STRATEGY FOR E-LEARNING IMPLEMENTATION ON UNIVERSTIY OF RIJEKA, CROATIA 2006-2010

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FOREWORD: What is e-learning?

E-learning is a concept that describes the process of teaching and learning improved by the use of new information and communication technologies (ICT). It is about all types of learning, teaching or education which is supported by the technologies based primarily on the use of Internet (World Wide Web).

E-learning comprises very different modalities of ICT use in education; from the simple use of computer in the classroom to support traditional teaching approach (Power Point presentations, computer simulated processes, multimedia presentations, presentations of web contents, etc), across „blended" or „mixed-mode" teaching and learning which has both, the direct face-to-face meetings and implemented on-line activities for students and teachers, up to the completely on-line, distance education where all the activities are on the web, without classroom events at all.

It is very important to stress that e-learning could bring about new quality in teaching and learning which ensures the interactive, two-way opened process of student-teacher and student-student communication supported by electronic media. The new approach supports student-centred learning (to oppose the teacher-centred learning in traditional approach), active and contextualized learning, as well as collaborative learning.

However, to achieve the objectives of the new approach, the learning and teaching process has to be carefully structured in the technological, as well as in the pedagogical aspect. Strategies to achieve the objectives have to be designed to support student motivation, care about individual learning styles, promote contextualized and meaningful learning, encourage communication with the teacher and with the colleagues, assure the feedback on learning and continuously support every student during the learning process.

E-learning has many *advantages* both for the student and the teacher. For the student, this way of learning enables the time and space flexibility for learning with accessibility of learning resources anywhere and anytime. Additionally, it is a way to break down the barriers between the education and work and consequently expect increase in participation of people who might not otherwise consider studying with HE. The learning becomes personalized, with all the relevant learning resources quickly and easily accessible. E-learning uses interactive learning materials (simulations, on-line assessment) and different media for contents presentation (not only text with illustrations, but also audio and video records, animations, simulations, etc). Interactivity and communication among all the subjects (students and teachers) becomes almost always more intensive and direct, confronted to the usually poor communication in the classroom. Besides communication, the e-learning supports student's team work on project tasks, which way it promotes and develops their social and communication skills as well as collaborative aspects of learning.

Teacher also could use time and space flexibility while teaching, could more easily communicate with the students and direct their work individually and/or in groups. E-learning provides possibility of achieving the teaching objectives with higher quality level and with more creativity. The course content could be edited often and easily and could be constantly upgraded with new insights and relevant information in the field of expertise.

Although the new ICT ease-of-use brings about Lone Rangers (the teachers which stand alone in experimenting with implementation of new technologies in the teaching and learning process) the Lone Ranger model of e-learning implementation is very expensive, ineffective and non-sustainable confronted to the systematic, institutionally planned implementation that has the ultimate goal of achieving education quality improvement. To assure high-quality and cost-effective results, the world experts suggest *project approach* in e-learning implementation, which requires setting up institutional strategy and action plans (brought by consensus) prior to the implementation.

DESCRIPTION OF THE PROBLEM

Methodology of HE hasn't essentially changed for centuries. The traditional approach in which the learning has been a one-way directed transmission from the teacher to the student, expressed many weak points that were detected long time ago, especially in the segment of nonexistent encouragement for student's active participation in the learning process. The educational system should motivate and support students to embrace the methodology of independent learning as an essential skill for lifelong education, which is *sine qua non* of successful professional work in the knowledge based society.

Although very often student's ICT skills are of higher level than their teacher's, the all-around-the-world experiences show that this is not the main issue in the e-learning implementation. More often, the main problem is lack of institutional vision and strategy for ICT use in teaching and learning, as well as the lack of adequate technical and pedagogical support for the academics.

Consequently, this strategy defines the objectives of e-learning implementation in the educational mission of the University and offers the suggestions for setting up the institutional support in technical and pedagogical terms of the implementation process.

ENVIRONMENTAL SCAN

Within the Lisbon Declaration, EU has reached in year 2000 the decision on e-learning in HE and set, amongst other, the task of establishing the e-learning system and its support, as well as the task of supporting and developing the HE curricula which integrate new teaching approaches based on ICT use, by the end of the year 2002.

Under the supervision of *European commission for education and training*, the actions of joint E-learning programme 2004-2006 (www.elearningeuropa.info) are ending. The programme comprises of 4 projects (Promotion of digital literacy, European virtual campuses, e-joining of European schools, and transversal promotion of e-learning in Europe).

There are world wide initiatives of establishing Virtual Universities, which offer complete distance education based on web services and acquiring degrees through distant e-learning. Very often those Universities have evolved through modernization of traditional distance education and for the reasons of geographical characteristics are numerous in the countries like USA or Canada. However, recently such Universities have become more present in European area also, giving opportunity of "on-line" education to new target groups to achieve academic degrees as well as to get postgraduate education through life-long learning system.

In an effort to catch up with the current situation of ICT use in the european HE, University of Rijeka has accepted the *e-University* project on its 94. Session of Senate, held 22nd of July 2003. Goals of the project are stated as: the development of ICT University infrastructure, use of ICT in the teaching and learning, development of human resources, development of new curricula based on ICT use in education, capacity and competence building for joining the international projects and functional integration of the University.

The project of *e-learning implementation* on the University of Rijeka becomes an extension to the *e-university* project and will serve the purpose of achieving specific objectives of e-University project. For both projects the objectives are in concordance with National Strategy for Education Development 2005-2010, which sets priority for four activity areas: 1) improvement of teaching and learning process on all levels, 2) improvement of working conditions and infrastructural equipment in educational institutions, 3) building the lifelong learning system adjusted to the job market demand and 4) intensive use of ICT.

The project of e-learning implementation on University of Rijeka is of very high importance for the successful implementation of Bologna process, especially in the segment of education quality improvement and quality assurance.

MISSION

University of Rijeka Mission

University of Rijeka contributes to the intellectual, social and economical development of its surroundings by providing high quality education and research.

Mission of e-learning implementation on University of Rijeka

E-learning implementation on University of Rijeka contributes to the positive higher education qualitative change by providing necessary conditions (infrastructural support for teaching and learning, educational programs on new teaching approaches and use of ICT, quality assurance system) for all the participants in the process (students, academics, as well as administrative and technical staff in support services).

VISION of e-learning implementation on University of Rijeka

To complete the University mission, the educational system should be up-to-date with current situation in the environment.

E-learning contributes to the University education quality change according to Bologna model by assuring competence building and by providing conditions and support for optimal personal and professional student's development.

E-learning implementation will ease the process of changes in pedagogical approach to the teaching and learning (*transformational effect of e-learning* to the teaching and learning process) with ultimate goal of creating high quality higher education that could be integrated to the European HE area. Important is to mention that introducing ICT in the process of teaching and learning is just a tool for achieving academic goals, which are part of wider strategy to improve quality of teaching and learning on the University.

ICT will be implemented in educational programmes step-by-step, in most cases up to the certain level of mixed-mode teaching and learning model, while in some cases up to the development of complete on-line courses. On-line courses will be particularly developed in the area of continuous education programmes, as well as for postgraduate study programmes.

OBJECTIVES of e-learning implementation on University of Rijeka

The main objectives to be achieved through e-learning implementation and supporting services are:

1. Use of information-communication technologies based on the web in teaching and learning process, as a tool and aid on all levels of university education programs (bachelor studies, master studies, doctoral studies, specialist's education) as well as in the continuous education programs offered by University. The actual quantum of on-line activities in mixed-mode teaching and learning model will depend on the level and characteristics of study programs, but for all of the study programs the use of ICT in course design will be strongly supported. For all the courses offered through University, there should be informative web pages supplemented with learning resources and where suitable, different modalities of e-learning resources (on-line assessment, communication tools, on-line collaboration tools, team work on project tasks, etc).

2. The change in teaching and learning approach, particularly the transition from traditional transmission approach towards supporting active learning, supported by e-learning implementation. In order to achieve this, it is necessary to design educational programs on instructional design for academics, provide technical and professional support service for the use of ICT and provide easy access to all the e-learning resources (technology, high quality learning resources on e-learning) for all the participants in educational process (teachers and students).

3. Providing possibility to open the university programs for new target groups of students. Some groups of students admitted to the University of Rijeka come from the geographic areas of Republic of Croatia that do not have good connections to Rijeka. Until the University Campus area is finished and the entire supporting infrastructure moved, as well as increased capacities for student's accommodation built, students could be attracted by introducing on-line educational programs. Some educational programs (for example, continuous education of seamen) offered at the University have target groups also abroad. Those groups could be additionally stimulated to enter the University of Rijeka because of on-line education offered. As well, in the segment of continuous education programs that are to be introduced soon, a large group of new participants will be attracted which will find the combination of learning and working much more convenient by having partially or completely on-line designed courses.

STRATEGIES to achieve objectives

1. **Building supporting infrastructure**. A necessary condition for e-learning implementation is to assure for all the participants in the process the adequate ICT infrastructure, meaning hardware and software support. The access to the Internet, which is a technical prerequisite for e-learning implementation, is already provided for all the institutions of the University through CARNet (Croatian Academic and Research Network). In order to start the implementation process it is of highest importance to assure technical and professional staff support for maintenance of ICT support system used in e-designed courses, as well as for the instructional design and other specific assistance in building e-learning courses. In achieving this, following actions are needed:
    a. Assure the accessibility to e-learning resources for the entire academic community (students and teachers)
        i. Assure equipment for the classrooms where educational programs for the academics on e-learning would take place;
        ii. Stimulate all the Institutions of the University to invest into ICT infrastructure in the student's working area (classrooms for individual work, libraries).
    b. Work on the implementation and integration of all the University information systems (on-line library information system, Information System for Higher Education (ISVU)[1], local area network of student's accommodation facilities (StuDOM), portals and faculty web pages).
    c. Establishment of the University Centre for e-learning support, which will assure support and services for the academics willing to implement e-learning in their teaching and e-learning practice.
    d. Definition of Faculty e-learning teams[2]. The teams would collaborate with experts form University e-learning Centre and would be looking after specificities of the e-learning implementation on the Institution.

[1] Information System for the Higher Education is a students' record information system, developed for all the HE institutions in Croatia

[2] Faculty e-learning teams are already defined with roles and functions in the e-University project,

2. **Human resources development**. The starting phase of e-learning implementation should be marked by intensive information dissemination and building motivation of the academics and students to embrace e-learning methodology. This would serve the mission of use of ICT in teaching and learning demystification and stimulation of its use for the purpose. The whole campaign should stress the importance of application of new teaching approaches in the education. For all the participants of the process (teachers, students, administrative, ICT professional and technical staff) it is important not only to acquire the ICT literacy skills, but also to gain knowledge on specificity of ICT use in e-learning implementation, as well as e-learning teaching and learning methodologies. For the activities to cover those goals, the existing university education programs should be upgraded and additional programs initiated. In achieving the aforementioned, following actions are required:
    a. Dissemination of information amongst and senzibilization of academics and students on e-learning through organization of lectures, presentations, seminars, discussions, etc. to be given by e-learning experts and Lone Ranger insiders.
    b. Stimulation of academics and administrative staff to get the basic ICT literacy skills through attending educational programs offered by IT Academy on University of Rijeka, ECDL Centre of the University and/or similar.
    c. Stimulating and financing the education of academics on CARNet's E-learning Academy to achieve the competences of e-learning manager, e-learning tutor and instruction designer.
    d. Development of the cooperation with the *UNIVERSITAS - Society for Development of Higher Education* on the adjustment of the currently offered program for the initial pedagogical education of academics (INIOS) to the new needs of e-learning implementation methodology.
    e. Organization of the new short educational programs on e-learning for the academics (workshops, courses, expert lectures).

3. **Development of e-learning project funding as well as of recognition and appreciation of the good e-learning practice** will stimulate the teaching staff to implement e-learning in their teaching practice. In achieving this, following actions are needed:
    a. Establishment of University Competition for providing initial financial resources to work on designing e-learning courses. The competition funding could be realized through agreement with University Foundation.
    b. Valorisation of the academic's work on designing new e-learning courses and tutoring those courses as a part of the standard teaching workload (face-to-face lectures, seminars, practicals), which should be redistributed accordingly.
    c. Valorisation of e-designed learning resources as traditional textbooks (when approved by the same reviewing procedure) in the process of academic promotion.
    d. Setting up the new mechanisms for the appreciation of good e-learning practice, for example establishing annual *Award for the best e-learning course*.

4. **Quality assurance and standardization of e-learning contents** would assure the interoperability of e-learning contents and tools on the entire University, as well as avoid incompatibility and inconsistency which is to be expected with Lone Ranger model. The following is needed:
    a. Definition of minimal set of technology and methodology standards which will assure:
        i. Easy distribution and interchange of digital contents,
        ii. Valorisation of digital content by defined and agreed criteria,
        iii. Building a repository of leaning objects at the university level, faculty level and departmental level.
    b. Definition of solution to the intellectual property rights and author's copyrights problem for e-learning material.

QUALITY ASSURANCE

At the very beginning, for the quality assurance of the implementation process based on this strategy, it is necessary to assure good communication and collaboration of e-learning implementation process's interested parties. This should be assured through setting up, beside the Centre for e-learning support (from the paragraph 1.c. of this document), the network of faculty e-learning teams, as well as through providing a position for the Centre's representative in the constituted bodies for Quality assurance on the University. The establishment of *Quality Assurance System* on the University (*University committee for Quality* and *University centre for quality improvement*) are defined by regulative act on University Quality Assurance System brought on the Senate on 27th January 2006. This regulative act gives proper framework for quality assurance of e-learning implementation, as well as for the quality estimation on implemented e-learning courses, with presumption of defined and agreed minimal set of standards mentioned in paragraph 4.a of this document.

According to the regulative act on University Quality Assurance System, *University centre for quality improvement* has a task of determining the characteristic quality indicators and organizing the follow-up procedure, which applies to e-learning as well. *Centre* also provides activities on assurance and estimation of teaching and learning quality, which applies to e-learning courses as well.

As the additional quantitative indicators against which the implementation process should be benchmarked are suggested as follows:

1. Number of courses offering information on web pages,
2. Number of courses which use LMS (learning management system) in teaching and learning,
3. Number of academic staff that took part in the educational programs mentioned in paragraph 2. b.,c.,d. and e. of this document,
4. Number of applications submitted to University Competition for providing initial financial resources for the work on design of e-learning courses (mentioned in paragraph 3.a. of this document),
5. Number of academic staff that take part in designing and in mentoring/tutoring of mixed-mode and on-line courses.