

Measuring the Application of E-learning at the University of Zagreb

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1. EXECUTIVE SUMMARY

E-learning is seen as an efficient tool in reform of higher education linked to Bologna process as well as in modernization of university. In order to implement e-learning, universities need to create a vision of the desired end state and develop e-learning strategy with proposed measures in that direction. Traditional, research oriented universities, like University of Zagreb, have to find the way how to maintain traditional values of university education and how to synergize them with the new kind of knowledge and skills.

The aim of this paper is to describe and analyze situation on e-learning implementation at University of Zagreb and results of its progress. Implementation process was monitored through surveys which provided data on starting position and view on e-learning and present status of e-learning application. Based on received results university management was able to detect weak points and set next steps in the implementation process.

2. UNIVERSITY OF ZAGREB

University of Zagreb is the oldest of the seven public universities in Croatia. It has 340 years of tradition in the field of higher education. University of Zagreb is also the biggest university with about 60.000 students across 33 schools covering all fields of human knowledge. More than 50% of all students in Croatia study at the University of Zagreb. Schools of the University of Zagreb are located all over the city and two of them are even sited in cities near Zagreb.

The use of ICT and e-learning technologies was seen as the most important change driver in education along with being an opportunity for universities to modernize and answer to the social pressure toward wider access to higher education and lifelong learning. Therefore, adoption of e-learning and its integration into existing organization and education was one of the steps taken by the University of Zagreb.

2.1. E-learning at the University of Zagreb

E-learning at the University of Zagreb has been in use from nineties mostly by individual activities of some teachers or as the technological possibility on few schools but these initiatives didn't result in systematic and sustainable use of e-learning. In 2005 University of Zagreb became the coordinator of the international project Education Quality Improvement by E-learning Technology - EQIBELT which was authorized and financed by European Commission. Project consisted of three Croatian universities and eight European universities with respectable experience in implementation of e-learning. Project was also supported by the Croatian Ministry of Science, Education and Sport which ensured that the project goals and defined policies were aligned with national policies in higher education. The aim of project was to introduce and implement e-learning at Croatian universities participating in the project with well defined and specified project outcomes. The most important expected outcomes of the project were strategic and operational documents on e-learning and e-learning support centers. Workshops, lectures, project newsletter and web pages organized within EQIBELT project helped in raising awareness and dissemination of information on e-learning as well as to ensure the basis for development of e-learning policy and strategy and sustainable implementation of e-learning.

The project also provided necessary experience and knowledge in e-learning and possibility to choose the most suitable and appropriate approaches and adjust them to concrete circumstances at the University of Zagreb. This project and activities realized within it was important catalyst in the implementation of e-learning at the University of Zagreb.

2.2. E-learning Strategy

Development of e-learning strategy enables structural and thorough planning and implementation of e-learning. The real challenges on policy level are how to find an appropriate way to introduce and to use e-learning technology at a particular university in particular circumstances, how to define concrete goals and how to manage the process of change in university teaching and learning.

At the beginning of 2007, University Senate appointed a Committee with the task to shape university e-learning strategy. The Committee was composed of the university teachers and experts in e-learning and students. Based on the experience and knowledge gathered from the European project partners they had to find the appropriate way to adopt the most suitable best practices to the particular situation, organizational and pedagogical tradition and reality of the University of Zagreb. Developed proposal went to the public debate and was accepted by the Senate in the June of the same year.

The aim of e-learning strategy was to provide positive, stimulating environment and foster implementation of e-learning at university level with no intention of forcing any model of education as any obligatory and uniformed model would fail at large and diversified traditional university like this.

One of important issues within the Strategy was definition of e-learning as there are different interpretations of e-learning. Definition of the e-learning in the University of Zagreb E-learning Strategy: E-learning is a process of education (learning and teaching process) conducted using the information and communication technology which improves the quality of the process itself and the quality of its result.

As a strategic objectives defined are: enhancement of the quality of university education, facilitation of teachers and students in achieving new roles in the education process, increase of competitiveness of the university and study programs and enabling students to use lifelong learning technologies. Strategy also contains an action plan with clearly defined operational activities, responsible/competent bodies for each activity and deadlines for realization. In that way the roles in the implementation of the Strategy have been clearly set and all the process made transparent.

3. MEASURING THE APPLICATION OF E-LEARNING

3.1. Survey on e-learning

Monitoring of application of e-learning and implementation of the E-learning Strategy is one of the responsibilities of the University Office for E-learning at the University of Zagreb. University Office for E-learning as well as E-learning Center was defined and their continuous functioning ensured within the E-learning Strategy. E-learning Centre provides support to e-learning teams at schools and departments, provides university platform for e-learning and supports network of people across the university involved or interested in e-learning.

In order to identify existing condition on e-learning at University of Zagreb and plans of schools for the implementation of e-learning in university education, Office for E-learning has conducted survey at the beginning of the implementation process in June 2007. Survey was conducted again year after, in October 2008, to measure status of e-learning application and implementation of the E-learning Strategy.

Surveys were fulfilled by official representatives for e-learning at all 33 schools of the University of Zagreb. In that sense surveys provided mainly visions and attitudes of schools managements on situation and perspective of usage of ICT and blended learning developments in educational process at University of Zagreb.

Both time surveys had same questions which were divided in three areas:

- estimation of present situation (status and existing condition, present level of ICT and e-learning use in education process),
- expectations on e-learning (ranking of possibilities and advantages which can ICT and e-learning bring to each school and exact conditions in which they work),
- plans for future on e-learning (short and long term plans on implementation of ICT and e-learning at their school).

Collected data was analyzed and published and is available on the university web pages. Survey results were presented to public and discussed at gatherings on e-learning organized by the E-learning Centre. Report on e-learning application was submitted to the University Senate.

3.2. Survey results

Survey results in general point out that at the University of Zagreb there are good preconditions for successful implementation of e-learning. According to the data received from all schools, most of them are on a good path on implementation of ICT and e-learning in educational process.

First survey results provided concrete information on e-learning status at schools of the University of Zagreb and were the ground for the next steps in the implementation process. Also, based on the survey results university management got the impression on schools managements attitude towards e-learning.

Schools management's attitude towards e-learning, in second survey, is a little bit restrained in relation to the first year survey results. This degradation can be explained by amount of activities and financial and human resources necessary for the application of the E-learning Strategy Action Plan. Teacher's attitude towards e-learning is in relation with last year results, but student's attitude has slightly weakened in relation to the beginning of implementation process.

Table 1: Some of the survey questions regarding the present situation at schools on e-learning 2007, 2008

Question	Year	2007	2008
Schools managements attitude towards e-learning respectively on appliance of ICT in improvement of the quality of education:		79% important, vitally contribute 12% important, but not significantly 9% no reply	76% important, vitally contribute 21% important, but not significantly 3% not important
Present situation for e-learning implementation at schools is:		67% favorable 18% neutral 15 % unfavorable	3% exceptionally favorable 61% favorable 33% neutral 15 % unfavorable
Teacher's attitude towards e-learning respectively on appliance of ICT in education:		46% positive 36% neutral 18% restrained	46% positive 30% neutral 21% restrained 3% no reply
Student's attitude towards e-learning respectively on appliance of ICT in education:		6% exceptionally positive 79% positive 15% neutral	12% exceptionally positive 64% positive 21% neutral 3% restrained

Important achievement in reference to the primary status on e-learning is in availability of e-learning platform. In the second survey, 79% of schools stated that they are using e-learning platform in comparison to the 42% in the first year. Establishment of central university e-learning

platform and its availability to all schools and teachers certainly contributed to this result. E-learning platform is free of charge to all schools, teachers and students of the University of Zagreb and E-learning Centre, besides maintaining and development of e-learning platform, provides support to users as well.

Over 70% of schools have basic information on courses at undergraduate, graduate and post graduate studies available on the Internet while materials from lectures and exercises are present in the smaller amount. Only about 15% of assessments are made partially by computers and Internet. More than the half of university teachers expect from their students to independently search for resources on the Internet and about same number of them regularly communicate with their students via e-mail, forum or chat.

Figure 1: Percentage of the courses on undergraduate studies that have basic information (description, learning outcomes, terms, calendar) available to students on Internet, 2008 (marbles represent schools size according to the number of students)

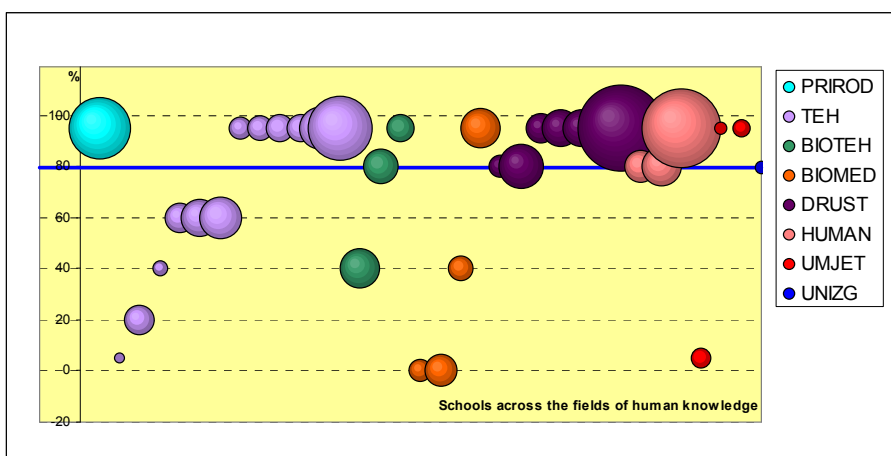
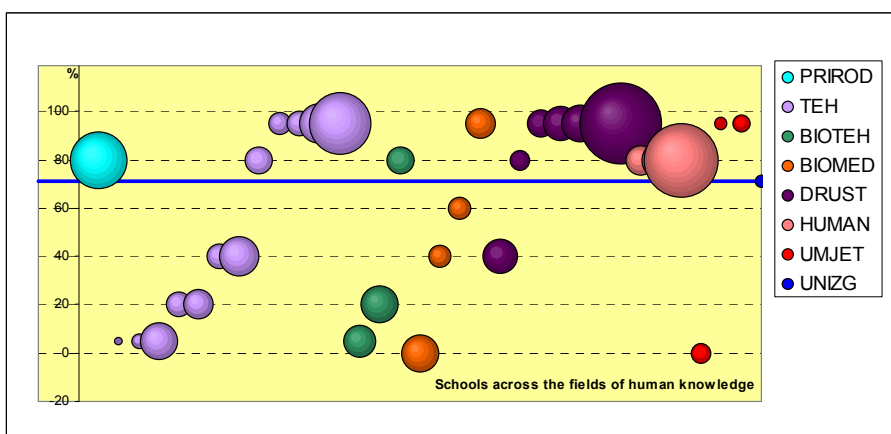


Figure 2: Percentage of the courses on graduate and postgraduate studies that have basic information (description, learning outcomes, terms, calendar) available to students on Internet. 2008 (marbles represent schools size according to the number of students)



Legend: PRIROD = NATURAL SCIENCES; TEH = TECHNICAL SCIENCES; BIOTEH = BIOTEHNIICAL SICENCES;
BIOMED = BIOMEDICAL SCIENCES; DRUST = HUMANITIES; UMJET = ARTS; UNIZG = AVERAGE AT THE UNIVERSITY OF ZAGREB

Still schools have great expectations of ICT and e-learning and excerpted as most important: modernization of higher education system, higher accessibility to on-line learning materials and

admission to digital library resources. These expectations are in relation to the previous survey results, only the order has slightly changed within first five places.

When speaking about plans for e-learning at schools, they are still positive but mostly long term (over 12 months). So, long term plans for 73% of schools are finance of the projects on e-learning implementation, development of on-line courses and for more than 80% of them use of e-learning technologies for development of on-line educational programs within lifelong learning. As the surprise came out data that 42% of schools have no intent to use e-learning technologies for the development of on-line courses as the entrance to the international educational market.

At the end, according to survey, 67% of schools included in their institution plans some of the activities defined by the E-learning Strategy. This is considered a good achievement in such a short time and also shows dedication of university and schools managements as well as teachers in realization of university policy on implementation of e-learning as the integral part of the teaching and learning at the university.

4. CONCLUSIONS

Both survey results on estimation of level and volume of e-learning application indicate large diversity between schools depending on fields of human knowledge but as well as within them. This was not surprise to the university management and once more confirmed their view that obligatory and uniformed model would fail.

Also, second year results on application of e-learning stressed out that dissemination of information on e-learning, setting of definition on e-learning in the E-learning Strategy and conducted discussions definitely contributed that schools managements got clearer visions on implementation of e-learning and provided more accurate and concrete answers to questions in relation to the previous year but as well raised awareness one-learning in academic community.

Survey results pointed out weaknesses in the implementation process and topics and activities on which Office for E-learning and E-learning Centre should focus in definition of future steps in the e-learning implementation.

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