

ANALYSIS OF VIRTUAL LEARNING ENVIRONMENTS USE AT TECHNICAL SCIENCES DEPARTMENT OF KAUNAS COLLEGE; VIEWPOINT OF TEACHERS AND STUDENTS

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Annotation

The article aims to review the experience of distance learning use at Kaunas College and guidelines for its further development in the institution. The first part of the article presents a review of assumptions and possibilities of e-learning application as well as the institution future strategies. The second part provides the results of two empirical studies. Conducted survey of teachers' opinion reveals the possibilities of distance studies use at Technical Sciences Department. The survey of students' opinion shows their evaluation and expectations of distance studies application.

Keywords: Moodle, Virtual Learning Environment (VLE), distance studies, e-learning.

INTRODUCTION

New technologies have a great impact on all learning system in the modern knowledge society and teaching/ learning and communication are more and more often transferred into virtual learning environments on the Internet. The worldwide spread of the Internet necessitated numerous changes in the economic and social activities of people. Due to increased amount of information and worldwide accessibility of the Net, which has overcome time and place barriers, the needs and possibilities of people are changing too, thus the learning methods and the entire educational environment have to undergo changes as well.

Keeping pace with the common European tendencies, Kaunas College has successfully implemented and finalised two distance study projects: "Expansion of Electronic Studies at Lithuanian Colleges" (ESF-2.4-0179) [27 10 2006 – 30 04 2008] and "Creation of the Open College" ((ESF-2.4-128) [16 03 2005 – 29 02 2008]. The two projects aimed to implement a moderate distance studies model which would allow to create more attractive learning environment and ensure better accessibility, flexibility, desirability, and efficiency of the studies. Virtual Learning Environment (VLE) Moodle, mastered during the implementation of the project, was used.
(<http://moodle.kauko.lt>).

The teachers of Technical Studies Department took an active participation in the implementation of the above-mentioned projects. They both developed modules for distance studies, taught and consulted their colleagues on questions of distance course development technology. Currently approximately 7000 students of Kaunas College have registered into Virtual Learning Environment Moodle. More than 300 different level e-learning courses have been developed, 127 of them were prepared during the implementation period of the two projects.

However, it is quite common that active work done during the time of the project's implementation flags and settles down after the projects have ended. Therefore, this article aims to find out how offering of the distance courses is further on developed and quality assurance is maintained after the project activities have been finalised.

Object of the survey: students' opinion on the application of e-learning environments in the study process at Technical Studies department.

Aim of the survey: to compare the opinion of Technical Sciences Department teachers and college's students on the application of e-learning/ e-teaching in the study process.

Objectives of the survey: to review e-learning/ teaching topicalities in today's context, to analyze teachers' opinion about the aspects of the e-learning/ teaching application

in the study process, to analyze students' attitude towards e-learning/ teaching.

Research methods: analysis of the scientific literature and documents, electronic questioning of teachers and students, comparative data analysis.

REVIEW OF TODAY'S E-LEARNING/ TEACHING (TOPICALITIES)

The development of technologies and knowledge society, increasing busyness of people condition development and change in studies. Knowledge and knowledge-based technologies are effectively used in the industry, thus increasing its competitiveness and novelty and up-to-date information and communication technologies are widely used to communicate this knowledge. [9]

Students are recipients and evaluators of the teaching services at an educational institution; they are open to new, innovative technologies and welcome new study forms and methods willingly. Teachers have also to take life-long learning challenge and guide themselves to open studies and e-learning which has become an inseparable part of any study form.

Blended distance learning is popular nowadays when face-to-face lectures are delivered, group work and discussions take place synchronously with the help of IT (audio and video conferences, conference room), while individual student's learning is asynchronous as a student is given individual tasks and e-learning materials and works at his own pace independently. [4] E-learning is constantly undergoing changes as more and more up-to-date technologies emerge, such as Web 2.0 technologies (possibility for everyone to publish any content on the Internet), social nets on the Internet (possibility to connect, share electronic resources, communicate and cooperate).

Furthermore, quickly developing IT and their application for studies depolarized and expanded traditional and distance studies possibilities. It became easier to apply traditional teaching methodologies for distance studies. IT also enabled a greater efficacy of traditional studies. At present differences between distance and traditional studies are rapidly disappearing. IT is used as means for studies organization in traditional studies,

which helps expand an individual part of work of the students. On the other hand, communication systems allow a close imitation of traditional study methods, distance becomes a nonessential work factor. Teachers do not have to meet with students in the classroom in order to consult, control, or test them. [10]

VARIATION OF E-STUDIES DURING IMPLEMENTATION OF NEW TECHNOLOGIES AT KAUNAS COLLEGE

The programme of e-teaching expansion at Kaunas College for 2009-2013 indicates huge impact of new technologies and social nets on the tendencies of e-teaching expansion. These technologies should be applied for e-teaching at Kaunas College.

Two widespread innovations are distinguished that are widely used by the majority of students in their free time. These are Web 2.0 technologies that enable not only to surf the Internet but also to participate and change the Internet by themselves. The second novelty is social nets that are becoming more and more popular (Facebook, Frype, Class, Netlog, etc.). Social nets provide fantastic possibility to gather all the content in one place (Portfolio) and to present oneself to the Internet society.

A few years ago the author of the term Web 2.0 Tim O'Reilly introduced this term as the possibility to use all the available information on the Internet, change it, manipulate it, and adjust it to ones' needs. [3]

The impact of new technologies will not be felt in the e-teaching if the teachers do not use new technologies themselves. Therefore, teachers have to give a push in this area and show an initiative and readiness to apply these technologies in the teaching process.

ANALYSIS OF SURVEY RESULTS

In 2010 an electronic survey of Technical Sciences Department teachers and students from various faculties has been carried out at Kaunas College. The respondents were interviewed using www.apklausa.lt instrument. 24 out of 41 Technical Sciences Department teachers (54% of all department teachers) and 163 students were interviewed.

61% of Technical Sciences Department teachers who participated in the survey noted they use virtual class Moodle as a supporting tool to the traditional teaching for the taught subject. 35% of teachers maintained they use e-course as a base and provide group or individual consultations at lecture time or practical training classes. 4% of teachers do not use virtual class Moodle.

Teachers very often have a few different e-courses prepared. As Technical Sciences Department teachers usually work in several study programmes, therefore they noted they create e-course copies in order to reflect the peculiarities of the taught subject in different study programmes. This creativity was observed in the work of 33% of the interviewed teachers.

50% of the interviewed teachers find it useful to include possibilities offered by Moodle into their teaching. 33% of teachers are sceptical about Moodle as course preparation requires a lot of time and work input.

Analyzing the variety of services and tools offered by Moodle environment, the teachers were asked which activities they offer and the students which activities they use and which activities they would request. It is obvious that theoretical materials, tasks samples, self-control questions are the most appreciated by the students and offered by the teachers (diagram 1). However, a marked difference between the needs and offering was observed. The students would like to find visual materials (slides and films), assessment, automated control tests available in Moodle.

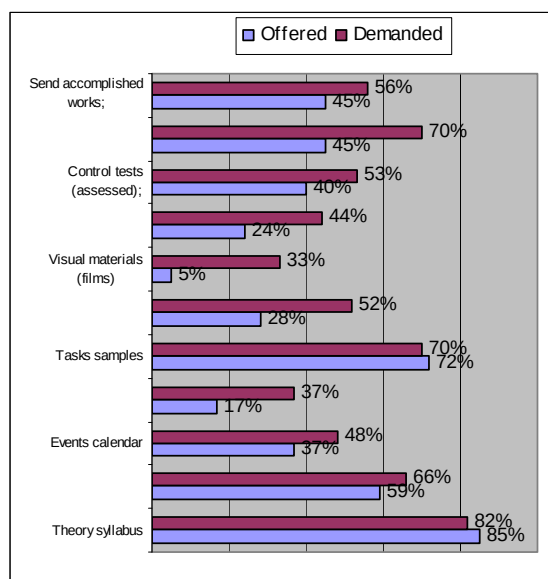


Fig. 1. Analysis of Moodle activities offered and demanded.

In order to prepare effective self-study learning materials, teachers have to strive to meet the learner's needs and create relevant, interactive and effective materials that the learners would be able to use successfully. The teachers have also pointed out they use various tools and services of virtual classes.

Thus, it is possible to maintain that the range of services offered by e-courses is increasing, however, this increase is not as significant as desired by the students or provided by the change in technologies.

The teachers note they spend 2 hours per week for the course administration in Moodle when delivering a course (44% of the interviewees); 27% of teachers spend 4 or more hours. 61% of the interviewed teachers state they renew the course after each course offering.

The analysis of students' answers shows that 91% of the interviewed students have quite fast Internet connection at home, while the results of similar survey in 2007 were 87%. Furthermore, it is pleasant to observe that 90% of the interviewees responded they use Moodle environment for learning aims and the majority of them (85%) would like to have all the study programme subjects available in the virtual environment Moodle. However, at present the students use such courses only for 1-2 subjects (44%) and only 24% of the respondents assert they use Moodle for the most of the subjects.

If to compare teachers and students opinion on Moodle's impact on learning results, the slight difference in opinions is observed: 66% of students tend to think it has impact on learning results, while only 52% of teachers agree with this statement.

Based on the data of students' survey, it is possible to maintain IT and subject teachers who have their subjects on Moodle introduce students to Moodle environment (48%).

Having surveyed subjects that are available in the distance teaching/ learning environment Moodle offered by Technical Sciences Department, it is obvious IT takes the first place (66%), followed by Mathematics (27%), and Mechanics (17%). However, it must be marked that Mechanics and Mathematics are not present in all study programmes. On the other hand, students point out that such subject

as Chemistry and Safety at Work are not available in Moodle at all and 33% of students note teachers do not offer distance learning possibilities in Moodle environment.

Having analysed how many hours on average students spend for learning in Moodle environment, the results were as follows: 51% of respondents spend less than an hour, 28% - approximately one hour, and 5% - two and more hours.

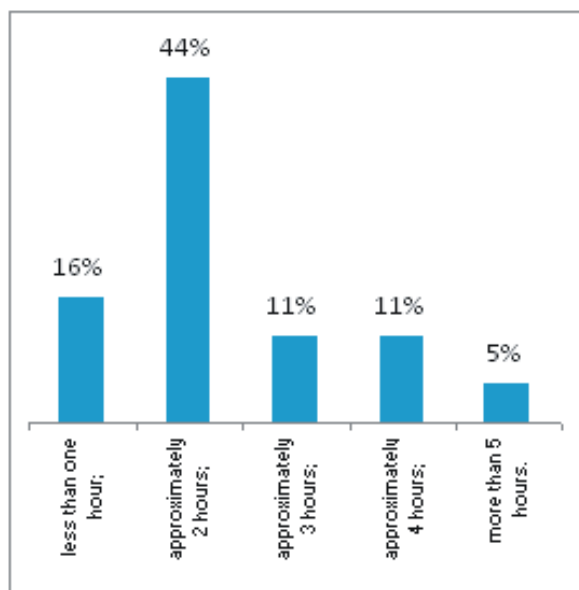


Fig. 2. Teachers time input in Moodle environment per one course per week

The students' questionnaire contained one open type question. Students could express their opinion about Moodle environment and distance teaching/learning possibilities. Very similar responses and suggestions dominated in students' responses: "I think all teachers should put learning materials into Moodle not just a few of them", "Moodle environment is very useful, I like it because I can find necessary information for classes. It is a pity that not all teachers use it", "I would like to find more video teaching materials, more samples, maybe photos would be of help".

To sum up the opinion expressed by the students, it can be safely asserted that students are extremely positive about Moodle application together with the traditional studies and would like teachers to wider explore the tools and services of Moodle (video materials, event calendar, assessment, etc) and stress that all study programme subjects should have their distance courses.

CONCLUSION

Information and communication technologies applied in the modern studies depolarise the possibilities of traditional and distance studies and explicate them. Possibility to use traditional teaching methodologies emerges with the application of new innovative technologies.

IT teachers potential concentrated at Technical Sciences Department should further promote teachers community to apply innovative teaching/ learning methods. This would actively contribute to the implementation e-teaching diffusion at Kaunas college programme provisions for the years 2009-2013.

Technical Sciences department teachers apply Moodle environment as supporting tool to the traditional teaching (61% of the teachers who participated in the survey), 35% of the respondents use e-course as a base and conduct group or individual consultations during lecture time or practical training hours, and only 4% of teachers do not use virtual class Moodle.

Students would like all study programme subjects to be available in Moodle environment and wish to be offered a wider application of Moodle tools and services (visual materials on slides, films, assessment, work calendar, automated control tests, etc.).

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