

Improving the quality of ODL-process and reducing drop off of the students through applying interactive devices

Snejana Dineva, Vanya Stoykova

Abstract: *Virtual learning becomes an important task for academic institutions. In Technical College of Yambol the virtual learning environment (VLE) has been created using Moodle software platform and has been introduced into the practice. Multimedia courses have been created in different disciplines. Using interactive whiteboards and possibilities teachers to record their instruction and post the material for review by students at a later time is a good opportunity to overcome the main student's problems and reducing the rate of drop off as well as improving the quality of ODL-process by creating interactive ODL-modules.*

Key words: *ODL process, virtual learning environment, interactive whiteboards.*

INTRODUCTION

Analyzing the ODL process and its evolution over the last few years we can conclude that recently more attention has been paid to the pedagogical issues, trying to define how the use of technologies should be seen within a wider field of teaching experiences based on innovative methodological approaches that promote the continuous learning within and outside the classroom. Nowadays there is a growing demand of flexible teaching and learning opportunities according to the technological evolution and the requirements of both young and adult students [3].

The increasing importance of Open Distance Learning (ODL) in the modern society driven by "knowledge" is emphasized in a number of electronic and paper sources. ODL is acknowledged as an area of priority in numerous countries' developmental strategies. The role of ODL in modern society increases as the requirement to quality of knowledge increases and the importance of teaching quality continue to grow. The requirements to qualification of specialists in various areas are more stringent, which calls upon the improvement in quality of education and is reflected in society's need for the reform of the educational system [5].

MATERIAL AND METHODS

In the College activity, Moodle represents VLE design, which is well known in the academic community. The architecture of Moodle is compatible with the hardware and software available at the Technical College – Yambol [2]. A blended educational model including multimedia materials and e-learning management system (LMS) is used for many disciplines in Technical College of Yambol (<http://tk.uni-sz.bg/edutk/>). As a result of different project achievements the foundations of a technical and informational data for future distant learning process took place: virtual library with didactic materials – lectures; exercises; multimedia sources; tests; glossaries; links to other web-base; on-line resources; etc. has been created [1] (<http://tk.uni-sz.bg/edutk/>).

In order to improve the created e-learning environment at the College we carry out a survey at the end of each year. The participants are students – a part of them have attended full-time regular education; other - extramural form of education. A survey is conducted to identify students' opinion about learning support components in blended learning model as well as their problems in acquiring knowledge. The survey is conducted with closed and open end questions. A five-point scale is used, with categories rated from 1 (absolutely disagree) to 5 (absolutely agree).

RESULTS AND DISCUSSION

The blended learning model at the Technical College of Yambol is supported by e-learning on-line materials that include different courses in Informatics, Programming languages, Information technology, Common and General Chemistry, Biochemistry, Microbiology, Ecology and etc. The results show that the performance of e-learning

system is improving the effectiveness of the education, as well as motivation among students and teachers [4].

In order to improve the quality of education that we offer and to reduce the rate of students drop off, we conducted a survey among students that fall in their regular exam session.

THE MAIN REASONS STUDENTS ARE NOT SUCCESSFUL ON EXAMS

The inspection showed that 50% from the students failed on exams are not attending the lectures, as 20% of them have no reason for this, the other 30% give the reason that they are working. About 40% from the students failed on exams regularly follow the schedule and 10% answered that they are absent half of the time from the lectures and exercises. As main reasons for failure on their exams, the students point out:

□ Large amount of information - analysing the results can say that there were not difference between students with full-time regular education and extramural form of education, as well as between these which are busy with working and not working. Thus more than 80% from students explained that the information on the topic is a huge amount.

□ Lack of free time – about 90% complained that they have no free time, approximately half of them are working and attending lectures, 25% are not working and regularly follow the schedule, 25% are working and absent from lessons and 12% are not engaged in anything. The same percent students (12%) give explanation that they do not have problem with the free time but they are not motivated to learn the subject.

The results of the questionnaire suggested that a good opportunity for reducing the rate of drop off students and improving the quality of ODL-process could be involving interactive devices like interactive whiteboards (IWBs) in the learning process.

The interactive whiteboards give a possibility for teachers to record their instruction and post the materials for review by students at a later time. This is a good opportunity to overcome the main student's problems concerning the large amount of information, lack of time and irregular attendance to the lectures. The expecting results of applying this type of devices are reducing the rate of drop off students and improving the quality of ODL-process



Fig.1 Possible learning activities in open and distance learning process

ANALYZING THE LEARNING PROCESS THROUGH ODL ACTIVITIES

Open learning and distance education refer to approaches to learning that focus on freeing learners from constraints of time and place while offering flexible learning opportunities. For many students, open and distance learning (ODL) is a way of combining work and family responsibilities with educational opportunities [6].

The learning process through ODL activities includes different types of getting experience (fig.1, [3])

□ Formal learning – includes the hierarchically structured school system that runs from primary school through the university and organized school-like programs created in business for technical and professional training;

□ Informal learning – a lifelong process whereby individuals acquire attitudes, values, skills and knowledge from daily experience;

□ Intentional learning – an individual aim to learn something and going about achieving that object;

□ Accidental learning – happens in everyday activities as an individual learns something that had not been intended or expected.

ODL modules base their learning on self-teaching packages that contain all the information necessary to understand the subject, but this does not mean that you are left isolated and without support. You can obtain assistance from the team within your Force [7]

INVOLVING WHITEBOARDS IN CREATING ON-LINE MATERIALS AND IN IMPROVING THE QUALITY OF ODL-PROCESS

Interactive whiteboards provide ways to show to the students anything which can be presented on a computer's desktop (educational software, web sites, and others). In addition, interactive whiteboards allow teachers to record their instruction and post the material for review by students at a later time. This can be a very effective instructional strategy for students who benefit from repetition, who need to see the material presented again, for students who are absent from school, for struggling learners, and for review for examinations. Brief instructional blocks can be recorded for review by students – they will see the exact presentation that occurred in the classroom with the teacher's audio input.

Two projects are going on at the Technical College of Yambol from the beginning of this year: "Investigation and Comparative Analysis of Interactive Means and Methods of Education in Technical Subjects" and "Introducing Interactive Teaching Methods in Inorganic Chemistry and Investigation of the Effect on the Quality of Knowledge". The projects emphasize on the implementation of IWBs and interactive devices for creating high quality e-learning materials and improving the quality of ODL-modules and process.

THE MAIN REQUIREMENTS TO THE TEACHERS DELIVERING ON-LINE MATERIALS

According to the Triple Science Support Programme e-learning project, which has been developed to provide additional support for teachers who are delivering or preparing to deliver Triple Science GCSEs [8], the main, requirements to the teachers are:

a) **Skill level – Beginner** – to have basic ICT skills to create simple content using standard Microsoft Office tools (e.g. Word and PowerPoint) which are available in most schools. To have experience in creating simple resources to support teaching and learning (for example, using PowerPoint to create a multimedia presentation using images and sound). To know how to save information from the internet (e.g. images, sound, movies etc) and how to insert images, sound or movies into other files (e.g. PowerPoint presentations).

b) **Skill level – Intermediate** – to be familiar with use of on-line social networks e.g. Facebook. To have experience in using blogs or other online services to collaborate and share information. To understand how Web 2.0 services (e.g. blogs and social networking tools) can be applied in education. To use some of Web 2.0 services outside school and for personal use. To have experience in using virtual learning environments in schools and uploaded information to the portal.

c) **Skill level – Advanced** – to be familiar with using ICT to create new multimedia content e.g. creating an animated video. To be experienced in editing video and sound content and using output to create new content. To be able to use a video camera to create animations and videos, and create and share multimedia assets online.

CONCLUSION

The interactive devices give opportunities for the lecturers at the universities for better visualization of the learning content. This kind of innovative education increases attendance and engage the students in more active and deeper learning of the educational material. The expecting results are: reducing the rate of drop off and improving the quality of offered ODL process.

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Contacts:

Assoc. Prof. Snejana Dineva, Technical College of Yambol, Trakia University-Stara Zagora, Bulgaria, Phone: (+359 46) 669181, e-mail: sbdineva@abv.bg

Principal assistant Vanya Stoykova, Technical College of Yambol, Trakia University-Stara Zagora, Bulgaria, Phone: (+359 46) 669181, e-mail: vdstoykova@gmail.com

The paper has been reviewed.