of the topics or some current developments in the field of ICT. For example, the task of making the presentation "My public profile" through which students are required to demonstrate skills in using Microsoft Power Point or Open Office Impress, but also to consider the issue of public disclosure of personal data and to answer the question what data would set their public profile (e.g. Facebook).

Another example of such activity "uploading text, which should be written and processed, is a text in the program Microsoft Word or Open Office Writer. The text should be chosen by the student and be written on three pages. The text must include the following elements: insert pictures, tables, numerations:

To have header and footer inserted with date, time and number of page;

Have centred headlines, leads, with different font size and using bold fonts;

Paragraphs should be indented with a first order with tab, not spaces, paragraphs are separated by enter;

Task should be formatted as A4 size and margins to be at 3 cm from each side.

The purpose of this assignment for students is to show their skills for editing a text and get an idea what it means "well formatted" text.

Conclusion

The process of implementation of ICT in everyday work of teaching is not easy. It requires great effort, dedication and perseverance. Once these technologies are successfully implemented in the teaching process, the benefit of them is really significant. The key benefits of E-learning solutions are:

- An increased quality and value of learning achieved through greater student access;
- An increased flexibility and ability to respond to the evolving business requirements.
- An increased reach and flexibility enabling learners to engage in the learning process anytime, anyplace and on a just-in-time.

An example of a successful implementation of ICT in the teaching process is the creation of the course Computer Science (for non IT students). Otherwise this

course treats the matter of the course and has a wide range of topics that future higher education person's must be familiar with.

Realizing a course requires a huge effort at the preparation stage, such as a concept and creating digital learning resources. A very important fact is that after each cycle of courses, there should be conducted an analysis for determining the advantages and disadvantages during the lectures. The identified deficiencies are corrected or discarded in the next cycle.

The resources required for the present implementation is standard, common and does not require an involvement of separate, special or expensive equipment. From 5000 students who have mastered this course, only a dozen have complained that they had problems with access to a computer and the Internet outside the faculty.

The following steps should be taken to improve the quality of digital learning resources, i.e. creating audio or video clips and animations for students in order to understand and learn their material easy. It is also necessary to prepare manuals for teachers to disseminate the course and thus to gain great facilities.